Annual Report, 2004

THE COLLEGE OF SCIENCE
TEXAS A&M UNIVERSITY

College Station, Texas
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A. Foreword from Dean H. Joseph Newton

The College of Science takes great pride in providing the highest quality of science education, scholarly research and technical expertise to the people and industries of Texas, the nation and the world. Through five departments and many interdisciplinary centers and institutes, we advance discovery and solve real-world problems as we produce the next generation of scientific leaders and technologies.

As dean of the College, it is my obligation and honor to take periodic stock of our progress toward these goals and to reevaluate our collective commitment to continued excellence. As I do so, I invite you to join me in celebrating but a few of the past years successes not to mention my resulting optimism for the future.

As a College, we are in the midst of unprecedented opportunity, both in faculty hiring and in graduate student recruitment. Throughout the past year, we continued to reap the untold benefits of faculty reinvestment, including a Nobel Prize winner in Chemistry hired by Physics who also will collaborate with Chemistry, and one of the world’s top mathematicians as head of Statistics. We also made vast improvements in diversifying our faculty, increasing our overall number of female tenured/tenure-track faculty by roughly one-third across the College.

We are a partner in the $400 million Giant Magellan Telescope, set to launch Texas A&M into an uncharted academic areaastronomyas it helps to catapult Physics and the College into new international spheres of influence.

Thanks to a five-year, $1.25 million National Science Foundation grant, Biology, Mathematics and Statistics are teaming up to integrate curricula that will revolutionize undergraduate education and help shape the face of future research about the natural world. Also in 2004, we celebrated the first graduate of our 100 percent online masters of science in mathematics degree program, the first of its kind nationwide.

As we commemorate landmark achievement and reflect on another year’s worth of proven performance, we vow to build on our accomplishments and continue to make a lasting difference for the College as well as the people, programs and professions we seek to advance for many years to come.
B. Statistical Snapshots

The following statistics are cited as follows:

Faculty

▷ Office of Institutional Studies and Planning (OISP). (Fall 1999, Fall 2000, Fall 2001, Fall 2002, Fall 2004) TAMU Faculty as Reported by Academic Departments, Summary by TAMU Rank/Ethnicity by Tenure/Gender.

Research

▷ Compiled from the College of Science Research Awards Database

Student

▷ Office of Institutional Studies and Planning (OISP). (Fall 1999, Fall 2000, Fall 2001, Fall 2002, Fall 2004) Enrollment Profile, Headcount by Major by Level, Fall of [Year].

Teaching

▷ **SCH: Undergraduate and Graduate** - Office of Institutional Studies and Planning (OISP). (Spring 1999 - Fall 2004) SCH Summaries by College of [Semester] [Year].

▷ **WSCH** - Office of Institutional Studies and Planning (OISP). (Fall 1999, Fall 2000, Fall 2001, Fall 2002, Fall 2004) WSCH Summaries by College of [Semester] [Year].


Calculations to obtain WSCH/FTE:

▷ **WSCH/FTE (Dept) =** \( \frac{\text{WSCH for Dept}}{\text{FTE for Dept}} \)

▷ **WSCH/FTE (College) =** \( \frac{\sum (\text{WSCH for all CLSC Depts})}{\sum (\text{FTE for all CLSC Depts})} \)
## Faculty Snapshot

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*Minority= Black and/or Hispanic
Research Snapshot

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Annual Report, 2004
THE DEPARTMENT OF BIOLOGY
TEXAS A&M UNIVERSITY
College Station, Texas
Contents

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1. Foreword from the Department Head

Due in large part to the Faculty Reinvestment Program, the Department of Biology at Texas A&M University experienced a revolution that has transformed the face (and the faces) of the department and college for years to come. In 2004, 7 new faculty members were recruited and hired from a wide array of very excellent institutions. As we noted last year, microbiologist Dr. Michael Benedik returned to the fold as a Professor of Biology in January 2004, having moved from A&M in 1989 to the University of Houston and back after 16 years in the wilderness! In August, Dr. Ginger Carney, a behavioral geneticist, and Dr. Adam Jones, an evolutionary biologist, arrived from Georgia Institute of Technology as Assistant Professors of Biology. Then, in September 4 more Assistant Professors began to grace the hallways at Biology: Dr. Keith Maggert, a molecular geneticist from the University of Utah, Dr. Brian Perkins, a developmental neurobiologist from Harvard, Dr. Michael Smotherman, a behavioral neurobiologist from UCLA, and Thomas Stidham, a paleontologist from the University of California at Berkeley. Thus, in just 1 year, the size of the Biology faculty increased by 23%! These new faculty have already contributed to the department at many levels. Three brought extramural funding with them on arrival, two others have already obtained funding, and yet another has received excellent scores on an NIH grant. Further, all have contributed to our teaching mission. This change in the face of Biology continues, with five more members joining in 2005 (but more on that next year).

Research in the Department of Biology continues to be well funded, having obtained more than $5.5 million each year in peer-reviewed, indirect cost accruing extramurally funded research grants. The first year of the NSF UBM grant Integration of Biology and Mathematics Education, a collaboration of the Departments of Biology, Mathematics and Statistics that brings $250,000/year for the next 5 years, has been moderately successful, and plans to expand and improve the program are currently underway. Further, Biology faculty are well regarded nationally and internationally, as exemplified by their inclusion in national and international panels, boards and editorial offices.

The Department of Biology plays an essential educational role at Texas A&M. It teaches all of the Introductory Biology for all life sciences majors and one of the major laboratory science courses in the Core Curriculum. This load comprises some 5,000 students/year. Further, the department has implemented an excellent new curriculum for its 1400 majors, the most in the College of Science, which prepares its students uniquely for advanced biological study and which endeavors to include them in undergraduate research and other scholarly activity. Finally, the department trains 100 graduate students, half of whom are women, and half of whom go on to academic careers. In addition to its own graduate students, because of the department's significant teaching load, the department employs and trains the graduate students of other departments that either do not have a significant teaching responsibility and/or do not attract enough extramural resources to support their students.

Thus, the faculty and students of the Department of Biology have accomplished great things, plans are in place to improve the educational experience and research output of the department, and we look forward to a vibrant future.
2. Statistical Abstract

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<td>e. Undergraduate Degrees</td>
<td>277</td>
<td>244</td>
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<tr>
<th>III. Research Activities</th>
<th>2003</th>
<th>2004</th>
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<tbody>
<tr>
<td>a. Research Publications</td>
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<td>b. Research Presentations</td>
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<td>d. State</td>
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<td>f. Private</td>
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<td>g. Industrial</td>
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<td>Total</td>
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3. Honors & Awards, 2004

By Faculty

This section contains all honors and awards, as reported by individual faculty members, during the calendar year 2004.

By Students

This section contains all honors and awards, as reported by the department, during the calendar year 2004.
## 3.1 Honors & Awards Received by Faculty, 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Aramayo</td>
<td>Fellow, Beckman Frontiers of Science Symposium</td>
</tr>
<tr>
<td>S. Datta</td>
<td>Advisor of the Year, University Undergraduate Research Fellows</td>
</tr>
<tr>
<td>R. Garcia</td>
<td>Presidential Early Career Award for Scientists and Engineers (PECASE), The Executive Office of the President, United States</td>
</tr>
<tr>
<td>S. Golden</td>
<td>Foundation Member, Kappa of Texas Chapter of Phi Beta Kappa</td>
</tr>
<tr>
<td>I. Greenbaum</td>
<td>Honorary Member, Texas Society of Mammalogists</td>
</tr>
</tbody>
</table>
3.2 Honors & Awards Received by Students, 2004

Graduate

▷ Biology Spring Research Poster Competition Award Winners
  Shannon Canales  Zachary Lewis
  Bryan Phillips

▷ Distinguished Graduate Student Award in the Biological Sciences, Lawrence S. Dillon
  Cherie Oubre  Marie Christine Ramel

▷ Doctoral Merit Award, AUF
  Michael Bailey  Veronica Martinez
  Cherie Oubre  Anagha Phadke

▷ Good Neighbor Scholarship
  Igor Vilchez-Ramirez

▷ Student Research Week Poster Winners, Texas A&M University
  Shannon Canales  Xin Zhou

Undergraduate

▷ Beckham Award, College of Science
  Megan Lambert

▷ Grant to Study Abroad, George Bush Presidential Library
  Josh Langston

▷ Phi Beta Kappa Membership
  Heath Crawford  Paul Houghtaling
  Ashli Moore  Nishan Thilaganathan
  Michelle Zapalac

▷ Phi Kappa Phi Oustanding Junior, College of Science
  Chad Niemeyer

▷ University Scholars for Class of 2007
  Kaku Barkoh  Amanda Clauson
4. Students, 2004

This section contains all degrees awarded, as reported by the department, during the calendar year 2004.
## 4.1 Graduate Degrees Awarded, 2004

### Spring

<table>
<thead>
<tr>
<th>Degree</th>
<th>Name</th>
<th>Thesis Title</th>
<th>Advisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph. D.</td>
<td>Jyothi Jayaram</td>
<td>Studies on the Nucleocapsid Protein of Infectious Bronchitis Virus</td>
<td>T. Hall, Collisson, Ellen W.</td>
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<tr>
<td></td>
<td>Anagha Prabhakar Phadke</td>
<td>CD8(^+) T Cell Antiviral Activity: Mechanism of Induction and the Suppression of Emerging Feline Immunodeficiency Virus Strains</td>
<td>R. Moyes, Collisson, Ellen W.</td>
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</table>

### Summer

<table>
<thead>
<tr>
<th>Degree</th>
<th>Name</th>
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<tbody>
<tr>
<td>MS</td>
<td>Sara Curran Black</td>
<td>Joshua Paul Neumuebel</td>
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<tr>
<td>Ph. D.</td>
<td>Summer Fontaine Acevedo</td>
<td>The Dynamics, Interactions and Phenotypes Associated with the Three Members of the 14-3-3 Family in Drosophia <em>melanogaster</em></td>
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### Fall

<table>
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<tr>
<th>Degree</th>
<th>Name</th>
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<tbody>
<tr>
<td>MS</td>
<td>Donald William Stones</td>
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<tr>
<td>Ph. D.</td>
<td>Michael J. Bailey</td>
<td>Functional Genomics of the Avian Circadian System</td>
<td>V. Cassone</td>
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<td></td>
<td>Zachary Austin Lewis</td>
<td>Control of Rhythmic Output by the Circadian Clock in <em>Neurospora crassa</em></td>
<td>D. Bell-Pedersen</td>
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<td></td>
<td>Bryan Terrance Phillips</td>
<td>Molecular Analysis of Placodal Development in Zebrafish</td>
<td>B. Riley</td>
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</table>
4.2 Undergraduate Degrees Awarded, 2004

Spring

BA
Rachel Lucile Alderson
Denise Lauren Bischofhausen
Eitel Enrique Colberg
JoBeth Cozart
Ernesto Hernandez
Dorothy Elaine Jones
Cynthia Victoria Lentino
Donelo George Lopez Jr.
Natalie Brittan Miller
Prashant Kuchukulla Reddy
Erica Kathleen Shannon
Aaron Ross Urias
James Curran Winton

BS
Nadia Hannah Abboud
Christopher James Aguayno
Devin Lee Allison
Jaime Allison Babbitt
Connie Lynn Bakewell
Heather Kelly-Marie Bartlett
Katherine Ann Beal
Kimberly Renee Berger
Kristen Elaine Biel
Laura Nicole Brom
Crystal Alexandria Brown
Jeffrey Scott Bull
Chad Jason Capps
Nikesha Latrice Casmore
Jonathan Ogden Cisneros
Scott James Crabtree Jr.
Quyen Ngoc Bao Dang
Jessica Leigh Dodge
Crystal Michele Felix
Nicholas Lee Foreman
Sarah Anne Fremgen
Barrie Lee Glasberg
Adam Kent Harkrider
Michael Wayne Henderson
Courtney Anne Houghton
Leslie Ann Howell
Richard David John Jordan
Meghan Ellen Keedy
Amy Reyne Kotara
Jonathan Balam Lazerus

Robert Nelson Beville III
Charlotte Ann Coffey
Carolyn Elizabeth Cox
Christopher Michael Farmer
Jeni Joann Hyland
Sarah Rene Koenig
Beverly Katharine Longenbaugh
Colt Lesley Melton
John Robert Nugent
Aaron Guido Richter
Ashley Lauren Smith
Kerri Lynn Williams

Sofia de Achaval
Meagan Marie Allen
Elisa Azua
Tanner Boyd Baker
Chad Allen Barney
Ryan Walter Bay
Eric Douglas Bean
Jacy Kathryn Bess
Brandon James Boyd
Katie Elizabeth Brown
Lindsey Marie Buhring
Krista Lynn Byrom
Kristina Deann Carter
Amanda Bree Cemper
Jennifer Lyn Collins
Ali Daftarian
Shelby Louise Dillon
Rachel Doreen Dowdy
Clifton Andrew Fisher
Rommy Issa Foteh
Christal Jo Garcia
Jennifer Lynn Hamuscin
Torie Rochelle Harrison
Kristin Michelle Hillis
Jeffrey John Houlton
Ken Hwang
Jared Moshe Kasper
Patricia Lynn Knape
Yoshiya Kunisawa
Thomas Bridges Lentz
<table>
<thead>
<tr>
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<tr>
<td>Gregory Charles Lieser</td>
<td>Di Lin</td>
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<tr>
<td>Amber Michelle Loth</td>
<td>Amy Elizabeth Martin</td>
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<td>Laura Elaine Martin</td>
<td>Lisa Bernia Masters</td>
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<td>Colin Andrew McFerrin</td>
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<td>Cassidy Paul Moore</td>
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<td>Erin E. Moyer</td>
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<td>Brittney Diane New</td>
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<td>Phuong-Khanh Jessica Nguyen-Trong</td>
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<td>Conor Bryant Reilly</td>
<td>Olivia Kristine Roberts</td>
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<td>Shawn Michael Rodgers</td>
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<td>Sarah Ann Rothwell</td>
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<td>Naomi Elena Salas</td>
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<tr>
<td><strong>Summer</strong></td>
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<tr>
<td></td>
<td><strong>BA</strong></td>
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<tr>
<td>Alex Gonzalez</td>
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<td>Nikki Michelle Wheeler</td>
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<td>Justin Wade Weiss</td>
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<td>Michelle Elaine Zapalac</td>
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## Colloquium and Seminar Speakers, 2004

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1/27/2004</td>
<td>Vincent Cassone</td>
<td>Department of Biology, Texas A&amp;M University</td>
<td>Do straw men evolve from red herrings?: Why “Intelligent Design” is not so intelligent</td>
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<tr>
<td>2/3/2004</td>
<td>Mohamed A.F. Noor</td>
<td>Department of Biological Sciences, Louisiana State University</td>
<td>What causes speciation? Case studies in <em>Drosophila</em></td>
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<td>2/10/2004</td>
<td>Aviv Bergman</td>
<td>Center for Computational Genetics and Biological Modeling, Stanford University</td>
<td>Evolutionary Causes and Consequences of Robustness in Complex Gene Networks</td>
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<tr>
<td>2/10/2004</td>
<td>Julia Krushkal</td>
<td>Department of Preventive Medicine and Center of Genomics and Bioinformatics, University of Tennessee Health Science Center</td>
<td>Computational analysis of bacterial, viral, and human genome data</td>
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<tr>
<td>2/10/2004</td>
<td>Brian Leung</td>
<td>Department of Biological Sciences, University of Notre Dame</td>
<td>Biological Invasions: Risk and Action</td>
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<td>2/10/2004</td>
<td>Stephen Proulx</td>
<td>Center for Ecology and Evolutionary Biology, University of Oregon</td>
<td>The Evolution of Genome Complexity: The Rise and Proliferation of Genetic Interactions</td>
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<tr>
<td>2/17/2004</td>
<td>Ed Giniger</td>
<td>Division of Basic Sciences, Fred Hutch Cancer Center, Seattle, Washington</td>
<td>Walking the tightrope: how a balance of forces keeps an axon growing on track</td>
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<tr>
<td>2/19/2004</td>
<td>Ronald Adkins</td>
<td>Children’s Foundation Research Center &amp; Center of Genomics and Bioinformatics, University of Tennessee-Memphis</td>
<td>Bioinformatic Analysis of the Human Growth Hormone Locus and Adverse Pregnancy Outcomes</td>
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<tr>
<td>2/19/2004</td>
<td>Eric Gaucher</td>
<td>Foundation for Applied Molecular Evolution, Gainesville, Florida</td>
<td>Computational and experimental paleogenomics as a tool for basic and applied molecular evolution</td>
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<td>2/24/2004</td>
<td>Tom Juenger</td>
<td>Section of Integrative Biology, University of Texas - Austin</td>
<td>The evolutionary genetics of drought adaptation in Arabidopsis</td>
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<tr>
<td>3/2/2004</td>
<td>Carla Green</td>
<td>Department of Biology, University of Virginia</td>
<td>Keeping Time in the Vertebrate Retina</td>
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<tr>
<td>3/9/2004</td>
<td>Jeff Miller</td>
<td>Department of Genetics, Cell Biology and Development, University of Minnesota</td>
<td>Role of Ena/Vasp proteins in Neural &amp; Mesodermal Morphogenesis</td>
</tr>
</tbody>
</table>
3/23/2004  **John Chang**  
*Department of Biological Sciences, University of Alberta, Canada*
Neuroendocrine regulation of growth hormone release in goldfish

3/29/2004  **Bonnie L. Bassler**  
*Professor of Molecular Biology, Princeton University*
Tiny Conspiracies: Cell-to-Cell Communication in Bacteria

3/30/2004  **Bonnie L. Bassler**  
*Professor of Molecular Biology, Princeton University*
Eating Their Words: AI-2-Dependent Cell-to-Cell Communication in Enteric Bacteria

4/6/2004  **Dennis Bray**  
*MRC Research Fellow, Department of Anatomy*
Signaling in a Molecular Jungle - Insights from Bacterial Chemotaxis

4/13/2004  **Janet Richmond**  
*Department of Biological Sciences, University of Illinois at Chicago*
Molecular Mechanisms of Docking & Priming in Exocytosis

4/20/2004  **Coran Watanabe**  
*Department of Chemistry, Texas A&M University*
From Nature to Medicine: Natural Product Discovery, Mode of Action & Evolution

4/27/2004  **John Wingfield**  
*Department of Biology, University of Washington*
Photoperiodic Control of Seasonality in Birds

5/4/2004  **Jerry Tsai**  
*Department of Biochemistry and Biophysics, Texas A&M University*
Informatics Studies of Protein Tertiary and Quaternary Interactions

5/7/2004  **B. Trevor Sewell**  
*Director, Electron Microscopy Unit, University of Cape Town Cape Town, South Africa*
Microbial cyanide degrading nitrilases are self-terminating, homo-oligomeric spirals

9/7/2004  **Wenyuan Shi**  
*University of California School of Dentistry*
Social behavior and programmed cell death of *Myxococcus xanthus*

9/14/2004  **Bruce Riley**  
*Texas A&M University*

9/21/2004  **Jim Karam**  
*Tulane University Health Sciences Center*
Diversity of structure and regulation of DNA polymerase of the T4-like phages

9/28/2004  **Michael Freitag**  
*Institute of Molecular Biology, University of Oregon*
Control of DNA methylation and heterochromatin formation in *Neurospora*
10/5/2004  Jeanmarie Verchot-Lubicz  
*Division of Agricultural Sciences and Natural Resources, Department of Entomology and Plant Pathology, Oklahoma State University*
Plasmodesmata trafficking: How one virus opens the gates

10/12/2004  David Grunwald  
*University of Utah, Department of Human Genetics*
Assigning Cell Fate to Regions of the Early Vertebrate Embryo: A Network of T-box Genes Creates Distinct Regions in the Zebrafish Mesoderm

10/19/2004  Katherine Osteryoung  
*Department of Plant Biology, Michigan State University*
Composition and Functional Analysis of the Chloroplast Division Machinery in Plants

11/2/2004  Nadeem Moghul  
*University of Utah*
Regulation of cell fate determination by growth factors in *C. elegans*

11/9/2004  Susan Golden  
*Texas A&M University, Ethyl Ashworth Tsutsui Memorial Lecture*
Meshing the gears of the cyanobacterial circadian clock

11/16/2004  Mary Mendonca  
*Department of Biological Sciences, Auburn University*
Sex, bats, and video tape: proximate mechanisms controlling mating behavior in big brown bats

11/23/2004  Sherryl Bisgrove  
*Department of Biology, University of Utah*
Microtubule regulation and plant development

11/30/2004  Mary-Ellen Lane  
*Rice University*
Zebrafish LIM-domain proteins in eye and brain development

12/6/2004  Jim Hudspeth  
*HHMI Investigator, F.M. Kirby Professor, The Rockefeller University*
6. Faculty, 2004

Rodolfo D. Aramayo ............................................. Associate Professor
Karl J. Aufderheide ............................................ Associate Professor
Deborah Bell-Pedersen ........................................ Associate Professor
Michael J. Benedik ........................................... Professor
Ginger E. Carney ................................................ Assistant Professor
Vincent M. Cassone ............................................ Professor
Sumana Datta ................................................... Associate Professor (J)
David Earnest ................................................... Associate Professor (J)
James W Erickson .............................................. Associate Professor
Heather Fugger .................................................. Assistant Professor
Rene Garcia ...................................................... Assistant Professor
Susan S. Golden ................................................. Distinguished Professor
James W. Golden ............................................... Professor
Ira F. Greenbaum ................................................ Professor
Lawrence R. Griffing ........................................... Associate Professor
Linda Guarino .................................................... Professor (J)
Timothy C. Hall ............................................... Distinguished Professor
Andreas K. Holzenburg ....................................... Professor
Rodney Honeycutt ............................................. Professor (J)
John M. Ivy ....................................................... Associate Professor
Carol B. Johnson ............................................... Lecturer
Adam G. Jones .................................................. Assistant Professor
Walter M. Kemp ................................................ Professor
Arne C. Lekven .................................................. Assistant Professor
Duncan S. MacKenzie ......................................... Associate Professor
Keith A. Maggert ............................................... Assistant Professor
James R. Manhart .............................................. Associate Professor
Michael D. Manson .......................................... Professor
Thomas D. McKnight .......................................... Professor
Rita J. Moyes ...................................................... Senior Lecturer
Comer O. Patterson ........................................... Associate Professor
Alan E. Pepper .................................................. Associate Professor
Brian D. Perkins ............................................... Assistant Professor
Bruce Riley ....................................................... Associate Professor
Peter J. Rizzo .................................................... Associate Professor
Helmut W. Sauer ............................................... Professor
Timothy P. Scott .............................................. Senior Lecturer
Deborah A. Siegele ............................................ Associate Professor
Efthimos Skoulakis ........................................... Assistant Professor
Michael Smotherman ........................................ Assistant Professor
Thomas A Stidham ........................................... Assistant Professor
Max Summers .................................................. Professor (J)
Merrill H. Sweet ............................................... Lecturer
Andrew Tag ..................................................... Lecturer
Terry L. Thomas ................................................. Professor
Wayne Versaw .................................................. Assistant Professor
Mary K. Wicksten ............................................... Professor
Hugh D. Wilson ............................................................... Professor
Leslie K. Winemiller ......................................................... Senior Lecturer
Jin Xiong ................................................................. Assistant Professor
Philip A. Youderian ......................................................... Professor
Ry Young ................................................................. Professor (J)
Mark J. Zoran .......................................................... Associate Professor
6.1 Professional Activities, 2004

This section contains information, as reported by individual faculty members, encompassing each faculty member’s professional activities for the calendar year 2004.

Subsections of professional activities are defined as follows:

Honors and Awards
▷ All professional honors and awards, both internal and external.

Service Activities
▷ All professional service and leadership roles, including: departmental, college, university, state, national and international.

Teaching
▷ Classes taught during the Spring, Summer and Fall sessions of 2004.
▷ Any missing enrollment numbers were gathered from the Student Information Management System (SIMS) at Texas A&M University.

Research Projects
▷ All research projects, funded and unfunded.
▷ Whenever possible, all research-related employees of that faculty member are listed along with the citation. Key for employees: (P)=Postdoc, (G)=Graduate Student, (U)=Undergraduate Student.
▷ Renewals are marked by “(REN)” at the beginning of their title.
▷ Unfunded grants are marked by “(UNFUNDED)” at the end of the citation.
▷ Additional information (including PIs, CoPIs, and funding) on all funded grants are listed in Section 6.

Presentations
▷ All posters, invited and contributed lectures (plenary, conferences, colloquia, seminars, etc.).
▷ Whenever reported, posters, invited and contributed lectures are noted in parentheses following the citation.
▷ Citations are in chronological order.

Publications
▷ All printed materials published during 2004.
▷ Pre-press, in-press and submitted publications were not included.
▷ Citations were formatted in APA Style and are in alphabetical order by lead author.
• **HONORS DURING 2004**

  - **National**
    - Fellow, Beckman Frontiers of Science Symposium

• **SERVICE DURING 2004**

  - **International**
    - Editorial Board, *The International Journal of Biological Sciences*
    - Editorial Board, *The International Journal of Biological Sciences*

  - **National**
    - Ad hoc Reviewer, Biology and Fungal Biology
    - Ad hoc Reviewer, *MCB - Microbial Genetics*
    - Ad hoc Reviewer, Israel Science Foundation
    - Advisory Committee, Rede Nordeste de Biotechnologia (RENOBIO)
    - Editorial Board, *Fungal Genetics Newsletter*
    - Member, *Consejo Nacional de Ciencia y Tecnologia (CONACYT)*
    - Reviewer, *FEMS Microbiology Letters, Fungal Genetics Newsletter, Nature Review Genetics*

  - **University**
    - Advisor, Beta Beta Beta
    - Member, Graduate Faculty of the Health Science Center

  - **Department**
    - Member, Departmental Graduate Curriculum Committee (GRAC)
    - Member, Program for the Biology of Filamentous Fungi
    - Member, Program for Microbial Genetics and Genomics
    - Member, Computer Committee

  - **Interdisciplinary/Intercollegiate**
    - Member, Graduate Curriculum Committee, Intercollegiate program in Genetics

• **TEACHING ASSIGNMENTS DURING 2004**

  - **Spring**
    - BIOL 491.507 — Research (total enrollment: 2)
    - BIOL 681.601 — Seminar (total enrollment: 8)
    - BIOL 691.607 — Research (total enrollment: 1)
    - IFME 691.607 — Research (total enrollment: 1)
Summer

- BIOL 491.107 — Research (total enrollment: 1)
- BIOL 691.207 — Research (total enrollment: 1)
- IFME 351.300-301 — Fundamentals of Microbiology (total enrollment: 30)
- IFME 691.307 — Research (total enrollment: 1)

Fall

- BICH 689.600 — Special Topics in (total enrollment: 6)
- BIOL 450.500 — Introduction to Genomics (total enrollment: 20)
- BIOL 491.507 — Research (total enrollment: 1)
- BIOL 650.600 — Genomics (total enrollment: 9)
- BIOL 691.657 — Research (total enrollment: 1)

- RESEARCH PROJECTS DURING 2004
  - Genetic and Molecular Study of Meiotic Transvection, National Institutes of Health

- PRESENTATIONS DURING 2004
  - Department of Biology, University of Kentucky, Lexington, Kentucky, 2004. (Individual)
  - Division of Basic Sciences, Fred Hutchinson Cancer Research Center (FHCRC), Seattle, Washington, 2004. (Individual)
  - Molecular Epigenetics Seminar Series, University of Florida, College of Medicine, Gainsville, Florida, 2004. (Invited)

- PUBLICATIONS DURING 2004
  - Bogomolnaya, LM; Pathak, R; Guo, J; Cham, R; Aramayo, R; Polymenis, M. (2004) Hym1p affects cell cycle progression in *Saccharomyces cerevisiae* Current Genetics, vol. 46(4), 183-192.
  - Borkovich, KA; Alex, LA; Yarden, O; Freitag, M; Turner, GE; Read, ND; Seiler, S; Bell-Pedersen, D; Paietta, J; Plesofsky, N; Plamann, M; Goodrich-Tanrikulu, M; Schulte, U; Mannhaupt, G; Nargang, FE; Radford, A; Selitrennikoff, C; Galagan, JE; Dunlap, JC; . (2004) Lessons from the genome sequence of *Neurospora crassa*: Tracing the path from genomic blueprint to multicellular organism Microbiology and Molecular Biology Reviews, vol. 68, 1-108.
  - Feitag, M; Lee, DW; Kothe, GO; Pratt, RJ; Aramayo, R; Selker, EU. (2004) DNA methylation is independent of RNA interference in Neurospora Science, vol. 304(5679), 1939.
• SERVICE DURING 2004

National
▷ Associate Faculty Advisor, Cell and Molecular Biology Association

University
▷ Member, University Security Awareness Committee
▷ Member, Faculty Senate Committee on Committees
▷ Member, Faculty Senate Planning Committee
▷ Member, Blinn College/Texas A&M University Liaison Committee

College
▷ College of Science Representative, Core Curriculum Council
▷ Faculty Senator, College of Science
▷ Research Standards Officer, College of Science, Office of the Vice-President for Research

Department
▷ Member, Lower Division Advisory Committee
▷ Member, Biological Instrumentation Laboratory Oversight Committee
▷ Member, Microscopy Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 413.500 — Cell Biology (total enrollment: 43)
▷ BIOL 491.501 — Research (total enrollment: 3)

Summer
▷ BIOL 213.200 — Molecular Cell Biology (total enrollment: 23)
▷ BIOL 491. — Research (total enrollment: 1)

Fall
▷ BIOL 213.502 — Molecular Cell Biology (total enrollment: 100)
▷ BIOL 414. — Developmental Biology (total enrollment: 42)
▷ BIOL 491. — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004
▷ McGraw-Hill Brooker (Genetics) Focus Group Symposium, Dubuque, Iowa, October, 2004.( Invited)
• SERVICE DURING 2004

National
▷ Associate Editor, Fungal Genetics and Biology
▷ Elected Member, Neurospora Policy Committee
▷ Organizer, Neurospora 2004 Meeting
▷ Reviewer, Fungal Genetics Newsletter, Science, Journal of Biological Rhythms, Fungal Genetics and Biology
▷ Reviewer, National Institutes of Health, National Science Foundation
▷ Reviewer, Journal of Biological Chemistry, PNAS, Genes and Development, Eukaryotic Cell
▷ Scientific Meeting Organizer, Fungal Genetics Meeting

University
▷ Member, Promotion and Tenure Committee Brian Shaw Plant Pathology and Microbiology
▷ Member, Fungal Genomics Search Committee, Dept. of Plant Pathology and Microbiology

Department
▷ Chair, Program for Microbial Genetics and Genomics Graduate Admissions Committee
▷ Chair, Faculty Search Committee
▷ Faculty Advisor, Biology Graduate Student Association
▷ Member, Biology Department Executive Committee
▷ Member, Center for Environmental and Rural Health
▷ Member, Center for Research on Biological Clocks
▷ Member, Program for Microbial Genetics and Genomics Faculty Member
▷ Member, Genetics Faculty Graduate Admissions and Recruiting Committee
▷ Program Committee Member, Society for Research on Biological Rhythms

Interdisciplinary/Intercollegiate
▷ Member, PBOFF Faculty

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 491.549 — Research (total enrollment: 1)
▷ BIOL 601.600-700 — Biological Clocks (total enrollment: 5)
▷ BIOL 682.600 — Research Seminar (total enrollment: 9)
▷ IFME 685.649 — Directed Studies (total enrollment: 1)
IFME 691.649 — **Research** (total enrollment: 3)

**Summer**
- BIOL 491.149 — **Research** (total enrollment: 1)
- BIOL 491.249 — **Research** (total enrollment: 1)
- BIOL 491.349 — **Research** (total enrollment: 1)
- IFME 691.349 — **Research** (total enrollment: 3)

**Fall**
- BIOL 491.549 — **Research** (total enrollment: 1)
- BIOL 682.600 — **Research Seminar** (total enrollment: 6)
- BIOL 691.649 — **Research** (total enrollment: 3)
- IFME 445.500 — **Biology of Viruses** (total enrollment: 50)
- IFME 691.649 — **Research** (total enrollment: 26)
- MATH 289.505 — **Special Topics in** (total enrollment: 1)

• **RESEARCH PROJECTS DURING 2004**
  - A Circadian-Based Approach to Treating *Aspergillus*, *Center for Environmental and Rural Health*
  - Coordination of Circadian Physiology of Diverse Species, *National Institutes of Health*
  - Functional Analysis of a Model of Filamentous Fungus, *National Institutes of Health*
  - Molecular Genetic Analysis of Fungal Circadian Rhythms, *National Institutes of Health*
  - (REN) Molecular Genetic Analysis of Fungal Circadian Rhythms, *National Institutes of Health*
  - Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, *National Science Foundation*

• **PRESENTATIONS DURING 2004**
  - “Multiple Oscillators Regulate Circadian Rhythms in Neurospora crassa,” PboFF Symposium, Texas A&M University, College Station, Texas, April, 2004. (Individual)
  - “Multiple Oscillators Regulate Circadian Rhythms in Neurospora crassa,” SECTS for clocks, Texas A&M University, College Station, Texas, December, 2004.

• **PUBLICATIONS DURING 2004**
  - Allen, GC; Fanrell, Y; Bell-Pedersen, D; Cassone, VM; Earnest, DJ. (2004) Effects of altered Clock gene expression on the pacemaker properties of SCN2.2 cells and oscillatory properties of NIH/3T3 cells *Neuroscience*, vol. **127**(4), 989-999.
  - Borkovich, KA; Alex, LA; Yarden, O; Freitag, M; Turner, GE; Read, ND; Seiler, S; Bell-Pedersen, D; Paietta, J; Plesofsky, N; Plamann, M; Goodrich-Tanrikulu, M; Schulte, U; Mannhaupt, G; Nargang, FE; Radford, A; Selitrennikoff, C; Galagan, JE; Dunlap, JC; . (2004) Lessons from the genome sequence of *Neurospora crassa*: Tracing the path from genomic blueprint to multicellular organism *Microbiology and Molecular Biology Reviews*, vol. **68**, 1-108.

Xie, X; Wilkinson, HH; Correa, A; Lewis, ZA; Bell-Pedersen, D; Ebbole, DJ. (2004) Transcriptional response to glucose starvation and functional analysis of a glucose transporter of *Neurospora crassa Fungal Genetics and Biology*, vol. 41(12), 1104-1119.
• SERVICE DURING 2004

National
▷ Reviewer, Brocks Biology of Microorganisms
▷ Reviewer, Environmental Science and Technology, Metabolic Engineering, FEMS Microbiology Letters
▷ Reviewer, Environmental Institute of Houston, CRDF (Civilian Research and Development Foundation)

University
▷ Member, Genetics Program - Executive Committee
▷ Member, CAFRT (Committee on Academic Freedom, Responsibility and Tenure)
▷ Member, Honors Advisory Committee

Department
▷ Member, Annual Review and Awards

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ IFME 351. — Fundamentals of Microbiology (total enrollment: 205)

Fall
▷ IFME 406.500 — Bacterial Genetics (total enrollment: 13)
▷ IFME 606.600 — Microbial Genetics (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004

▷ Genetic Engineering of Enzymatic Cyanide Clearance, Gulf Coast Hazardous Substance Research Center
▷ Drug Design for Treating Opportunistic Infections in AIDS, National Institutes of Health
▷ Dielectric Spectroscopy for the Detection of Biological and Chemical Warfare Agents, Naval Surface Warfare Center
▷ The Role of Quaternary Structure in Catalysis: A Cyanidase Model, The Robert A. Welch Foundation, coworkers: L. Basile (G)

• PRESENTATIONS DURING 2004

▷ “Lecture,” Department of Biochemistry and Molecular Biology, University of Capetown, Capetown, South Africa, January, 2004.( Individual)
▷ Gordon Research Conference on Bacterial Cell Surfaces, July, 2004.(Poster Individual)
• SERVICE DURING 2004
  Department
  ▶ Member, Biology Faculty Search Committee

• RESEARCH PROJECTS DURING 2004
  ▶ Characterizing a Target Locus of Behavioral Genetic Hierarchy, National Science Foundation

• PRESENTATIONS DURING 2004
  ▶ University of Oklahoma, Oklahoma City, OK, February, 2004.(Invited)
  ▶ “A logjam at the interference of intracellular trafficking and oviposition behavior,” Gordon Research Conference: Genes and Behavior, Ventura, California, February, 2004.(Poster Individual)
  ▶ University of Mississippi, University, MS, February, 2004.(Invited)

• PUBLICATIONS DURING 2004
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Department Head, Biology, [2003]

• SERVICE DURING 2004

  National
  ▶ Member, Journal of Biological Rhythms, Journal of Pineal Research
  ▶ Member, Minority Access Study Section, National Institutes of Health
  ▶ Member, Society for Research on Biological Rhythms
  ▶ Reviewer, National Institutes of Health, EU
  ▶ Treasurer, Society for Research on Biological Rhythms

  University
  ▶ Member, Educational Environment Council
  ▶ Member, Faculty Senate
  ▶ Member, Life Sciences Building Advisory Committee

  Department
  ▶ Chair, Executive Committee
  ▶ Elected Chairman, Annual Review & Awards Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ BIOL 481.506 — Seminar in Biology (total enrollment: 29)
  ▶ BIOL 681.602 — Seminar (total enrollment: 6)
  ▶ BIOL 685.608 — Directed Studies (total enrollment: 1)
  ▶ BIOL 691.605 — Research (total enrollment: 2)

  Summer
  ▶ BIOL 691.205 — Research (total enrollment: 1)

  Fall
  ▶ BIOL 691.605 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
  ▶ Microgravity and Circadian Cardiovascular Rhythms, Baylor College of Medicine
  ▶ Coordination of Circadian Physiology of Diverse Species, National Institutes of Health
  ▶ Functional Analysis of the Myxococcus Xanthus Genome, National Institutes of Health
• PRESENTATIONS DURING 2004
  ▶ “Time’s Arrow Flies Like a Bird,” Colby College, Waterville, Maine, April, 2004. (Individual)
  ▶ “Functional Genomics of the Avian Circadian Clock,” Texas A&M Faculty of Neuroscience, College Station, Texas, October, 2004. (Individual)

• PUBLICATIONS DURING 2004
  ▶ Allen, G; Farnell, Y; Bell-Pedersen, D; Cassone, VM; Earnest, DJ. (2004) Effects of altered clock gene expression on the pacemaker properties of SCN2.2 cells and oscillatory properties of NIH/3T3 cells. Neuroscience, vol. 127, 989-999.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ∘ Associate Professor (J), 1999

• HONORS DURING 2004
  University
  ∘ Advisor of the Year, University Undergraduate Research Fellows

• SERVICE DURING 2004
  National
  ∘ Organizer, Stem Cell Workshop, 45th Annual Drosophila Research Conference
  ∘ Referee: Journals, Indian Journal of Experimental Biology, Journal of Neuroscience, Developmental Biology
  ∘ Referee: Research, NIH Biochem/Biophys Review Panel
  ∘ Reviewer, McGraw-Hill
  University
  ∘ External Advisor, Dr. Maribel Gonzalez-Garci, Texas A&M University- Kingsville, NIH MBRS grant
  ∘ Member, CPI
  ∘ Member, Athletic Council
  ∘ Member, Women’s Faculty Network Steering Committee
  Department
  ∘ Chair, Membership Committee, Genetics
  ∘ Member, Development, Bio/Bio
  ∘ Member, Executive Committee, Genetics
  ∘ Secretary, Faculty of Genetics

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ∘ BICH 609. — Preparation of a Research (total enrollment: 7)
  ∘ BIOL 681.606 — Seminar (total enrollment: 7)
  Fall
  ∘ BIOL 611.600 — Molecular Biology of Differentiation and Development (total enrollment: 13)

• RESEARCH PROJECTS DURING 2004
  ∘ Control of Neuroblast Proliferation in Drosophila, National Institutes of Health
• PRESENTATIONS DURING 2004

▷ “Growth factors and the cell cycle: Regulation of the G1-S transition in stem cells of the developing brain,” Centro de Genetica e biologia Molecular, Complexo Interdisciplinar da Univesidade de Lisboa, Lisbon, Spain, 2004. (Invited)


▷ “Insect Biology, Stem Cells and Cancer: The Perlecan link,” Department of Entomology, Texas A&M University, College Station, Texas, 2004. (Invited)

▷ “Perlecan, a candidate gene for the CABP locus, mediates Sonic Hedgehog signaling and is required for the proliferation of advanced human prostate cancer cells,” SBUR, Savannah, GA, 2004. (Poster Contributed)


• PUBLICATIONS DURING 2004

▷ Sanchez, P; Hernandez, AM; Stecca, B; Kahler, AJ; DeGueme, AM; Barrett, A; Beyna, M; Datta, MW; Datta, S; Ruiz I Altaba, A. (2004) Inhibition of prostate cancer proliferation by interference with Hedgehog-GLI1 signaling Proceedings of the National Academy of Science, vol. 101, 12561-12566.
• SERVICE DURING 2004

National
▷ Reviewer, *Developmental Cell, Genetics*

University
▷ Member, University Lab Animal Care Committee

Department
▷ Member, Departmental Retreat Committee
▷ Member, Molecular and Cell Biology Training Grant Committee
▷ Member, Department of Biology Faculty Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 213.500 — *Molecular Cell Biology* (total enrollment: 121)
▷ BIOL 491.551 — *Research* (total enrollment: 1)
▷ BIOL 685.624 — *Directed Studies* (total enrollment: 1)

Fall
▷ BIOL 213.501 — *Molecular Cell Biology* (total enrollment: 67)

• RESEARCH PROJECTS DURING 2004

▷ Dose-Sensitive Transcriptional Controls in Drosophila Sex Determination, *American Cancer Society*
▷ Chromosome Counting Mechanisms in Sex Determination, *National Institute of General Medical Studies*, coworkers: J. Quinterro (Technician), G. Mahesh (P), F. Avila (G), A. Gonzalez (G), S. Dao (U), M. Fry (U), M. LaFon (U), A. Visbal (U)
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Lecturer, Neuroscience, [2004]

• SERVICE DURING 2004
  National
  ▶ Member, Society for Behavioral Neuroendocrinology

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ BIOL 114.501 — Introductory Biology (total enrollment: 110)
  ▶ BIOL 114.502 — Introductory Biology (total enrollment: 234)
  Summer
  ▶ MEPS 320.301-303 — Integrated Human Anatomy and Physiology II (total enrollment: 48)
  Fall
  ▶ MEPS 320.501-503 — Integrated Human Anatomy and Physiology II (total enrollment: 66)

• PRESENTATIONS DURING 2004
  ▶ “Role of Estrogen Receptor Alpha on Learning and Hippocampal Function,” Neuroscience Seminar Series, Texas A&M University, College Station, Texas, April, 2004.( Individual)
• **HONORS DURING 2004**
  
  National
  ▶ Presidential Early Career Award for Scientists and Engineers (PECASE), The Executive Office of the President, United States

• **SERVICE DURING 2004**
  
  National
  ▶ Reviewer, *J. Neurosci, EMBO*

  Department
  ▶ Coordinator, Undergraduate Research Poster Competition

• **TEACHING ASSIGNMENTS DURING 2004**
  
  Spring
  ▶ BIOL 689.601 — **Special Topics in** (total enrollment: 8)
  ▶ BIOL 691.699 — **Research** (total enrollment: 2)

  Summer
  ▶ BIOL 691.299 — **Research** (total enrollment: 3)

  Fall
  ▶ BIOL 111.537-548 — **Introductory Biology I** (total enrollment: 237)
  ▶ BIOL 111.579 — **Introductory Biology I** (total enrollment: 17)
  ▶ BIOL 285.504 — **Directed Studies** (total enrollment: 11)
  ▶ BIOL 485.504 — **Directed Studies** (total enrollment: 1)
  ▶ BIOL 691.699 — **Research** (total enrollment: 1)

• **RESEARCH PROJECTS DURING 2004**
  ▶ Genetic Regulation of Mating Behavior in *C. Elegan* Males, *National Institutes of Health*
  ▶ Identification of ERG K Channel-Regulated Pathways Used in *C. Elegans* Male Mating Program, *Searle Scholars Program*

• **PRESENTATIONS DURING 2004**
  ▶ TAMU Genetics Faculty, College Station, Texas, February, 2004.( Invited)
  ▶ TAMU Neuroscience Faculty, College Station, Texas, February, 2004.( Invited)
  ▶ Albert Einstein University, March, 2004.( Invited)
  ▶ Annual Meeting, April, 2004.(Poster Invited)
• **HONORS DURING 2004**

  **State**
  ▶ Foundation Member, Kappa of Texas Chapter of Phi Beta Kappa

  **SERVICE DURING 2004**

  **National**
  ▶ Board of Consulting Editors, *Advanced in Photosynthesis*
  ▶ Editor, *Journal of Bacteriology*
  ▶ Member, Nominating Committee for Board of Governors, American Academy of Microbiology
  ▶ Organizer, Society for Research on Biological Rhythms Symposium
  ▶ Reviewer, External Tenure and Promotion Committees
  ▶ Reviewer, National Science Foundation, DOE, National Institutes of Health

  **College**
  ▶ Speaker, Ethel Asworth Tsutsui Memorial Lecture

  **Department**
  ▶ Member, Faculty Search Committee
  ▶ Member, Executive Committee

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ IFME 681.601 — **Seminar** (total enrollment: 9)
  ▶ IFME 691.642 — **Research** (total enrollment: 4)

  **Summer**
  ▶ IFME 691.240 — **Research** (total enrollment: 1)
  ▶ IFME 691.242 — **Research** (total enrollment: 3)
  ▶ IFME 691.342 — **Research** (total enrollment: 2)

  **Fall**
  ▶ BIOL 289. — **Special Topics in** (total enrollment: 12)
  ▶ BIOL 681.604 — **Seminar** (total enrollment: 7)
  ▶ IFME 691.642 — **Research** (total enrollment: 2)
• RESEARCH PROJECTS DURING 2004
  ▶ Global Functional Analysis of the Genome of Synechococcus Elongatus PCC 7942, Department of Energy, coworkers: K. Holtman (P), Y. Chen (G), K. Cole (U), J. Siefert (U)
  ▶ Post-Transcriptional Components of PSBA, Department of Energy
  ▶ Coordination of Circadian Physiology of Diverse Species, National Institutes of Health, coworkers: K. Smith (Technician), E. Clerico (P)
  ▶ The Pathway That Sets the Cyanobacterial Circadian Clock, National Institutes of Health, coworkers: T. Gao (P), N. Ivleva (P), S. Canales (G), X. Zhang (G)
  ▶ Circadian Rhythms of Gene Expression in Cyanobacteria, National Science Foundation, coworkers: C. Emani (P)

• PRESENTATIONS DURING 2004
  ▶ “Seminar,” Huazhong Agriculture University, Wuhan, China, 2004. (Invited)
  ▶ Department of Biology, Georgia Tech, Atlanta, Georgia, 2004. (Invited)
  ▶ Department of Biology, Southwestern University, Georgetown, Texas, 2004. (Invited)
  ▶ Department of Biology, University of Utah, Salt Lake City, Utah, 2004. (Invited)
  ▶ Department of Physics, Texas A&M University, College Station, Texas, 2004. (Invited)
  ▶ Ethel Ashworth-Tsutsui Memorial Lecture, Department of Biology, Texas A&M University, College Station, Texas, 2004. (Individual)
  ▶ Huazhong Agriculture University, Wuhan, China, 2004. (Invited)
  ▶ Keystone Conference on Bacterial Chromosomes, Sante Fe, New Mexico, 2004. (Invited)
  ▶ Women’s week presentation on women in science, Texas A&M University, College Station, Texas, 2004. (Invited)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
- Reviewer, *Molecular Microbiology, J. Bacteriology, PNAS*
- Reviewer, NIH Score Grant Pre-Review and Evaluation

College
- Member, Tenure and Promotion Committee
- Member, Information Technology Committee

Department
- Chair, Graduate Recruiting and Admissions
- Elected Member, Annual Review & Awards Committee
- Member, Computer Committee
- Member, Pre-tenure Review Committee
- Member, Introductory Biology Steering Committee
- Member, Executive Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
- BIOL 491.541 — Research (total enrollment: 1)
- BIOL 691.641 — Research (total enrollment: 1)
- IFME 351.200(H) — Fundamentals of Microbiology (total enrollment: 14)
- IFME 351.501-512 — Fundamentals of Microbiology (total enrollment: 188)
- IFME 691.691 — Research (total enrollment: 1)

Summer
- BIOL 691.241 — Research (total enrollment: 2)
- IFME 691.389 — Research (total enrollment: 1)

Fall
- BIOL 111.201-203(H) — Introductory Biology I (total enrollment: 45)
- BIOL 491.541 — Research (total enrollment: 1)
- BIOL 691.641 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
- (REN) Regulation of Development and Nitrogen Fixation in Anabaena, *Department of Energy*
- Regulation of Cyanobacterial Multicellular Development, *National Institute of General Medical Studies*
• PRESENTATIONS DURING 2004

- "Regulation of heterocyst development pattern formation in the cyanobacterium Anabaena (Nostoc) PCC 7120," XIV International Congress on Nitrogen Fixation, Beijing, China, October-November, 2004. (Invited)
- "Regulation of Heterocyst Development and Pattern Formation in the Cyanobacterium Anabaena (Nostoc) PCC 7120," School of Biology departmental seminar, Georgia Tech, Atlanta, Georgia, January, 2004. (Invited)
- "Regulation of Heterocyst Development and Pattern Formation in the Cyanobacterium Anabaena (Nostoc) PCC 7120," Department of Biology departmental seminar, University of Utah, Salt Lake City, Utah, March, 2004. (Invited)
- "Heterocyst development and pattern formation in the multicellular cyanobacterium Anabaena (Nostoc) PCC 7120," Biocomplexity VI: Complex Behavior in Unicellular Organisms, Indiana University, Bloomington, Indiana, May, 2004. (Invited)
- "Heterocyst pattern formation in the multicellular cyanobacterium Anabaena (Nostoc) PCC 7120 controlled in part by the small peptide PatS," ASM meeting Cell-Cell communication in Bacteria (2nd), Banff, Canada, July, 2004. (Invited)
- "Regulation of heterocyst development and pattern formation," 8th Cyanobacterial Molecular Biology Workshop, Ste. Adele, Quebec, Canada, August, 2004. (Invited)
- "Regulation of heterocyst development and pattern formation Developmentally programmed DNA rearrangements during Anabaena PCC 7120 heterocyst differentiation," College of Life Sciences, Huazhong Agricultural University, Wuhan, China, December, 2004. (Invited)

• PUBLICATIONS DURING 2004

IRA F. GREENBAUM

PROFESSOR (979) 845-7791
BIOL ira@mail.bio.tamu.edu

• HONORS DURING 2004

State
▷ Honorary Member, Texas Society of Mammalogists

• SERVICE DURING 2004

National
▷ Reviewer, Tenure and Promotion Review University of Connecticut, Department of Molecular and Cell Biology
▷ Reviewer, Chromosome Research
▷ Reviewer, National Science Foundation

State
▷ Member, Texas Society of Mammalogy, Board of Governors

University
▷ College of Science Representative, University Faculty Advisory Committee to the Vice President for Student Affairs

College
▷ Elected Departmental Representative, College of Science Grievance Committee

Department
▷ Chair, Computational/Theoretical Biologist Search Committee
▷ Chair, Faculty of Genetics Nominating Committee
▷ Member, Faculty of Genetics Membership Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 466.500 — Principles of Evolution (total enrollment: 33)
▷ BIOL 491.513 — Research (total enrollment: 1)
▷ BIOL 691.613 — Research (total enrollment: 1)

Summer
▷ BIOL 466.200 — Principles of Evolution (total enrollment: 17)
▷ BIOL 491. — Research (total enrollment: 1)
▷ BIOL 691.213 — Research (total enrollment: 1)
▷ BIOL 691.313 — Research (total enrollment: 1)

Fall
▷ BIOL 491.513 — Research (total enrollment: 1)
BIOL 691.613 — Research (total enrollment: 1)
MEPS 318.501-504 — Chordate Anatomy (total enrollment: 51)
• SERVICE DURING 2004

International
  ▶ Consultant, Polar Bears International

National
  ▶ Chair, Education Committee, American Society of Plant Biologists
  ▶ Member, In Vitro
  ▶ Member, Executive Committee, American Society of Plant Biologists
  ▶ Reviewer, Plant Physiology, In Vitro
  ▶ Reviewer, National Science Foundation, USDA

University
  ▶ Associate Director, Information Technology in Science, Center for Teaching and Learning

College
  ▶ Member, Instructional Technology Committee

Department
  ▶ Member, Seminar Committee
  ▶ Member, Computer Committee

Interdisciplinary/Intercollegiate
  ▶ Member, Executive Committee: Molecular and Environmental Plant Sciences

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ BIOL 430.500-501 — Biological Imaging (total enrollment: 32)
  ▶ BIOL 481.503 — Seminar in Biology (total enrollment: 18)
  ▶ BIOL 491.527 — Research (total enrollment: 5)
  ▶ BIOL 691.627 — Research (total enrollment: 1)

Summer
  ▶ BIOL 285.227 — Directed Studies (total enrollment: 1)
  ▶ BIOL 491.227 — Research (total enrollment: 5)
  ▶ BIOL 689.200 — Special Topics in (total enrollment: 6)
  ▶ BIOL 691.327 — Research (total enrollment: 2)

Fall
  ▶ BIOL 413.500 — Cell Biology (total enrollment: 27)
  ▶ BIOL 423. — Cell Biology Laboratory (total enrollment: 20)
  ▶ BIOL 491.527 — Research (total enrollment: 13)
BIOL 613. — Cell Biology (total enrollment: 4)
BIOL 691.627 — Research (total enrollment: 1)

- RESEARCH PROJECTS DURING 2004
  - Digital Libraries, National Science Foundation
  - Electronic Teaching College, Texas Infrastructure Fund

- PRESENTATIONS DURING 2004
  - “IT-enhanced research and science education on endangered animals,” Wolong Panda Breeding Center, Wolong, China, May, 2004. (Invited)
  - “Remote video and time-lapse video for public understanding of science research,” Computer Network Information Center, Beijing, China, October, 2004. (Invited)
  - “Using Remote Video Technology and Internet for Science Research and Education in Museums,” Xishuangbanna Tropical Botanical Garden, Jing Jong, China, November, 2004. (Invited)
TIMOTHY C. HALL

DISTINGUISHED PROFESSOR
BIOL
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• SERVICE DURING 2004

International
▷ Member, University Grants Committee, Hong Kong
▷ Member, International Programs Enhancement and Coordination Committee
▷ Member, Scientific Advisory Committee of the China National Center for Biotechnology Development

National
▷ Member, Scientific Advisory Committee to the Area of Excellence Award in Plant and Fungal Biotechnology
▷ Member, Scientific Steering Committee of the National Institute of Biological Science
▷ Reviewer, National Science Foundation, USDA, DOE
▷ Reviewer, Various scientific publications

University
▷ Chair, Council of Principal Investigators Executive Committee
▷ Chair, Council of Principal Investigators Committee
▷ Co-Chair, Faculty Senate Research Committee
▷ Member, Distinguished Professors Executive Committee
▷ Member, Distinguished Lecture Series Committee
▷ Member, Faculty Senate
▷ Member, Life Science Building Committee
▷ Member, Council on Research Environment
▷ Member, Faculty Senate Legislative Affairs Committee
▷ Member, IPECC Subcommittee on International Student Issues
▷ Member, Academic Program Council
▷ Representative, University Distinguished Lecture Series Committee

Department
▷ Chair, Plant Care Committee
▷ Chair, Gene Technologies Lab Advisory Committee
▷ Member, Biology Senior Search Committee
▷ Member, Biotechnology and Biological Sciences Research Council
▷ Member, Faculty of Genetics Seminar Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 681.604 — Seminar (total enrollment: 5)
RESEARCH PROJECTS DURING 2004

- Diversification of ZmUbil Promoter, Dow Chemical Co.
- Studies on Gene Silencing for Stable Expression of Transgene, National Institute of Agricultural Biotechnology, coworkers: Y. Lee (Visiting Scientist), Y. Jiang (G), X. Shi (G)
- Chromatin Potentiation and ABA Activation of Phaseolin Transcription, National Science Foundation
- (REN) Chromatin Potentiation and ABA Activation of Phaseolin Transcripts, National Science Foundation, coworkers: J. Townsend (Technician), R. Carranco (P), W. Ng (G), X. Zhou (G), J. Mink (U), C. White (U)
- Research Experience for Undergraduates, National Science Foundation
- Research Experience for Undergraduates, National Science Foundation
- Transgene Silencing: New Insight to Genetic Mechanisms, National Science Foundation, coworkers: R. Pancholy (P), G. Yang (P), Y. Jiang (G), X. Shi (G), T. Wang (G), E. Delgado (U), C. Martin (U), Y. Rong (U), J. Wollam (U)

PRESENTATIONS DURING 2004

“Some unusual features of transgene expression in M. truncatula A17,” China Agricultural University, Beijing, China, July, 2004. (Invited)

**PUBLICATIONS DURING 2004**

- Carranco, R; Chandrasekharan, MB; Townsend, JC; Hall, TC. (2004) Interaction of PvALF and VP1 B3 domains with the β-phaseolin promoter *Plant Molecular Biology, vol. 55*, 221-237.
- Grace, ML; Chandrasekharan, MB; Hall, TC; Crowe, AJ. (2004) Sequence and spacing of TATA box elements are critical for accurate initiation from the beta-phaseolin promoter *Journal of Biological Chemistry, vol. 279*, 8102-8110.
- Ng, DWK; Chandrasekharan, MB; Hall, TC. (2004) The 5' UTR negatively regulates quantitative and spatial expression from the ABI3 promoter *Plant Molecular Biology, vol. 54*, 25-38.
ANDREAS K. HOLZENBURG

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BIOL holzen@mic.tamu.edu

• SERVICE DURING 2004

National
▷ Advisory Editorial Board, Subcellular Biochemistry (international)
▷ Associate Director, USAF/AFRL Directorate
▷ Editorial Board, Micron
▷ Reviewer, NSF-MRI, NIH
▷ Reviewer, Journal of Molecular Biology, Biological Chemistry, Journal of Microbiological Methods

State
▷ Member, TX-UK Steering Committee
▷ Secretary/Treasurer, Texas Chapter of the Alexander von Humboldt Association of America
▷ Vice President, Texas Chapter of the Alexander von Humboldt Association of America

University
▷ Member, University Research Council
▷ Member, Life Sciences Building Committee and Subcommittees
▷ Member, Life Sciences Task Force

Department
▷ Director, Microscopy and Imaging Center
▷ Ex Officio Member, MIC Electron Microscopy Advisory Committee
▷ Ex Officio Member, MIC Light Microscopy Advisory Committee
▷ Member, Material Science and Engineering Admission Committee
▷ Member, SAXS User Committee
▷ Mentor & Examiner, ORP, Biochemistry & Biophysics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 689.603 — Special Topics in (total enrollment: 9)
▷ BIOL 691.604 — Research (total enrollment: 3)

Summer
▷ BIOL 689.100 — Special Topics in (total enrollment: 9)
▷ BIOL 691.204 — Research (total enrollment: 2)

Fall
▷ BIOL 602.600 — Transmission Electron Microscopy (total enrollment: 10)
Director Studies (total enrollment: 2)

BIOL 685.605 — Directed Studies (total enrollment: 2)

BIOL 689.600 — Special Topics in (total enrollment: 2)

BIOL 691.604 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

Cryo-Electron Microscopy of Molecular Switches, Pumps, and Channels-the ABC Family of Proteins, Department of Trade and Industry (UK)

The Structural Biology of Membranes: A Program Project Proposal, Life Science Task Force, coworkers: R. McAndrew (P), C. Savva (G), J. Sun (G)

Graduate Training in Molecular Biophysics, National Institutes of Health

Acquisition of a Combined Raman and Infrared Microscope With nano-scale Spatial Resolution, National Science Foundation

Acquisition of a Field Emission Scanning Electron Microscope, National Science Foundation

Acquisition of Small-Angle X-Ray Scattering Instrument, National Science Foundation

Phages of Agronomic Bacteria: A Student-Based Genomics Approach, National Science Foundation

• PRESENTATIONS DURING 2004


“Electron microscopic analysis of the chemotaxis receptor Tsr, PMSF Membrane Night Out,” Easterwood Airport, College Station, Texas, June, 2004. (Individual)

“TEM analysis of chemoreceptor arrays in native membranes of E.coli,” 62nd Annual Meeting of the Microscopy Society of America, Savannah, Georgia, August, 2004. (Invited)

“Nanoscale biosensing and imaging (novel fixation protocols, high-contrast TEM imaging at 200 kV, element-specific imaging, trapping short-lived reactive oxygen species),” Texas/UK Workshop on Biomedical Imaging to the Nanoscale, Bush Conference Center, College Station, Texas, October, 2004.

“TEM analysis of chemoreceptor arrays in native membranes of E.coli (incl. immunolabeling),” Lost Pines Conference, Smithsville, Texas, October, 2004. (Poster Individual)

“Strategies to obtain instrumentation grants,” TAMU-OVPR Seminars on Federal Instrumentation Programs, Koldus Bldg., College Station, TX, November, 2004. (Invited)

“Strategies to obtain instrumentation grants,” TAMU-OVPR Seminars on Federal Instrumentation Programs, TAMU, TTVN Distance Learning, College Station, TX, November, 2004. (Invited)

• PUBLICATIONS DURING 2004
  ▶ Deaton, J; Savva, CG; Sun, JC; Holzenburg, A; Berry, J; Young, R. (2004) Solubilization and delivery by GroEL of megadalton complexes of the lambda holin Protein Science, vol. 13, 1778-1786.
  ▶ Deaton, J; Sun, J; Holzenburg, A; Struck, DK; Berry, J; Young, R. (2004) Functional bacteriorhodopsin is efficiently solubilized and delivered to membranes by the chaperonin GroEL Proceedings of the National Academy of Sciences USA, vol. 101, 2281-2286.
• SERVICE DURING 2004

  State
  ▶ Grader, Texas State Science Olympiad

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ BIOL 423.503 — Cell Biology Laboratory (total enrollment: 10)
  ▶ BIOL 423.505 — Cell Biology Laboratory (total enrollment: 11)

  Fall
  ▶ BIOL 111. — Introductory Biology I (total enrollment: 231)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

College
▷ Event Coordinator, Texas Science Olympiad

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 114.503 — Introductory Biology (total enrollment: 298)
▷ BIOL 114.504 — Introductory Biology (total enrollment: 300)

Fall
▷ BIOL 111.525-536 — Introductory Biology I (total enrollment: 253)
▷ BIOL 112.501-511 — Introductory Biology II (total enrollment: 243)
▷ BIOL 285.503 — Directed Studies (total enrollment: 12)
▷ BIOL 285.508 — Directed Studies (total enrollment: 4)
ADAM G. JONES
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BIOL ajones@mail.bio.tamu.edu

• SERVICE DURING 2004
  National
  ▶ Reviewer, NSF, DDIG

• TEACHING ASSIGNMENTS DURING 2004
  Fall
  ▶ BIOL 685.627 — Directed Studies (total enrollment: 3)
  ▶ BIOL 685.638 — Directed Studies (total enrollment: 1)
  ▶ BIOL 691. — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
  ▶ Egg Competition and Cryptic Male Choice in Pipefish, *National Science Foundation*

• PRESENTATIONS DURING 2004
  ▶ “The evolutionary consequences of male pregnancy in seahorses and pipefishes,” Texas A&M University, College Station, Texas, September, 2004. (Invited)
• PUBLICATIONS DURING 2004


▶ Watts, RA; Palmer, CA; Feldhoff, RC; Feldhoff, PW; Houck, LD; Jones, AG; Pfrender, ME; Rollman, SM; Arnold, SJ. (2004) Discordant modes of evolution at different levels in a pheromone signaling system *Molecular Biology and Evolution*, vol. 21, 1032-1041.
ARNE C. LEKVEN  
ASSISTANT PROFESSOR  
BIOL  
alekven@mail.bio.tamu.edu

- SERVICE DURING 2004

  National
  ▷ Reviewer, Developmental Dynamics, FASEB Journal
  ▷ Reviewer, NSF

  Department
  ▷ Chair, Seminar Committee
  ▷ Member, Light Microscopy Advisory Committee
  ▷ Member, Departmental Faculty Search Committee

- TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▷ BIOL 491.503 — Research (total enrollment: 1)
  ▷ BIOL 685.605 — Directed Studies (total enrollment: 4)
  ▷ BIOL 685.612 — Directed Studies (total enrollment: 1)
  ▷ BIOL 689. — Special Topics in (total enrollment: 8)
  ▷ BIOL 691.612 — Research (total enrollment: 1)

  Summer
  ▷ BIOL 691.212 — Research (total enrollment: 1)
  ▷ BIOL 691.312 — Research (total enrollment: 1)

  Fall
  ▷ BIOL 111.549-560 — Introductory Biology I (total enrollment: 243)
  ▷ BIOL 285.505 — Directed Studies (total enrollment: 10)
  ▷ BIOL 291. — Research (total enrollment: 1)
  ▷ BIOL 491.512 — Research (total enrollment: 1)
  ▷ BIOL 681.602 — Seminar (total enrollment: 14)
  ▷ BIOL 681.602 — Seminar (total enrollment: 14)
  ▷ BIOL 681.606 — Seminar (total enrollment: 8)
  ▷ BIOL 691.612 — Research (total enrollment: 2)

- RESEARCH PROJECTS DURING 2004
  ▷ Analysis of WNT8 Function in Mesodermal Cell Fate Specification and Its Interaction with BMP2B, American Heart Association - Texas
  ▷ Role of Wnt Signaling in Vertebrate Embryonic Patterning, National Science Foundation
  ▷ Regulation of Non-Axial Mesoderm Subdivision by the Wnt/Bmp/Vent/Vox/Ved Network, UNFUNDED
 Regulation of the Cell Cycle by Wnt8, _UNFUNDED_

**PRESENTATIONS DURING 2004**

- “Wnt patterning of the vertebrate nervous system or how the zebrafish gets ahead,” Texas A&M Kingsville, Kingsville, Texas, April, 2004. (Invited)

**PUBLICATIONS DURING 2004**

- Riley, BB; Chiang, M-Y; Storch, EM; Heck, R; Buckles, GR; Lekven, AC. (2004) Rhombomere boundaries are Wnt signaling centers that regulate metameric patterning in the zebrafish hindbrain. _Developmental Dynamics, vol. 231_, 278-291.
• **SERVICE DURING 2004**

**National**
- Reviewer, *General and Comparative Endocrinology, Smithsonian Institution Press* book Chapter, *Fish Endocrinology*
- Reviewer, National Science Foundation, USDA Small Business Innovation Research

**Department**
- Director, Biology BioAquatics Facility
- Member, Animal Care Committee

• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- MEPS 691.617 — *Research* (total enrollment: 1)

**Summer**
- BIOL 491.217 — *Research* (total enrollment: 1)
- MEPS 319.301-306 — *Integrated Human Anatomy and Physiology I* (total enrollment: 67)
- MEPS 685.317 — *Directed Studies* (total enrollment: 1)

**Fall**
- BIOL 481.504 — *Seminar in Biology* (total enrollment: 12)
- BIOL 491.517 — *Research* (total enrollment: 2)
- MEPS 405.500 — *Comparative Endocrinology* (total enrollment: 16)

• **RESEARCH PROJECTS DURING 2004**
- Central and Peripheral Mechanisms Regulating Thyroid Function in Channel Catfish, *UNFUNDED*
- Characterization of Expression of Thyrotropin in Beta Red Drum, *UNFUNDED*
- Development of Bioassays for Characterization of Canine Thyrotropin, *UNFUNDED*
• SERVICE DURING 2004

  National
  ▶ Reviewer, *Genetics*

• PRESENTATIONS DURING 2004
  ▶ Program in Genetics Fall Poster Session, Texas A&M University, College Station, Texas, August, 2004.(Poster Individual)
  ▶ Chromosome Biology Supergroup Meeting, Texas A&M University, College Station, Texas, December, 2004.(Individual)
JAMES R. MANHART

ASSOCIATE PROFESSOR

BIOL

manhart@mail.bio.tamu.edu

- SERVICE DURING 2004
  
  National
  ▶ Member, Spianthes parksii Recovery Team

  University
  ▶ Member, Radiation Safety Committee

  Department
  ▶ Member, Computer Committee

- TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ BIOL 485.509 — Directed Studies (total enrollment: 1)
  ▶ BIOL 491.509 — Research (total enrollment: 1)
  ▶ IFGE 301.501-505 — Taxonomy of Flowering Plants (total enrollment: 99)
  ▶ IFGE 691.609 — Research (total enrollment: 2)
  ▶ IFGE 691.659 — Research (total enrollment: 1)

  Summer
  ▶ IFGE 691.209 — Research (total enrollment: 1)
  ▶ IFGE 691.309 — Research (total enrollment: 1)

  Fall
  ▶ BIOL 491.509 — Research (total enrollment: 1)
  ▶ IFGE 328.501-503 — Plants and People (total enrollment: 57)
  ▶ IFGE 691.659 — Research (total enrollment: 1)

- RESEARCH PROJECTS DURING 2004

  ▶ A Novel System to Study Photosynthetic Biochemical Autonomy of Chloroplasts, National Science Foundation
  ▶ Biochemical and Molecular Autonomy of Symbiotic Chloroplasts, University of Maine
PUBLICATIONS DURING 2004

• SERVICE DURING 2004

State
▷ Captain, Great Texas Birding Classic Zeiss Guys Team

College
▷ Member, Diversity Committee

Department
▷ Ad hoc Member, Department Retreat Committee
▷ Member, Senior Faculty Search Committee
▷ Member, Executive Committee
▷ Member, Tenure Committee (D. Bell-Pedersen)
▷ Member, Department Head Search Committee
▷ Mentor & Examiner, Biochemistry Original Research Proposals

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 481.502 — Seminar in Biology (total enrollment: 30)
▷ BIOL 485.540 — Directed Studies (total enrollment: 1)
▷ BIOL 491.540 — Research (total enrollment: 2)
▷ BIOL 685.601 — Directed Studies (total enrollment: 1)
▷ BIOL 691.640 — Research (total enrollment: 6)
▷ IFME 406.500 — Bacterial Genetics (total enrollment: 33)

Summer
▷ BIOL 491.140 — Research (total enrollment: 1)
▷ BIOL 491.240 — Research (total enrollment: 1)
▷ BIOL 691.240 — Research (total enrollment: 4)
▷ BIOL 691.340 — Research (total enrollment: 3)

Fall
▷ BIOL 285.540 — Directed Studies (total enrollment: 68)
▷ BIOL 691.640 — Research (total enrollment: 6)
▷ IFME 438.500 — Bacterial Physiology (total enrollment: 28)

• RESEARCH PROJECTS DURING 2004
▷ Bacterial Chemoreceptors as Allosteric Enzymes, Life Science Task Force
▷ Development of a Microfluidic Assay for Bacterial Chemotaxis, Life Science Task Force
▷ Directed Evolution of Novel Enzymatic Activities, Life Science Task Force
EM Imaging of Chemoreceptor Arrays, *Life Science Task Force*

The Structural Biology of Membranes: A Program Project Proposal, *Life Science Task Force*

Chemoreception and Signal Amplification in Bacteria, *National Institute of General Medical Studies*

**PUBLICATIONS DURING 2004**


*No report received from faculty member.*
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Associate Department Head, Biology, [2003]

• SERVICE DURING 2004

National
  ▶ Member, NSF Grant Review Panel - Biochemistry of Gene Expression
  ▶ Referee: Journals, Plant Cell, Plant Science, Plant Physiology, Textbook proposals
  ▶ Referee: Research, USDA, National Science Foundation

University
  ▶ Chair, Affymetrix Microarray Facility Users’ Committee
  ▶ Member, Gene Technologies Laboratory Users’ Committee

College
  ▶ Member, Research Committee

Department
  ▶ Associate Head, Department of Biology
  ▶ Chair, Lower Division Biology Steering Committee
  ▶ Chair, Quantitative Biology Search Committee
  ▶ Chair, Biology Educator Search Committee
  ▶ Interim Director, Introductory Biology Program
  ▶ Member, Annual Retreat Organizing Committee
  ▶ Member, Undergraduate Program Committee
  ▶ Member, Executive Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ BIOL 691.618 — Research (total enrollment: 1)

Summer
  ▶ BIOL 484.100 — Internship (total enrollment: 2)
  ▶ BIOL 484.250 — Internship (total enrollment: 2)
  ▶ BIOL 484.350 — Internship (total enrollment: 1)
  ▶ BIOL 491.218 — Research (total enrollment: 1)
  ▶ BIOL 691.218 — Research (total enrollment: 1)

Fall
  ▶ BIOL 213. — Molecular Cell Biology (total enrollment: 67)
- BIOL 484.500 — Internship (total enrollment: 1)
- BIOL 691.618 — Research (total enrollment: 1)
- BIOL 697.600 — Methods in Teaching Biology Laboratory (total enrollment: 19)

**RESEARCH PROJECTS DURING 2004**
- A Method for Increasing Drought Tolerance in Plants, Advanced Research Program/Advanced Technology Program, coworkers: S. Ren (P), A. Boedeker (G)
- Developing a Nationally Competitive Training Program in Plant Genomics, Life Science Task Force
- Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, National Science Foundation
- Regulation of Telomerase and Telomeres in Arabidopsis, National Science Foundation

**PUBLICATIONS DURING 2004**
• SERVICE DURING 2004

National
▷ Ad hoc Reviewer, Microbiology Education
▷ Editorial Advisory Board, *Journal of Microbiology Education*
▷ Member, American Society for Microbiology

University
▷ Advisor, Omega Phi Alpha Service Sorority
▷ Member, IEEF Committee
▷ Member, ATMentors
▷ Member, University Disciplinary Appeals Panel
▷ Member, Women’s Faculty Network
▷ Member, University Appeals Committee
▷ Mentor, Aggie Access

College
▷ Member, College of Science Ethics Committee

Department
▷ Advisor, Microbiology Society
▷ Member, Biology Seminar Committee
▷ Member, Senate Subcommittee for Lecturers

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 491.525 — Research (total enrollment: 6)
▷ IFME 454.500 — Immunology (total enrollment: 90)
▷ IFME 455.501-502 — Laboratory in Immunology (total enrollment: 37)
▷ IFME 691.625 — Research (total enrollment: 2)

Summer
▷ BIOL 491.125 — Research (total enrollment: 1)
▷ BIOL 491.325 — Research (total enrollment: 4)
▷ BIOL 691.325 — Research (total enrollment: 1)
▷ IFME 206.100 — Introductory Microbiology (total enrollment: 16)
▷ IFME 206.100 — Introductory Microbiology (total enrollment: 16)
▷ IFME 352.100 — Diagnostic Bacteriology (total enrollment: 25)
▷ IFME 352.100 — Diagnostic Bacteriology (total enrollment: 25)
IFME 691.325 — Research (total enrollment: 1)

Fall
- BIOL 485.525 — Directed Studies (total enrollment: 2)
- BIOL 491.525 — Research (total enrollment: 5)
- IFME 206.501-504 — Introductory Microbiology (total enrollment: 74)
- IFME 456.500 — Medical Microbiology (total enrollment: 48)
- IFME 691.625 — Research (total enrollment: 1)
• SERVICE DURING 2004

National
▷ Chair, National Advisory Board for the College-Level Examination Program
▷ Grader, National Advanced Placement Biology Examination
▷ Judge, Siemens-Westinghouse Science Talent Search
▷ Member, National Advisory Board for the College-Level Examination Program

University
▷ Advisory Committee, Office of Professional School Advising
▷ Judge, Graduate Research Posters for Recruiting Weekend
▷ Member, University Council on Teacher Education
▷ Member, Academic Scholarships and Awards Committee
▷ Member, Scholarship and Assessment Think Tank
▷ Secretary, Kappa of Texas Chapter, Phi Beta Kappa

College
▷ Conductor, AP Biology Teachers’ Workshop
▷ Judge, Texas Junior Academy of Science
▷ Member, Advisory Council/Steering Committee - Texas A&M UniversityCtr for Math and Science Education
▷ Presenter, PreAP Science Workshop

Department
▷ Member, Advisor Committee for Freshman Biology
▷ Member, Search Committee to Hire a Biology Educator
▷ Member, Science and Math Education Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 214.500 — Genes, Ecology and Evolution (total enrollment: 172)
▷ BIOL 491.523 — Research (total enrollment: 2)

Fall
▷ IFME 351.501-512 — Fundamentals of Microbiology (total enrollment: 235)

• RESEARCH PROJECTS DURING 2004
▷ Writing for Assessment and Learning in the Natural and Mathematical Sciences, National Science Foundation
• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Reviewer, *Plant Physiology, Theoretical and Applied Genetics*
▷ Reviewer, USDA-ARS, National Science Foundation

State
▷ Member, *Streptanthus bracteatus* (Bracted twistflower, threatened species) Working Group, Texas State Parks and Wildlife Department

Regional
▷ Member, Navasota Ladies’ Tresses (*Spiranthes parksii*) Endangered Species Recovery Team

University
▷ Member, Life Sciences Task Force

College
▷ Member, College of Agriculture and Life Sciences (COALS) graduate program committee (GPC)

Department
▷ Chair, Graduate Advising Committee, Faculty of Genetics
▷ Member, Laboratory for Crop Transformation (LCT) Advisory Committee
▷ Member, Laboratory for Plant Genome Technologies (LPGT) advisory committee
▷ Member, Executive Committee, Faculty of Genetics
▷ Member, Gene Technologies Laboratory (GTL) advisory committee
▷ Member, Organizing Committee, Department of Biology annual retreat
▷ Member, Department of Biology faculty search committee (Theoretical and Computational Biology positions)

Interdisciplinary/Intercollegiate
▷ Project Team Leader, Information Technology in Science (ITS) Center for teaching and learning

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 285.535 — Directed Studies (total enrollment: 1)
▷ IFGE 635.600 — Plant Molecular Biology (total enrollment: 14)
▷ IFGE 691.685 — Research (total enrollment: 1)
▷ IFME 691.607 — Research (total enrollment: 2)
▷ MEPS 691.707 — Research (total enrollment: 2)
Summer

- IFME 485.607 — Directed Studies (total enrollment: 1)
- IFME 691. — Research (total enrollment: 1)
- MEPS 691.707 — Research (total enrollment: 2)

Fall

- BIOL 214.500 — Genes, Ecology and Evolution (total enrollment: 182)
- BIOL 691.635 — Research (total enrollment: 1)
- IFGE 691.685 — Research (total enrollment: 1)
- IFME 285.607 — Undergraduate Research (total enrollment: 1)
- IFME 691.607 — Research (total enrollment: 2)
- MEPS 691.707 — Research (total enrollment: 2)

- **RESEARCH PROJECTS DURING 2004**
  
  - Utilization and Dissemination of New Dinulceotide Microsatellite Marker Resources for Cotton, *Cotton Incorporated*
  
  - Genetics of Serpentine Adaption and Endemism, *National Science Foundation*, coworkers: M. Burrell (G), R. Corbett (G), K. Taylor (U)
  
BRIAN D. PERKINS

ASSISTANT PROFESSOR
BIOL

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bperkins@mail.bio.tamu.edu

• PRESENTATIONS DURING 2004

▷ “Histological and physiological abnormalities in myosin VIIA mutant zebrafish,” Lost Pines Molecular Biology Conference, Science Park Research Division, University of Texas M.D. Anderson Cancer Center, Smithville, Texas, October, 2004. (Individual)

▷ “Histological and physiological abnormalities in myosin VIIA mutant zebrafish,” Trinity University, San Antonio, Texas, November, 2004. (Invited)
• SERVICE DURING 2004

National
▷ Editorial Board, Developmental Dynamics
▷ Referee: Journals, Seven Manuscripts for publication in peer-reviewed journals
▷ Referee: Research, National Institutes of Health
▷ Reviewer, Development, Developmental Biology, Developmental Dynamics, Genesis, Mechanisms of Development
▷ Reviewer, NIH, ACS, NSF, BBSRC, Wellcome Trust
▷ Reviewer, Two Chapters for Scott Freeman’s Biology (textbook)

State
▷ Organizer, Second Texas Zebrafish Development & Genetics Meeting at Texas A&M University

College
▷ Chair, Faculty Advisory Council

Department
▷ Chair, IEEF Committee
▷ Member, Seminar Committee
▷ Member, Graduate Program Committee in Genetics Program
▷ Member, Departmental Tenure & Promotion Committee
▷ Member, Committee for Review of Untenured Faculty

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 491.510 — Research (total enrollment: 3)
▷ BIOL 691.610 — Research (total enrollment: 2)
▷ MEPS 344.501-502 — Embryology (total enrollment: 22)

Summer
▷ BIOL 491.310 — Research (total enrollment: 1)
▷ BIOL 691.210 — Research (total enrollment: 1)
▷ BIOL 691.310 — Research (total enrollment: 1)

Fall
▷ BIOL 491.510 — Research (total enrollment: 1)
▷ BIOL 611.600 — Molecular Biology of Differentiation and Development (total enrollment: 13)
▷ BIOL 691.610 — Research (total enrollment: 3)
• RESEARCH PROJECTS DURING 2004
  ▶ (REN) Genetic Analysis of Inner Ear Development, National Institute on Deafness and Other Communication Disorders

• PRESENTATIONS DURING 2004
  ▶ “Expression of dlx and msx genes along the neural-nonneural boundary: Consequences for placodal and neural development,” Zebrafish Meeting, Madison, Wisconsin, July, 2004.(Poster Individual)
  ▶ “Evo-devo: Rethinking Darwin, intelligent design, and the origins of complexity,” Biology Colloquium, Texas A&M University, College Station, Texas, September, 2004.(Individual)

• PUBLICATIONS DURING 2004
  ▶ Riley, BB; Chiang, MY; Storch, EM; Heck, R; Buckles, GR; Lekven, AC. (2004) Rhombomere boundaries are Wnt signaling centers that regulate metameric patterning in the zebrafish hindbrain Developmental Dynamics, vol. 231, 278-291.
PETER J. RIZZO

ASSOCIATE PROFESSOR

BIOL

(979) 845-7776

rizzo@mail.bio.tamu.edu

- SERVICE DURING 2004
  
  National
  
  University
  - Member, TAMU Class Councils Discussion Group
  
  Department
  - Member, Grievance Committee

- TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  - BIOL 113.503 — Introductory Biology (total enrollment: 297)
  - BIOL 491.526 — Research (total enrollment: 1)
  
  Summer
  - BIOL 113. — Introductory Biology (total enrollment: 114)
  - BIOL 491.126 — Research (total enrollment: 1)
  - BIOL 491.226 — Research (total enrollment: 1)
  
  Fall
  - BIOL 111.511 — Introductory Biology I (total enrollment: 24)
  - BIOL 111.513-514 — Introductory Biology I (total enrollment: 47)
  - BIOL 111.516-524 — Introductory Biology I (total enrollment: 210)
  - BIOL 285.502 — Directed Studies (total enrollment: 25)
  - BIOL 481.503 — Seminar in Biology (total enrollment: 20)
  - BIOL 491.526 — Research (total enrollment: 1)

- RESEARCH PROJECTS DURING 2004
  - Characterization of Nuclei in Binucleate Dinoflagellates, *UNFUNDED*

- PRESENTATIONS DURING 2004
• SERVICE DURING 2004
  National
  ➢ Reviewer, EUR. J. Biochem.

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ➢ BIOL 330.500 — Molecules and Life (total enrollment: 27)

  Fall
  ➢ BIOL 414.500 — Developmental Biology (total enrollment: 47)

• PRESENTATIONS DURING 2004
  ➢ University of Wuerzburg, Germany, July, 2004. (Individual)
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Graduate Advisor, Biology, [2003]

• SERVICE DURING 2004

  National
  ▶ Editorial Board, *Journal of Bacteriology*
  ▶ Reviewer, *Genetics*
  ▶ Reviewer, National Science Foundation

  University
  ▶ Chair, Faculty of Genetics, Graduate Program Committee
  ▶ Member, Program in Biotechnology, Advisory Committee
  ▶ Member, Faculty of Genetics, Executive Committee

  College
  ▶ Member, College of Science Faculty Advisory Council

  Department
  ▶ Elected Member, Graduate Recruiting and Admissions (GRAC)

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ BIOL 491.538 — Research (total enrollment: 2)
  ▶ BIOL 685.622 — Directed Studies (total enrollment: 4)
  ▶ IFME 691.638 — Research (total enrollment: 2)

  Summer
  ▶ BIOL 685.222 — Directed Studies (total enrollment: 1)
  ▶ BIOL 691.238 — Research (total enrollment: 1)
  ▶ IFME 691.138 — Research (total enrollment: 3)

  Fall
  ▶ BIOL 491.538 — Research (total enrollment: 1)
  ▶ BIOL 681.601 — Seminar (total enrollment: 23)
  ▶ BIOL 685.622 — Directed Studies (total enrollment: 3)
  ▶ IFME 681.602 — Seminar (total enrollment: 8)
  ▶ IFME 689. — Special Topics in (total enrollment: 10)

• RESEARCH PROJECTS DURING 2004
  ▶ Exiting Stationary Phase in E. Coli, *National Institutes of Health*
• PRESENTATIONS DURING 2004
• **RESEARCH PROJECTS DURING 2004**
  - DRK Mediated Signaling in Drosophilia Learning and Memory, *National Institutes of Health*
  - In Vivo Functional Analysis of the Role 14-3-3 Isoforms in Drosophila Learning and Memory, *National Science Foundation*
• SERVICE DURING 2004

    National
    ▶ Reviewer, National Science Foundation External Reviewer, San Antonio Life Sciences Institute external reviewer on a modified RO1

    Department
    ▶ Member, Departmental Animal Care Committee

• PRESENTATIONS DURING 2004

    ▶ “Auditory Feedback Control of Echolocation Call Duration and Repetition Rate,” Assoc. Res. Otolaryngol (ARO), February, 2004.(Poster Individual)
    ▶ “Auditory feedback control of multiple parameters of mammalian vocalization,” Int. Soc. Neuroethol. (ISN), Nyborg, Denmark, August, 2004.( Individual)
    ▶ “How bats control the sound of their voice,” Instituto de Ecologia, A.C., Xalapa, Mexico, October, 2004.( Invited)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

International
▷ Member, Phi Beta Delta Society for International Scholars, Scholarships and Awards Committee Member Alpha Eta Chapter

National

State
▷ Member, State Wildlife Grant-Terrestrail Invertebrate Committee

University
▷ Chair, Faculty of Ecology and Evolutionary Biology Interdisciplinary Degree Program Committee
▷ Co-Sponsor, Undergraduate Zoological Society
▷ Member, Faculty of Ecology and Evolutionary Biology Executive Committee

Department
▷ Member, Lower Division Biology Textbook Selection Committee
▷ Member, Lower Division Biology Oversight Committee

• PRESENTATIONS DURING 2004

▷ “Key intervals in modern bird diversification (90 million years of evolution),” Zoological Society., Texas A&M, September, 2004. (Invited)

• PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National
  ▶ Member, American Society for Microbiology
  ▶ Member, Mycological Society of America
  ▶ Member, American Phytopathological Society
  ▶ Member, Beta Beta Beta, Biological Honor Society

*No report received from faculty member.*
• SERVICE DURING 2004

National
▷ Editorial Board, Environmental Health Perspectives: Toxicogenomics
▷ Reviewer, Plant Cell, Plant Physiology, Planta, Febs J., EHP: Toxicogenomics
▷ Reviewer, National Science Foundation
▷ Reviewer, USDA Genetic Processes and Mechanisms of Crop Plants Review Panel

University
▷ Member, Life Sciences Building Committee

Department
▷ Chair, Computer Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 691. — Research (total enrollment: 2)

Summer
▷ BIOL 691. — Research (total enrollment: 2)

Fall
▷ BIOL 213.503 — Molecular Cell Biology (total enrollment: 47)
▷ BIOL 691. — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Definition and Analysis of a Minimal Gene Set in the Rice Blast Fungus Magnaporthe Grisea, Bayer CropScience, coworkers: A. Tag (P), R. Hammer (G)
▷ Center for Environmental and Rural Health, National Institutes of Health
▷ Coordination of Circadian Physiology of Diverse Species, National Institutes of Health, coworkers: P. Beremand (P)
▷ Functional Genomics Analysis of the AB15 bZIP Subfamily, U.S. Department of Agriculture

• PRESENTATIONS DURING 2004

▷ “Functional Genomics of the rice blast fungus Magnaporthe grisea,” Bayer Cropscience, Lyon, France, June, 2004.( Individual)
▷ “Experimental and Computational Challenges of Expression Profiling,” Bayer Cropscience, Lyon, France, September, 2004.( Individual)
▷ “Functional Genomics Analysis of ABA signaling in Arabidopsis,” Wageningen University, Wageningen, Netherlands, September, 2004.( Individual)
• PUBLICATIONS DURING 2004


▷ Liang, S; Zhao, S; Mu, X; Thomas, TL; Klein, WH. (2004) Novel retinal genes discovered by mining the mouse embryonic RetinalExpress database *Molecular Vision*, vol. 10, 773-786.
SERVICE DURING 2004

National
▷ Reviewer, Plant Physiology
▷ Reviewer, NSF

Department
▷ Member, Molecular and Cell Biology Training Program
▷ Member, Program for Microbial Genetics and Genomics
▷ Member, Graduate Program Committee
▷ Member, Program for the Biology of Filamentous Fungi

Interdisciplinary/Intercollegiate
▷ Member, Molecular and Environmental Plant Sciences Program

TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 691.608 — Research (total enrollment: 1)
▷ IFME 691.608 — Research (total enrollment: 1)

Summer
▷ BIOL 691.208 — Research (total enrollment: 1)
▷ IFME 691.308 — Research (total enrollment: 1)

Fall
▷ BIOL 213.504 — Molecular Cell Biology (total enrollment: 60)
▷ IFME 685.608 — Directed Studies (total enrollment: 1)

RESEARCH PROJECTS DURING 2004
▷ Molecular Physiology of Phosphate Transport in Arabidopsis, National Science Foundation

PRESENTATIONS DURING 2004
▷ “Control of phosphate acquisition by an ambient pH response regulator,” PBoFF Symposium, Texas A&M University, College Station, Texas, April, 2004. (Invited)
▷ “Molecular physiology of phosphate transport and distribution in Arabidopisis,” Molecular and Environmental Plant Sciences (MEPS) Seminar, Texas A&M University, College Station, Texas, April, 2004. (Invited)
MARY K. WICKSTEN

PROFESSOR (979) 845-3388
BIOL wicksten@mail.bio.tamu.edu

• SERVICE DURING 2004

National
▷ Reviewer, Various scientific publications
▷ Reviewer, National Fish and Wildlife Association, Smithsonian Institution Museum and Library Services Conservation Project Support Program

University
▷ Editorial Advisory Board, Technical editor for monograph on the Tanaidacea
▷ Member, TAMU Chapter of Sigma XI

Department
▷ Member, Awards Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 491.537 — Research (total enrollment: 10)
▷ MEPS 335.501-503 — Invertebrate Zoology (total enrollment: 47)
▷ MEPS 663.700 — Biology of the Crustacea (total enrollment: 6)
▷ MEPS 691.637 — Research (total enrollment: 1)

Summer
▷ BIOL 491.137 — Research (total enrollment: 2)
▷ BIOL 491.237 — Research (total enrollment: 1)
▷ BIOL 491.337 — Research (total enrollment: 2)
▷ MEPS 691.337 — Research (total enrollment: 1)

Fall
▷ BIOL 440.501-502 — Marine Biology (total enrollment: 32)
▷ BIOL 691.637 — Research (total enrollment: 1)
▷ MEPS 691.687 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004

▷ “Crustaceos decapodos de fondos profundos del Golfo de Mexico,” Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, January, 2004.( Individual)
▷ “Cleaning Behavior,” Biological Seminar Series, Sam Houston State University, Huntsville, Texas, September, 2004.( Individual)
• PUBLICATIONS DURING 2004


- Wicksten, MK; Martin, JW. (2004) A new species of caridean shrimp of the family Stylo- 
• SERVICE DURING 2004
  
  Department
  ◦ Coordinator, Flora of Texas Consortium
  ◦ Curator, Department of Biology Herbarium

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ◦ IFGE 620.600 — Field Systematic Botany (total enrollment: 5)

  Fall
  ◦ IFGE 301.501-504 — Taxonomy of Flowering Plants (total enrollment: 32)
• SERVICE DURING 2004
  
  National
  ▶ Liaison, Student science career liaison

  Regional
  ▶ Member, Public School Presentations

  Department
  ▶ Member, Search Committee for Introductory Biology Director
  ▶ Member, Introductory Biology Steering Committee
  ▶ Organizer, Classroom Performance System Workshop

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▶ MEPS 107.501-509 — Zoology (total enrollment: 171)

  Fall
  ▶ MEPS 107.501-509 — Zoology (total enrollment: 200)
• SERVICE DURING 2004

National
▷ Reviewer, *Molecular Biology and Evolution, Journal of Molecular Evolution, Photosynthesis Research*
▷ Reviewer, NSF

Department
▷ Member, Faculty Search Committee
▷ Member, Seminar Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 491.504 — Research (total enrollment: 2)
▷ BIOL 689.602 — Special Topics in (total enrollment: 12)

Fall
▷ BIOL 481. — Seminar in Biology (total enrollment: 11)
▷ BIOL 491.521 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

▷ Biohydrogen Production by Purple Photosynthetic Bacteria, *The Robert A. Welch Foundation*, coworkers: A. Pancholy (P), H. Guo (G)

• PRESENTATIONS DURING 2004

PHILIP A. YOUDERIAN

PROFESSOR

BIOL

(979) 845-1468

youderian@mail.bio.tamu.edu

• SERVICE DURING 2004

National

▷ Referee: Journals, Journal of Bacteriology

• TEACHING ASSIGNMENTS DURING 2004

Spring

▷ BIOL 491.548 — Research (total enrollment: 3)

Summer

▷ BIOL 491.148 — Research (total enrollment: 2)

▷ BIOL 491.248 — Research (total enrollment: 1)

Fall

▷ BIOL 491.248 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Functional Analysis of the Myxococcus Xanthus Genome, National Institutes of Health

▷ Functional Analysis of the Myxococcus Xanthus Genome, National Institutes of Health

▷ Genetics of Myxophages, National Institutes of Health

• PUBLICATIONS DURING 2004

▷ Bueno, SM; Santiviago, CA; Murillo, AA; Fuentes, JA; Trombert, AN; Rodas, PI; Youderian, P; Mora, GC. (2004) Precise excision of the large pathogenicity island, SP17, in Salmonella enterica serovar Typhi Journal of Bacteriology, vol. 186, 3202-3213.

▷ Hidalgo, AA; Trombert, AN; Castro-Alonso, JC; Santiviago, CA; Tesser, BR; Youderian, P; Mora, GC. (2004) Insertions of mini-Tn10 transposon T-POP in Salmonella enterica sv. typhi Genetics, vol. 167, 1069-1077.

No report received from faculty member.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Associate Dean for Graduate Studies, College of Science, [2003]

• SERVICE DURING 2004
  
  National
  ▶ Chair, Session on Nerve Regeneration, Annual Meeting of the Society for Neuroscience
  ▶ Reviewer, National Science Foundation
  ▶ Reviewer, *Journal of Neuroscience, Neuroscience, Journal of Neurobiology, Neurophysiology, Brain Research*

  State
  ▶ Organizer, Mexican American Engineers and Scientists (MAES) Graduate Recruiting

  University
  ▶ External Advisor, MBSR (SCORE) Grant
  ▶ Member, Three-Peat Rules Committee
  ▶ Member, Veterinary Anatomy Faculty Search Committee
  ▶ Member, Life Sciences Task Force
  ▶ Member, AFS/Graduate Merit Fellowship Review Committee

  College
  ▶ Chair, Graduate Instruction Committee
  ▶ Member, Graduate Council/Graduate Operations Committee
  ▶ Member, Executive Committee
  ▶ Participant, WALS (Writing for Assessment & Learning in the Sciences) workshop training

  Department
  ▶ Chair, Faculty Search Committee
  ▶ Director, Cell Physiology and Molecular Imaging Core (Po1)
  ▶ Member, BioAquatics Laboratory Use Committee
  ▶ Member, Graduate Admissions Processing Council
  ▶ Member, Faculty Search Committee
  ▶ Member, Shared Facilities, Advisory Committee

  Interdisciplinary/Intercollegiate
  ▶ Chair, Faculty of Neuroscience
  ▶ Member, Society for Neuroscience, Executive Committee
• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BIOL 691.602 — Research (total enrollment: 2)
▷ ZOOL 691.602 — Research (total enrollment: 1)

Summer
▷ BIOL 691.302 — Research (total enrollment: 2)
▷ ZOOL 691.202 — Research (total enrollment: 1)

Fall
▷ BIOL 491. — Research (total enrollment: 1)
▷ BIOL 685. — Directed Studies (total enrollment: 2)
▷ BIOL 689. — Special Topics in (total enrollment: 15)
▷ BIOL 691.602 — Research (total enrollment: 1)
▷ BIOL 691.602 — Research (total enrollment: 2)
▷ ZOOL 434.500 — Regulatory and Behavioral Neuroscience (total enrollment: 14)
▷ ZOOL 691.602 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
▷ Cell Physiology and Molecular Imaging Core, National Institutes of Health
▷ Coordination of Circadian Physiology of Diverse Species, National Institutes of Health
▷ Cellular and Molecular Mechanisms of Neural Morphallaxis, UNFUNDED
▷ Nitric Oxide Regulation of Glial-Mediated Inflammatory Responses, UNFUNDED
▷ The Role of Transient Electrical Coupling in Neuronal Synapse Formation, UNFUNDED

• PRESENTATIONS DURING 2004
▷ “Melatonin Modulates Diencephalic, but not Telencephalic, Calcium Waves in Avian and Mammalian Astrocytes,” Annual Meeting of the Society for Research on Biological Rhythms, Whistler, B.C., June, 2004.(Poster Individual)
▷ “Neural Morphallaxis in Regeneration and Reproduction: Physiological Correlates of Neural Plasticity,” Annual Meeting of the Society for Neuroscience, San Diego, California, October, 2004.(Individual)

• PUBLICATIONS DURING 2004
▷ Szabo, TM; Faber, DS; Zoran, MJ. (2004) Transient electrical coupling delays the onset of chemical neurotransmission at developing synapses Journal of Neuroscience, vol. 24, 112-120.
7. Research Activity, 2004

This section contains information on all funded research activity for the calendar year 2004. Information was initially reported by faculty and verified whenever possible through the granting agency. Because of calculations and rounding there is a small margin of error.

*Information reported by faculty:*

- Title
- Granting Agency
- PIs, Co-PIs, and co-workers (internal/external)
- Total Funding
- Indirect Costs
- Start & End Dates

*Calendar year calculations:*

- Total - Indirect = Direct
- # Days Total Grant = End Date - Start Date
- Daily Grant Award = Total Funding Reported / # Days Total Grant
- Grant Award for 2004 = # Days 2004 × Daily Grant Award
### 7.1 Summary of Research Support, 2004

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
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<th>Indirect</th>
<th>Total</th>
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<td><strong>American Cancer Society</strong></td>
<td>Erickson, J.W. Dose-Sensitive Transcriptional Controls in Drosophila Sex Determination</td>
<td>1/1/2001</td>
<td>12/31/2004</td>
<td>49,978</td>
<td>9,646</td>
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<td><strong>American Cancer Society</strong></td>
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<tr>
<td>Golden, S.S. Post-Transcriptional Components of PSBA</td>
<td>7/1/2000</td>
<td>6/30/2004</td>
<td>37,192</td>
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<td>37,192</td>
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<td><strong>Subtotal</strong></td>
<td><strong>Department of Energy</strong></td>
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<td><strong>National Institute of Agricultural Biotechnology</strong></td>
<td>Hall, T.C. Studies on Gene Silencing for Stable Expression of Transgene</td>
<td>3/1/2003</td>
<td>12/31/2005</td>
<td>24,662</td>
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<tr>
<td><strong>National Institute of General Medical Studies</strong></td>
<td>Erickson, J.W. Chromosome Counting Mechanisms in Sex Determination</td>
<td>1/1/2003</td>
<td>6/30/2006</td>
<td>184,706</td>
<td>75,164</td>
<td>259,870</td>
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<td>Manson, M.D. Chemoreception and Signal Amplification in Bacteria</td>
<td>3/1/2003</td>
<td>2/28/2006</td>
<td>378,193</td>
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<td><strong>Subtotal</strong></td>
<td><strong>National Institute of General Medical Studies</strong></td>
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<tr>
<td><strong>National Institute on Deafness and Other Communication Disorders</strong></td>
<td>Riley, B. (REN) Genetic Analysis of Inner Ear Development</td>
<td>5/1/2003</td>
<td>4/30/2008</td>
<td>228,314</td>
<td>96,692</td>
<td>325,006</td>
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<td><strong>Subtotal</strong></td>
<td><strong>National Institute on Deafness and Other Communication Disorders</strong></td>
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<tr>
<td><strong>National Institutes of Health</strong></td>
<td>Aramayo, R.D. Genetic and Molecular Study of Meiotic Transvection</td>
<td>1/1/1999</td>
<td>12/31/2005</td>
<td>157,579</td>
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<td>Bell-Pedersen, D.</td>
<td>Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran)</td>
<td>7/1/2000</td>
<td>6/30/2005</td>
<td>204,765</td>
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<tr>
<td>Bell-Pedersen, D.</td>
<td>Molecular Genetic Analysis of Fungal Circadian Rhythms</td>
<td>8/1/1999</td>
<td>7/31/2004</td>
<td>112,397</td>
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<tr>
<td>Cassone, V.M.</td>
<td>Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran)</td>
<td>7/1/2000</td>
<td>6/30/2005</td>
<td>204,765</td>
<td>1,570</td>
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<tr>
<td>Cassone, V.M.</td>
<td>Functional Analysis of the Myxococcus Xanthus Genome, (with: V. Cassone, P. Youderian)</td>
<td>8/1/2002</td>
<td>7/31/2005</td>
<td>33,381</td>
<td>15,188</td>
<td>48,569</td>
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<tr>
<td>Cassone, V.M.</td>
<td>Interactions of Circadian Clock Components with Toxicological Response Elements</td>
<td>1/1/2004</td>
<td>12/31/2005</td>
<td>18,000</td>
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<td>Datta, S.</td>
<td>Control of Neuroblast Proliferation in Drosophila</td>
<td>6/1/2003</td>
<td>5/31/2007</td>
<td>494,847</td>
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<td>Golden, S.S.</td>
<td>Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran)</td>
<td>7/1/2000</td>
<td>6/30/2005</td>
<td>204,765</td>
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<tr>
<td>Golden, J.W.</td>
<td>Developmental Genome Rearrangement of NIF Genes</td>
<td>6/1/1999</td>
<td>11/30/2004</td>
<td>190,823</td>
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<td>Skoulakis, E.</td>
<td>DRK Mediated Signaling in Drosophila Learning and Memory</td>
<td>2/1/2001</td>
<td>9/30/2004</td>
<td>153,698</td>
<td>1,672</td>
<td>155,371</td>
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<td>Thomas, T.L.</td>
<td>Center for Environmental and Rural Health</td>
<td>4/1/2001</td>
<td>3/31/2006</td>
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<td>Thomas, T.L.</td>
<td>Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran)</td>
<td>7/1/2000</td>
<td>6/30/2005</td>
<td>204,765</td>
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</table>

SEC. 7. RESEARCH ACTIVITY 109
<table>
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<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
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<tbody>
<tr>
<td>Youderian, P.A.</td>
<td>Genetics of Myxophages</td>
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<td>17,769</td>
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<td>Carney, G.E.</td>
<td>Characterizing a Target Locus of Behavioral Genetic Hierarchy</td>
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<td>Cassone, V.M.</td>
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<td>Cassone, V.M.</td>
<td>TRACK1, GK-12: Fellows Integrate Science/Math In Rural Middle Schools, (with: V. Cassone, P. Yasskin)</td>
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* Subtotal: Federal Agencies  
5,635,365  525,129  6,160,494

Industrial Agencies

* Bayer CropScience

Thomas, T.L.  Definition and Analysis of a Minimal Gene Set in the Rice Blast Fungus Magnaporthe Grisea  
11/1/1999  12/31/2006  88,227 0  88,227

* Subsubtotal: Bayer CropScience  
88,227 0  88,227

* Cotton Incorporated

Pepper, A.E.  Utilization and Dissemination of New Dinulceotide Microsatellite Marker Resources for Cotton  
1/1/2003  12/31/2004  6,813 5,688  12,500

* Subsubtotal: Cotton Incorporated  
6,813 5,688  12,500

* Dow Chemical Co.

Hall, T.C.  Diversification of ZmUbil Promoter  
6/1/2001  5/31/2004  33,868 8,467  42,335

* Subsubtotal: Dow Chemical Co.  
33,868 8,467  42,335

* Subtotal: Industrial Agencies  
128,908 14,155  143,063

International Agencies

* Department of Trade and Industry (UK)

Holzenburg, A.K.  Cryo-Electron Microscopy of Molecular Switches, Pumps, and Channels-the ABC Family of Proteins  
3/1/2004  2/28/2005  4,190 0  4,190
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**PRIVATE AGENCIES**

**Searle Scholars Program**

Garcia, R. | Identification of ERG K Channel-Regulated Pathways Used in *C. elegans* Male Mating Program | 7/1/2003  | 6/30/2006   | 74,075 | 5,925    | 80,000 |

**Subtotal: Searle Scholars Program** | | | 74,075 | 5,925 | **80,000** |

**The Robert A. Welch Foundation**

Benedik, M.J. | The Role of Quaternary Structure in Catalysis: A Cyanidase Model | 6/1/2002  | 5/31/2005   | 50,000 | 0         | 50,000 |

Xiong, J. | Biohydrogen Production by Purple Photosynthetic Bacteria | 6/1/2004  | 5/31/2007   | 29,205 | 0         | 29,205 |

**Subtotal: The Robert A. Welch Foundation** | | | 79,205 | 0 | **79,205** |

**Subtotal: Private Agencies** | | | **153,279** | 5,925 | **159,205** |

**STATE AGENCIES**

**Advanced Research Program/Advanced Technology Program**

McKnight, T.D. | A Method for Increasing Drought Tolerance in Plants | 1/1/2004  | 12/31/2005  | 100,000 | 0         | 100,000 |

**Subtotal: Advanced Research Program/Advanced Technology Program** | | | 100,000 | 0 | **100,000** |

**American Heart Association - Texas**

Lekven, A.C. | Analysis of WNT8 Function in Mesodermal Cell Fate Specification and Its Interaction with BMP2B | 7/1/2003  | 6/30/2005   | 62,000 | 0         | 62,000 |

**Subtotal: American Heart Association - Texas** | | | 62,000 | 0 | **62,000** |

**Baylor College of Medicine**

Cassone, V.M. | Microgravity and Circadian Cardiovascular Rhythms | 5/1/2002  | 1/31/2005   | 55,656  | 24,666    | 80,323 |

**Subtotal: Baylor College of Medicine** | | | 55,656 | 24,666 | **80,323** |

**Gulf Coast Hazardous Substance Research Center**

Benedik, M.J. | Genetic Engineering of Enzymatic Cyanide Clearance | 6/1/2000  | 5/31/2004   | 6,878   | 0         | 6,878 |

**Subtotal: Gulf Coast Hazardous Substance Research Center** | | | 6,878 | 0 | **6,878** |

**Texas Infrastructure Fund**
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<td>Manson, M.D.</td>
<td>Bacterial Chemoreceptors as Allosteric Enzymes</td>
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<td>Directed Evolution of Novel Enzymatic Activities, (with: V. DeRose, P. Fitzpatrick, M. Manson, F. Raushel, G. Sulikowski)</td>
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SEC. 7. RESEARCH ACTIVITY

115
### 7.2 Summary of Individual Support, 2004

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| **Bell-Pedersen, D.** | Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran) | 7/1/2000  | 6/30/2005 | 204,765| 1,570    | 206,335 |
| National Institutes of Health | Molecular Genetic Analysis of Fungal Circadian Rhythms | 8/1/1999  | 7/31/2004 | 112,397| 0        | 112,397 |
| National Institutes of Health | Molecular Genetic Analysis of Fungal Circadian Rhythms | 8/1/2004  | 7/31/2008 | 129,414| 0        | 129,414 |
| National Institutes of Health | Molecular Genetic Analysis of Fungal Circadian Rhythms | 8/1/2004  | 7/31/2008 | 129,414| 0        | 129,414 |
| National Science Foundation | Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, (with: D. Bell-Pedersen, V. Cassone, T. McKnight, J. Walton, T.) | 9/1/2004  | 8/31/2009 | 17,769 | 1,989    | 19,758 |
| Center for Environmental and Rural Health | A Circadian-Based Approach to Treating Aspergillus | 9/1/2004  | 8/31/2005 | 8,310  | 0        | 8,310  |
|                 | **Subtotal Bell-Pedersen, D.**                                        |           |           |        |          | 476,214 |

| Naval Surface Warfare Center | The Role of Quaternary Structure in Catalysis: A Cyanidase Model | 6/1/2002  | 5/31/2005 | 50,000 | 0        | 50,000 |
| The Robert A. Welch Foundation | Genetic Engineering of Enzymatic Cyanide Clearance | 6/1/2000  | 5/31/2004 | 6,878  | 0        | 6,878  |
| Gulf Coast Hazardous Substance Research Center |                                             |           |           |        |          |         |
|                 | **Subtotal Benedik, M.J.**                                            |           |           |        |          | 241,042 |

2004 Biology Annual Report
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<td>Characterizing a Target Locus of Behavioral Genetic Hierarchy</td>
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<td>6/30/2005</td>
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<td>Functional Analysis of the Myxococcus Xanthus Genome, (with: V. Cassone, P. Youderian)</td>
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<td>Baylor College of Medicine</td>
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<td>1/31/2005</td>
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<td>* Datta, S.</td>
<td>Control of Neuroblast Proliferation in Drosophila</td>
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**Hall, T.C.**

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**Holzenburg, A.K.**

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* Jones, A.G. *

| National Science Foundation | Egg Competition and Cryptic Male Choice in Pipefish | 10/1/2004 | 12/31/2006 | 21,191 | 9,339 | 30,530 |
| **Subtotal Jones, A.G.**     |                                                      |          |            | 21,191 | 9,339 | 30,530 |

* Lekven, A.C. *

| National Science Foundation | Role of Wnt Signaling in Vertebrate Embryonic Patterning | 8/1/2004 | 7/31/2007 | 54,881 | 0        | 54,881 |
| American Heart Association - Texas | Analysis of WNT8 Function in Mesodermal Cell Fate Specification and Its Interaction with BMP2B | 7/1/2003 | 6/30/2005 | 62,000 | 0        | 62,000 |
| **Subtotal Lekven, A.C.**     |                                                      |          |            | 116,881 | 0        | 116,881 |

* Manhart, J.R. *

| University of Maine          | Biochemical and Molecular Autonomy of Symbiotic Chloroplasts | 2/1/2001 | 1/31/2004 | 2,837  | 0        | 2,837 |
| **Subtotal Manhart, J.R.**   |                                                      |          |            | 21,120 | 860 | 21,980 |

* Hanson, M.D. *


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* Subtotal Manson, M.D. 571,526 0 571,526

** McKnight, T.D. **

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* Subtotal McKnight, T.D. 211,244 1,989 213,233

** Patterson, C.O. **

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- **Thomas, T.L.**
  National Institutes of Health | Center for Environmental and Rural Health | 4/1/2001  | 3/31/2006  | 88,754 | 0        | 88,754 |
  National Institutes of Health | Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran) | 7/1/2000  | 6/30/2005  | 204,765 | 1,570    | 206,335 |
  Bayer CropScience | Definition and Analysis of a Minimal Gene Set in the Rice Blast Fungus Magnaporthe Grisea | 11/1/1999 | 12/31/2006 | 88,227 | 0        | 88,227 |

- **Subtotal Thomas, T.L.**
  408,244
  2,368
  410,612

- **Versaw, W.**
  National Science Foundation | Molecular Physiology of Phosphate Transport in Arabidopsis | 7/1/2004  | 6/30/2007  | 71,929  | 14,279   | 86,208 |

- **Subtotal Versaw, W.**
  71,929
  14,279
  86,208

- **Xiong, J.**
  The Robert A. Welch Foundation | Biohydrogen Production by Purple Photosynthetic Bacteria | 6/1/2004  | 5/31/2007  | 29,205  | 0        | 29,205 |

- **Subtotal Xiong, J.**
  29,205
  0
  29,205

- **Youderian, P.A.**
  National Institutes of Health | Functional Analysis of the Myxococcus Xanthus Genome, (with: V. Cassone, P. Youderian) | 8/1/2002  | 7/31/2005  | 33,381  | 15,188   | 48,569 |
  National Institutes of Health | Functional Analysis of the Myxococcus Xanthus Genome | 11/1/2000 | 7/31/2004  | 41,661  | 7,128    | 48,789 |
  National Institutes of Health | Genetics of Myxophages | 1/1/2001  | 1/31/2005  | 129,773 | 13,215   | 142,988 |

- **Subtotal Youderian, P.A.**
  204,814
  35,531
  240,345
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<td>National Institutes of Health</td>
<td>Cell Physiology and Molecular Imaging Core</td>
<td>12/1/1999</td>
<td>11/30/2004</td>
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<td>Coordination of Circadian Physiology of Diverse Species, (with: D. Bell-Pedersen, V. Cassone, S. Golden, T. Thomas, M. Zoran)</td>
<td>7/1/2000</td>
<td>6/30/2005</td>
<td>204,765</td>
<td>1,570</td>
<td>206,335</td>
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- **Subtotal Zoran, M.J.**
  
  267,785  1,570  269,355

- **Total: All Faculty**
  
  6,475,588  570,673  7,073,047
Annual Report, 2004

THE DEPARTMENT OF CHEMISTRY
TEXAS A&M UNIVERSITY

College Station, Texas
## Contents

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   6.1 By Granting Agency ........................................................................... 298
   6.2 By Faculty Member ........................................................................... 317
# 1. Statistical Abstract

<table>
<thead>
<tr>
<th>Section</th>
<th>2003</th>
<th>2004</th>
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<td>I. Personnel</td>
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<tr>
<td>a. Tenure-Track Faculty</td>
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<tr>
<td>Professor</td>
<td>33</td>
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<tr>
<td>Assistant Professor</td>
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<tr>
<td>Associate Professor</td>
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<tr>
<td>Distinguished Professor</td>
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<td>b. Non-Tenure-Track Faculty</td>
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<td>Visiting Professor</td>
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<td>c. Postdoctoral Fellows</td>
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<td>d. Graduate Students</td>
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<td>e. Undergraduate Majors</td>
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<td>a. Graduate Semester Credit Hours</td>
<td>4,908</td>
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<td>b. Undergraduate Semester Credit Hours</td>
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<td>c. PhD Degrees</td>
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<td>d. Masters Degrees</td>
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<td>e. Undergraduate Degrees</td>
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<td>III. Research Activities</td>
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<td>Total</td>
<td>14,443,139</td>
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2. Honors & Awards, 2004

By Faculty

▷ This section contains all honors and awards, as reported by individual faculty members, during the calendar year 2004.

By Students

▷ This section contains all honors and awards, as reported by the department, during the calendar year 2004.
## 2.1 Honors & Awards Received by Faculty, 2004

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<th>Name</th>
<th>Award</th>
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<tbody>
<tr>
<td>K. Burgess</td>
<td>Rachal Professorship, Chemistry</td>
</tr>
<tr>
<td>F. Cotton</td>
<td>Elected, European Academy of Sciences</td>
</tr>
<tr>
<td>V. DeRose</td>
<td>Inaugural Distinguished Women in Science Lecturer, Department of Chemistry, Stanford University</td>
</tr>
<tr>
<td>K. Dunbar</td>
<td>Department of Chemistry Distinguished Alumnae Award, Purdue University</td>
</tr>
<tr>
<td></td>
<td>Elected Fellow, American Association for the Advancement of Science</td>
</tr>
<tr>
<td>Y. Gao</td>
<td>Camille and Henry Dreyfus New Faculty Award, Camille and Henry Dreyfus Foundation</td>
</tr>
<tr>
<td>D. Goodman</td>
<td>Gabor A. Somorjai Award for Creative Research in Catalysis, Gabor A. and Judkith K. Somorjai Endowment Fund</td>
</tr>
<tr>
<td>G. Gopalakrishnan</td>
<td>Award of Excellence-Outstanding Service and Dedication to Students with Disabilities, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Outstanding Panhellenic Professor Award, Collegiate Panhellenic Council</td>
</tr>
<tr>
<td>J. Hogg</td>
<td>Advising Award, Mervin and Annette Peters</td>
</tr>
<tr>
<td></td>
<td>Teaching Award of Merit, Gamma Sigma Delta</td>
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<tr>
<td>W. Keeney-Kennicutt</td>
<td>Outstanding Panhellenic Professor Award, Collegiate Panhellenic Council</td>
</tr>
<tr>
<td></td>
<td>Who’s Who Among America’s Teachers</td>
</tr>
<tr>
<td>J. Laane</td>
<td>Plenary lecturer, European Congress on Molecular Spectroscopy, Krakow, Poland</td>
</tr>
<tr>
<td>S. North</td>
<td>Distinguished Achievement College-Level Award in Teaching, Association of Former Students</td>
</tr>
<tr>
<td>J. Pennington</td>
<td>Namesake, Aggie Access</td>
</tr>
<tr>
<td>D. Romo</td>
<td>Camille and Henry Dreyfus Teacher-Scholar, Camille and Henry Dreyfus Foundation</td>
</tr>
<tr>
<td>D. Russell</td>
<td>Distinguished Achievement Award, Association of Former Students</td>
</tr>
<tr>
<td>R. Schaak</td>
<td>Petroleum Research Fund-New Faculty Award, American Chemical Society</td>
</tr>
</tbody>
</table>

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130 2004 CHEMISTRY ANNUAL REPORT
2.2 Honors & Awards Received by Students, 2004

Graduate

▷ A.E. Martell Travel Award
  Alfredo Angeles-Boza
  Xiuhu Chu
  Erin Greenwald
  Brandon Hudder
  Jennifer Iglio
  Nak-Kyoon Kim
  Soon Mi Lim
  Elizabeth Martin
  Andrea Phelps
  Cynthia Samples
  Evan Shave
  Sarah Soisson
  Huadong Wang
  Damon Billodeaux
  Jian Feng
  Marc Gurau
  Brandon Hudder
  August Kekisis
  Sanjiv Lalwani
  Ryan Mackiewcz
  Jiho Park
  Youngha Ryu
  Brandi Schottel
  James Garrett Slaton
  Brian Stein
  Orla Wilson

▷ Bruno Zwolinski Award
  Hahkjoon Kim

▷ Chemistry/Biology Interface
  Roxanne Jenkins

▷ Diversity Fellowship
  Ralph Carey
  Kay Morris
  Ralph Carey
  Edmundo Lozano
  Kay Morris
  Yatsandra Oyola

▷ Graduate Merrit Fellowship, Association of Former Students
  Robbyn Perdue

▷ Molecular Biophysics Training Grant
  Kara Hendry

▷ Outstanding Graduate Assistant - Teaching, Association of Former Students
  Jack Baricuatro

▷ Outstanding Graduate Student Award, Celanese
  John Berry
  Wei Zhan
  John Berry
  Emrah Ozensoy
  Wei Zhan

▷ Outstanding Oral Presentation, Industry-University Cooperative Chemistry Program
  Damon Billodeaux
  Levi Irwin
  Marilyn Rampersad
  Damon Billodeaux
  Ryan Mackiewicz
  Marilyn Rampersad
Outstanding Poster Presentation, Industry-University Cooperative Chemistry Program

Fernando Albertorio
Edward Castellana
Andrea Phelps
William Wallace
Carre Zalma

Edward Castellana
Xiaolei Chen
Vikram Purohit
Shaohui Wang

Pathways to the Doctorate Fellowship
Jeremy Andreatta

Regent’s Fellowship
Kendra Avery
Kristen Chambers
Jessica Garber
Amanda Henkes
Andrea Hsu
Jeffrey Johnson
Kristin Parkhill
Mark Young

Regent’s Fellowship
Kendra Avery
Kristen Chambers
Jessica Garber
Amanda Henkes
Andrea Hsu
Jeffrey Johnson
Kristin Parkhill
Mark Young

Abbott Labs Undergraduate Research Awards
Jennifer McBee

Achievement Award
Joel P. Barton
Cameron L. Hall
Amanda L. Higginbotham
Amber M. Jenson
Alisha D. Roach
Kendall S. Fruchey
Ann H. Henderson
Amanda K. Jenkins
Eleanor Pate
Anna K. Schell

Celanese Excellence in Chemistry Awards
Laura E. Bourque
Jennifer L. McBee

CRC Outstanding First Year Chemistry Course Award
Trevor D. Ewers
Sarah F. Swingle

Dow Aggies Scholarship, Dow Chemical
Amanda Jenkins
Eleanor Pate
Hannah Malcolm
Blake Yarbrough

Eilleen & Harry Lewis Scholarship
Hoa Thi Chau

George C. Bauer Memorial Scholarships for Chemistry Majors
Lucki Quirindongo
▷ **Hach Scholarship**
   Claire Borne  
   Lauren Nieto  
   Abigail Wooddell  
   Brian Cole  
   Roxanna Schaffino

▷ **Hugh McLean Jr. Award**
   Travis C. Gardner  
   Jeffery D. Johnson

▷ **IUCP-A.E. Martell Undergraduate Chemistry Scholarships**
   James Adams  
   Jessica Cussio  
   Kelly DeCook  
   Nicholas Grizzle  
   Ashlee Jahne  
   Jeffrey Karnes  
   Adam King  
   Melissa Loontjer  
   Jess Miller  
   Brent Norris  
   Anna Schell  
   Carissa Smith  
   Lauren Sprouse  
   Megan Stussi  
   Johnathan Williams  
   Erin Castillo  
   Christopher Dalrymple  
   Trevor Ewers  
   Eric Hendrickson  
   Scott Johnsgard  
   Matthew Keyser  
   Ashley Leonard  
   Chance McInnis  
   Omid Noormohammadi  
   Joshua Owen  
   Andrew Schuff  
   Caitlyn Smith  
   Meghan Strough  
   Sarah Swingle  
   Sarah Wisecup

▷ **Liebhafsky Scholarship**
   Nicholas Huggins

▷ **Merck Index Award**
   Amber R. Jenson

▷ **Outstanding Analytical Chemistry Student**
   Kendall S. Fruchey

▷ **Outstanding Student in Sophomore Organic Class**
   Jorja L. Duffin  
   Nicholas G. Huggins  
   Casseday P. Richards  
   Nicholas A. Grizzle  
   David M. Pyle  
   Andrew M. Shuff

▷ **Outstanding Undergraduate Award**
   Laura E. Bourque  
   Scott B. Peterson  
   Jennifer L. McBee

▷ **Sharon Merritt Birtcher Scholarship**
   Rachel Wooley

▷ **Tsutsui Endowed Scholarship**
   Brentley Smith
3. Students, 2004

This section contains all degrees awarded, as reported by the department, during the calendar year 2004.
### 3.1 Graduate Degrees Awarded, 2004

**Spring**

- **Ph. D.**
  - Emrah Özensoy  
    Polarization Modulation Infrared Reflection Absorption Spectroscopy for Heterogeneous Catalytic Applications at Elevated Pressures  
    Advisor(s): D. Goodman
  - Curtis Paul Berlinguette  
    Nanomagnetic Molecular Materials Based on the Hexacyanometallate Building Block: The Preparation and Characterization of High-Spin Cluster and Chain Compounds  
    Advisor(s): K. Dunbar
  - John Ferguson Berry  
    Linear Trimetal Complexes of the Ligand 2,2'-Dipyridylamide  
    Advisor(s): F. Cotton
  - Jian Feng  
    Effect of Redox Potential, Sulfide Ions and a Persulfide Forming Cysteine Residue on Carbon Monoxide Dehydrogenase  
    Advisor(s): P. Lindahl
  - Melissa Lynn Golden  
    The Bioinorganic Chemistry of N₂S₂ Metal Complexes: Reactivity and Ligating Ability  
    Advisor(s): M. Darensbourg
  - Marc Cory Gurau  
    The Structure of Langmuir Monolayers Probed with Vibrational Sum Frequency Spectroscopy  
    Advisor(s): P. Cremer
  - Matthew Alexander Holden  
    Studies in Biological Surface Science: Microfluidics, Photopatterning and Artificial Bilayers  
    Advisor(s): P. Cremer
  - Jungwook Kim  
    Molecular Engineering of Oligomerization and Metabolite Channeling through a Molecular Tunnel of Carbamoyl Phosphate Synthetase  
    Advisor(s): F. Raushel
  - Shulan Li  
    Synthesis, Characterization and Capillary Electrophoretic Use of New, Single-isomer Hexasulfated α-Cyclodextrins  
    Advisor(s): G. Vigh
  - Karin Tien Lum  
    Directed Evolution of Phosphotriesterase: Towards the Efficient Detoxification of Sarin and Soman  
    Advisor(s): F. Raushel
  - Carmela Luisa Magliocchi  
    Synthesis, Structure, and Characterization of Molybdenum and Rare Earth Chalcogenides  
    Advisor(s): T. Hughbanks
<table>
<thead>
<tr>
<th>Name</th>
<th>Thesis Title</th>
<th>Advisor(s)</th>
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<tbody>
<tr>
<td>Cesar Gabriel Ortiz</td>
<td>Synthesis of 1,3,5-triaza-7-phosphaadamantane (PTA) and 3,7-diacetyl-1,3,7-triaza-5-phosphabicyclo[3.3.1]nonane (DAPTA) Complexes and the Development of Chromium Salen Catalysts for the Copolymerization of CO₂ and Epoxides</td>
<td>D. Darensbourg</td>
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<tr>
<td>Gregory Paul Perez</td>
<td>Chemically Sensitive Polymer-Mediated Nanoporous Alumina SAW Sensors for the Detection of Vapor-Phase Analytes</td>
<td>R. Crooks</td>
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<tr>
<td>Ma. del Rosario Mejía Rodríguez</td>
<td>Ligand Effects on Bioinspired Iron Complexes</td>
<td>M. Darensbourg</td>
</tr>
<tr>
<td>Brandon Thomas Ruotolo</td>
<td>Development of Matrix Assisted Laser Desorption Ionization-Ion Mobility-Orthogonal Time-of-Flight Mass Spectrometry as a Tool for Proteomics</td>
<td>D. Russell</td>
</tr>
<tr>
<td>Youngha Ryu</td>
<td>Studies toward Biomimetic Claisen Condensation Using Nucleic Acid Templates and Ribozyme Catalysis</td>
<td>A. Scott</td>
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<tr>
<td>Silvia Adrianna Salinas</td>
<td>HPLC Separation of Amines with a Zirconia-Based Column Coupled to a Gas-Phase Chemiluminescence Nitrogen Specific Detector (CLND)</td>
<td>G. Vigh</td>
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<tr>
<td>Eric John Schelter</td>
<td>Cyanide Clusters of Re^{II} with 3d Metal Ions and Their Magnetic Properties: Incorporating Anisotropic Ions into Metal-Cyanide Clusters with High Spin Magnetic Ground States</td>
<td>K. Dunbar</td>
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<tr>
<td>Jingyi Shen</td>
<td>Density Functional Theory Study on the Interstitial Chemical Shifts of Main-Group-Element Centered Hexazirconium Halide Clusters; Synthetic Control of Speciation in [(Zr_6ZCl_{12}) (Z=B, C)]-Based Mixed Ligand Complexes</td>
<td>T. Hughbanks</td>
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<td>Wei Zhan</td>
<td>Integration of Functional Components into Microfluidic Chemical Systems: Bioimmobilization and Electrochemiluminescent Detection On-Chip</td>
<td>R. Crooks</td>
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Summer

▷ MS

Anthony Steven Evans  Eun Jin Kim
Christine Lee Myers  Tao Qu
Long Boa Thai  Silva Elena Sanchez Vindas
Dengliang Yang

▷ Ph. D.

Andrew Marshall Kippenberger  The Syntheses and Applications of Hyperbranched Surface Grafts
Advisor(s): D. Bergbreiter
Sanjiv Kumar Shankerdass LalwanDesign and Synthesis of Novel Isoelectric Buffers
Advisor(s): G. Vigh
Byoung Koun Min  Scanning Tunneling Microscopic Studies of SiO₂ Thin Film Supported Methal Nano-Clusters
Advisor(s): D. Goodman
Jody Lee Rodgers  Reactivity and Kinetics of Epoxide/CO₂ Coupling Catalyzed by Zinc(II) Phenoxides and Chromium(III) Salens
Advisor(s): D. Daresbourg
Karen Lynn Steelman  Non-Destructive Radiocarbon and Stable Isotopic Analyses of Archaeological Materials Using Plasma Oxidation
Advisor(s): M. Rowe
Mackay B. Steffensen  Methods for the Syntheses of Compositionally Diverse Dendrimers Using Chemoselective Routes
Advisor(s): E. Simanek
Alona Peñaflor Umali  Synthesis, Functionalization and Evaluation of Dendrimers Based on Melamine as Possible Systems for Drug Delivery
Advisor(s): E. Simanek
Loan Kim Vo  Absolute Asymmetric Synthesis in Asymmetric Autocatalysis and Kinetic Isotope Effect Studies of Organometallic Reactions Effects
Advisor(s): D. Singleton
Bin Wu  Studies toward the Total Synthesis of Apoptolidin: Total Synthesis of Apoptolidinone
Advisor(s): G. Sulikowski

Fall

▷ MS

Khalid A. R. Al-Bahily  Brittany Terese Beckstead
Ph. D.

Brant Clayton Boren  Application of Diels-Alder Reactions of 2-(N-acylamino)-1,3-dienes toward the Total Synthesis of Stenine  
Advisor(s): G. Sulikowski

Shannon N. Burns  Investigation of an Unusual Metal-RNA Cluster in the P5abc Subdomain of the Group I Intron  
Advisor(s): V. DeRose

Xiaole Chen  Chemisorption and Anodic Oxidation of Aromatic Molecules on Pd Electrode Surfaces: Studies by UHV-EC-STM  
Advisor(s): M. Soriaga

Sergio Omar Gonzalez  Dendritic and Linear Polymers for Separations  
Advisor(s): E. Simanek

Mason Reames Haneline  Trimeric Perfluoro-ortho-phenylene Mercury as a Building Block for Supramolecular Materials  
Advisor(s): F. Gabrië\l

Megan E. McLean  Synthesis and Characterization of Covalently-Linked Dendrimer Bioconjugates and the Non-Covalent Self-Assembly of Streptavidin-Based Megamers  
Advisor(s): E. Simanek

Ji Ho Park  Experimental and Theoretical Studies of Isoprene Oxidation Initiated by Hydroxyl Radical  
Advisor(s): S. North

Alexandre Picot  Catalysis for the Destruction of Phosphonate Acetylcholinesterase Inhibitors  
Advisor(s): F. Gabrië\l

Tamiko Neal Porter  The Structure and Mechanism of Bacterial Dihydroorotase  
Advisor(s): F. Raushel

Holly Ann Sawyer  Investigation of the Effect of Intra-molecular Interactions on the Gas-Phase Conformation of Peptides as Probed by Ion Mobility-Mass Spectrometry, Gas-Phase Hydrogen/Deuterium Exchange, and Molecular Mechanics  
Advisor(s): D. Russell

Matthew John Vogt  Spectroscopic Investigation of Metal-RNA Interactions  
Advisor(s): V. DeRose
### 3.2 Undergraduate Degrees Awarded, 2004

#### Spring

<table>
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<tr>
<th>BA</th>
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<tbody>
<tr>
<td>Justin Aaron Amaro</td>
<td>Joel Parker Barton</td>
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<tr>
<td>Yeo Ju Choi</td>
<td>Vincent Jean Delbar</td>
</tr>
<tr>
<td>Jennifer Dianne Foulke</td>
<td>Travis Carlton Gardner</td>
</tr>
<tr>
<td>Heather Marie Hall</td>
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<table>
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</thead>
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<tr>
<td>Laura Elizabeth Bourque</td>
<td>Vanessa Alyss Chapa</td>
</tr>
<tr>
<td>Shawn Brendan Fitch</td>
<td>Kate Michelle Gallagher</td>
</tr>
<tr>
<td>Amber Rae Jensen</td>
<td>Jeffery Devoyne Johnson Jr.</td>
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<tr>
<td>Marti Lachelle Sebeta Kubena</td>
<td>Jennifer Lauren McBee</td>
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<tr>
<td>Scott Brian Peterson</td>
<td>Alisha Diane Roach</td>
</tr>
<tr>
<td>Matthew Penick Rowan</td>
<td>Adam Michael Rowland</td>
</tr>
<tr>
<td>Creshaun Renee Zewalk</td>
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#### Summer

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<th>BA</th>
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<tr>
<td>Cameron Leigh Hall</td>
<td>Dainel Wayne Hollass</td>
</tr>
<tr>
<td>Jeffrey Nelson James</td>
<td>Russell James Parks</td>
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<td>Micheal Isreal Stephens</td>
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<td>Emily Suzanne Brock</td>
<td>Charity Ann Nowlan</td>
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#### Fall

<table>
<thead>
<tr>
<th>BA</th>
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<tbody>
<tr>
<td>Quinn Sunny Lung</td>
<td>Roxanna Montes Schaffino</td>
</tr>
<tr>
<td>Kim Mai Tran</td>
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<tr>
<td>Timothy Isaac Allen</td>
<td>Natalie Jo Bell</td>
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<td>Christopher Eric Dilley</td>
<td>Adam Brian King</td>
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<td>Nicholas Paul Levitt</td>
<td>Brent Carl Norris</td>
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<td>Eleanor Lee Pate</td>
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# 4. Colloquium and Seminar Speakers, 2004

## Colloquium and Seminar Speakers

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Institution</th>
<th>Topic</th>
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<tr>
<td>1/28/2004</td>
<td><strong>Aaron Odom</strong></td>
<td>Michigan State University</td>
<td>Titanium Catalyzed CN and CC Bond Forming Reactions Based on Hydroamination Chemistry</td>
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<tr>
<td>2/4/2004</td>
<td><strong>Angelica Stacy</strong></td>
<td>University of California - Berkeley</td>
<td>Nanowire Arrays for Thermoelectric Refrigerators</td>
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<tr>
<td>2/18/2004</td>
<td><strong>Tracy Hanna</strong></td>
<td>Texas Christian University</td>
<td>Molybdenum and Bismuth Alkoxides: From Metallocalixarenes to Catalyst Models</td>
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<td>2/19/2004</td>
<td><strong>Lawrence S. Bottomley</strong></td>
<td>Georgia Institute of Technology</td>
<td>Force Spectroscopy on Carbon Nanotubes, Proteins, and DNA</td>
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<td>2/19/2004</td>
<td><strong>Pat Walsh</strong></td>
<td>University of Pennsylvania</td>
<td>Catalytic Asymmetric C-C Bond Forming Reactions</td>
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<tr>
<td>2/25/2004</td>
<td><strong>Peter Dorhout</strong></td>
<td>Colorado State University</td>
<td>Solid State f-Element Main-Group Metal Chemistry</td>
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<tr>
<td>2/26/2004</td>
<td><strong>Tomislav Rovis</strong></td>
<td>Colorado State University</td>
<td>Organic and Metal Catalysts for the Control of Stereochemistry Carbon-Carbon Bond-Forming Reactions</td>
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<td>3/2/2004</td>
<td><strong>John Wilker</strong></td>
<td>Purdue University</td>
<td>Biomaterials at the Beach: Metal-Protein Interactions in Mussel and Barnacle Adhesives</td>
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<tr>
<td>3/4/2004</td>
<td><strong>Jay Siegel</strong></td>
<td>University of Zürich</td>
<td>Topological Motivations for Chemical Synthesis</td>
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3/9/2004  **Brian Hoffman**  
*Northwestern University*  
Characterizing the Invisible: EPR and ENDOR Studies of Home Mono-oxygenase Enzymatic Intermediates

3/10/2004  **Andreas Gansäuer**  
*University of Bonn*  
Radicals in Organic Synthesis

3/11/2004  **Ben Shen**  
*University of Wisconsin - Madison*  
Natural Product Biosynthesis and Metabolic Engineering

3/16/2004  **Kate Queeney**  
*Smith College*  
Surface IR beyond small molecules

3/17/2004  **Marc Bernard**  
*Université Louis Pasteur de Strasbourg*  
Structure and Bonding in Linear Trimetallics and other Molecule

3/24/2004  **Ric Kaner**  
*UCLA*  
Nanostructured Materials: Carbon Nanoscrolls and Polyaniline Nanofibers

3/25/2004  **Albert Eschenmoser**  
*Eidgenössische Technische Hochschule, Zürich Switzerland*  
Chemical Lessons from Studying Nucleic Acid Alternatives

*University of Texas at Tyler*  
Responsive Polymers and Coatings for the Sensing, Sequestration and Removal of Toxic Heavy Metals from Contaminated Environments

3/26/2004  **Scott Denmark**  
*University of Illinois, Urbana-Champaign*  
Silicon-Based Cross-Coupling Reactions: Synthetic and Mechanistic Aspects

3/26/2004  **Albert Eschenmoser**  
*Eidgenössische Technische Hochschule, Zürich, Switzerland*  
The Quest for a Chemical Etiology of Nucleic Acid Structure

3/26/2004  **Eric Sorensen**  
*Priceton University*  
Architectural Self-Construction in Nature and Chemical Synthesis

4/2/2004  **Robert Baxter**  
*University of Edinburgh*  
Biotin Biosynthesis - the unique vitamin H pathway

4/2/2004  **David Liu**  
*Harvard University*  
An Evolution-Based Approach to the Creation and Discovery of Functional Synthetic Molecules
<table>
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<tr>
<th>Date</th>
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<th>Topic</th>
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<tr>
<td>4/2/2004</td>
<td>K. C. Nicolaou</td>
<td>The Scripps Research Institute</td>
<td>Perspectives in Total Synthesis</td>
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<td>4/2/2004</td>
<td>J. B. Spencer</td>
<td>Cambridge University</td>
<td>The biosynthesis of the vancomycin family of antibiotics</td>
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<td>4/2/2004</td>
<td>Craig Townsend</td>
<td>Johns Hopkins University</td>
<td>Synthetic, Mechanistic and Engineering Approaches to Unusual Biosynthetic Processes</td>
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<td>4/2/2004</td>
<td>Martin Warren</td>
<td>University of London</td>
<td>Tetrapyrrole Biosynthesis - Colour, History and Surprises</td>
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<td>4/5/2004</td>
<td>Hicham Idriss</td>
<td>The University of Auckland, New Zealand</td>
<td>The Surface Chemistry of Uranium and Titanium Oxide Single Crystals. The Role of Surface Defects</td>
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<td>4/7/2004</td>
<td>Tong Ren</td>
<td>University of Miami, Coral Gables</td>
<td>Molecular and Supramolecular Chemistry of Diruthenium Metalla-ynes</td>
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<td>4/16/2004</td>
<td>Tohru Fukuyama</td>
<td>University of Tokyo</td>
<td>Total Synthesis of Natural Products and Development of Synthetic Methodologies</td>
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<td>4/22/2004</td>
<td>Barry Carpenter</td>
<td>Cornell University</td>
<td>Nonstatistical Dynamics of Thermally Generated Reactive Intermediates</td>
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<tr>
<td>4/26/2004</td>
<td>Anthony W. Addison</td>
<td>Drexel University</td>
<td>Coordination Chemistry Considerations in Biomimetic &amp; Oligonuclear Systems</td>
</tr>
</tbody>
</table>
4/27/2004  **John N. Armor**  
*Air Products & Chemicals, Inc.*  
Environmental Catalysis, Linking R&D to Opportunities

4/28/2004  **Keith Hollis**  
*University of California - Riverside*  
Exploring Novel Ligand Architectures for Catalysis

4/29/2004  **Dean Atkinson**  
*Portland State University*  
Making Atmospherically Relevant Extinction Measurements with Cavity Ring-down

4/29/2004  **Joel Schneider**  
*University of Delaware*  
Responsive Materials from de novo Designed Peptides

5/4/2004  **Stephen J. Lippard**  
*Massachusetts Institute of Technology*  
Metalloneurochemistry: Fluorescent Sensors for Zinc, Nitric Oxide, and Mercury

5/5/2004  **R. Tom Baker**  
*Los Alamos National Laboratory*  
Precious Metal Phophenium Complexes as Potential Bifunctional Catalysis

5/5/2004  **Takushi Kaneko**  
*Pfizer*  
Natural Products and Medicinal Chemistry

5/6/2004  **David Wemmer**  
*University of California at Berkeley*  
Using $^{129}$Xe as a ‘spin-spy’ for probing biomolecular systems

5/11/2004  **David Blank**  
*University of Minnesota*  
Probing the Local Environment During Reactive Dynamics in Solution

5/12/2004  **Neil A. Burton**  
*University of Manchester*  
Understanding Enzyme Reactivity and Inhibition using Hybrid Computational Methods

5/13/2004  **Douglas W. Stephen**  
*University of Windsor-Canada*  
Highly Active Homogeneous Catalysts for Olefin Polymerization: Molecular Design, Optimization and Unique Deactivation Pathways

5/20/2004  **Dalibor Sames**  
*Columbia University*  
C-H Bond Functionalization in Complex Organic Synthesis

6/10/2004  **Stephen Kent**  
*University of Chicago*  
Chemical Litigation Methods for the Study of the Molecular Basis of Protein Function
9/2/2004  Kay Brummond  
*University of Pittsburgh*  
Allenes and Transition-Metal Catalyzed Carbon-Carbon Bond Forming Reactions

9/8/2004  Richard Fish  
*University of California - Berkeley*  
Bioorganometallic Chemistry: Synthesis, Structures, Molecular Recognition, and Biocatalysis Studies

9/15/2004  Dan Rabinovich  
*University of North Carolina-Charlotte*  
Recent advances in poly(mercaptoimidazolyl)borate chemistry

9/17/2004  Amit Basu  
*Brown University*  
Glycolipid Interactions at Membranes

9/22/2004  Christopher Cummins  
*Massachusetts Institute of Technology*  
Synthetic Cycles for Element (N$_2$ and P$_4$) Activation, Atom Transfer, and Reactive Metal Complex Regeneration

9/22/2004  Richard Hsing  
*University of Minnesota*  
From Dementia Disease to Arisugacin A to Rediscovering Amides to Alkaloid Synthesis

9/23/2004  Phil Dawson  
*The Scripps Research Institute*  
Synthetic Protein Engineering

9/30/2004  Daesung Lee  
*University of Wisconsin*  
Enyne Metathesis: Scope, Selectivity and Application

9/30/2004  Paul Weiss  
*Pennsylvania State University*  
Creating nanostructures through Self-and-Directed Assembly

10/5/2004  Zhan Chen  
*University of Michigan*  
Molecular Level Studies on Polymer Surfaces/Interfaces and Interactions Between Polymers and Biological Molecules

10/8/2004  Jeff Seeman  
*Virginia Tech University*  
A Visit with Dudley Herschbach: Visions and Vistas

10/13/2004  Craig Grapperhaus  
*University of Louisville*  
Thioethers, and Thiyl Radicals: Model Complexes of Iron-Containing Nitrile Hydratase and Beyond
10/27/2004  **William D. Jones**  
*University of Rochester*  
Strong C-X Bond Cleavage Reactions Using Homogeneous Transition Metal Complexes

10/29/2004  **Robert Curl**  
*Rice University*  
The Strange Chemistry of Elemental Carbon: An Opportunity for Nanomaterials

10/29/2004  **Hari Gali**  
*Lynntech, Inc.*  
Development of Crystalline Inorganic Ion Exchangers for Nuclear Medicine Applications

10/29/2004  **Herbert Hauptman**  
*Hauptman-Woodward Medical Research Institute*  
Neutron Diffraction Breaks the Low Resolution Barrier to Phase Determination by Direct Methods

10/29/2004  **David Hobbs**  
*Savannah River National Laboratory*  
Inorganic Based Ion Exchange Materials for Radiochemical Separations

10/29/2004  **Krishna Sharma**  
*Alexza Molecular Delivery Corporation*  
Crystal Engineering in Industry

11/9/2004  **John D. Protasiewicz**  
*Case Western University*  
Introduction of Main Group Elements into the Backbone of Conjugated Polymers

11/9/2004  **James P. Reilly**  
*Indiana University*  
In Pursuit of Relentless Proteomics

11/10/2004  **Maurice Brookhart**  
*University of North Carolina*  
Olefin in Polymerizations and Copolymerizations Catalyzed by Alpha-Diimine Complexes of Ni(II) and Pd(II): Synthetic and Mechanistic Studies

11/16/2004  **Peter Armentrout**  
*University of Utah*  
Dynamics and energetics of CH4 and NH3 activation at size-selected transition metal clusters

11/18/2004  **Patrick Harran**  
*University of Texas Southwestern*  
Synthetic Means to Reach Natural Ends

11/30/2004  **Jerry Rasmussen**  
*3M Corporation*  
Exploring the Interface Between Biological and Synthetic Materials: What’s an Organic Chemistry To Do?
12/1/2004  **George Christou**  
*University of Florida*  

12/2/2004  **Jeff Johnston**  
*Indiana University*  
The Development of New Reagents and Reactions for Chemical Synthesis: The Advent of Chiral Proton Catalysis

12/3/2004  **Sador Karady**  
*Merck*  
A Practicable Synthesis and Process for the Large Scale Preparation of a New HIV Protease Inhibitor

12/7/2004  **Paul Wenthold**  
*Purdue University*  
Structure and Reactivity of Open-Shell Organic Ions

12/9/2004  **Ingo Krossing**  
*EPFL Lausanne*  
Chemistry with weakly coordinating anions
Frontiers Lecture Series

1/14/2004  David E. Cane  
Brown University  
Nature as Organic Chemist: Multistep Biochemical Reactions

1/15/2004  David E. Cane  
Brown University  
Nature as Organic Chemist: Multistep Biochemical Reactions

1/16/2004  David E. Cane  
Brown University  
Nature as Organic Chemist: Multistep Biochemical Reactions

1/20/2004  Giacinto Scoles  
Princeton University  
Nanosience: the Trojan Horse of Interdisciplinarity

1/21/2004  Giacinto Scoles  
Princeton University  
Nanosience: the Trojan Horse of Interdisciplinarity

1/22/2004  Giacinto Scoles  
Princeton University  
Nanosience: the Trojan Horse of Interdisciplinarity

2/9/2004  Henry S. White  
University of Utah  
Electroanalytical Studies of Transport Phenomena in Microscopic Domains

2/10/2004  Henry S. White  
University of Utah  
Electroanalytical Studies of Transport Phenomena in Microscopic Domains

2/11/2004  Henry S. White  
University of Utah  
Electroanalytical Studies of Transport Phenomena in Microscopic Domains

4/5/2004  Christopher T. Walsh  
Harvard University  
Enzymatic Assembly of Natural Products

4/6/2004  Christopher T. Walsh  
Harvard University  
Enzymatic Assembly of Natural Products

4/7/2004  Christopher T. Walsh  
Harvard University  
Enzymatic Assembly of Natural Products

4/12/2004  Philip P. Power  
University of California at Davis  
The s-Electron Effect in Main Group Chemistry
4/13/2004  Philip P. Power  
*University of California at Davis*  
The s-Electron Effect in Main Group Chemistry

4/14/2004  Philip P. Power  
*University of California at Davis*  
The s-Electron Effect in Main Group Chemistry

9/13/2004  Victor E. Viola  
*Indiana University*  
Nuclear Reactions in the Cosmos: The Origin of the Chemical Elements

9/14/2004  Victor E. Viola  
*Indiana University*  
Nuclear Reactions in the Cosmos: The Origin of the Chemical Elements

9/15/2004  Victor E. Viola  
*Indiana University*  
Nuclear Reactions in the Cosmos: The Origin of the Chemical Elements

9/27/2004  Douglas C. Rees  
*California Institute of Technology*  
The Structural Chemistry of Membrane- and Metallo-Proteins

9/28/2004  Douglas C. Rees  
*California Institute of Technology*  
The Structural Chemistry of Membrane- and Metallo-Proteins

9/29/2004  Douglas C. Rees  
*California Institute of Technology*  
The Structural Chemistry of Membrane- and Metallo-Proteins

10/11/2004  Martin E. Newcomb  
*University of Illinois at Chicago*  
Mechanisms of “Radical” Reactions in Nature and in Synthesis

10/12/2004  Martin E. Newcomb  
*University of Illinois at Chicago*  
Mechanisms of “Radical” Reactions in Nature and in Synthesis

10/13/2004  Martin E. Newcomb  
*University of Illinois at Chicago*  
Mechanisms of “Radical” Reactions in Nature and in Synthesis

11/1/2004  Charles R. Martin  
*University of Florida*  
Nanoscience in Bioanalytical Chemistry

11/2/2004  Charles R. Martin  
*University of Florida*  
Nanoscience in Bioanalytical Chemistry
*University of Florida*  
Nanoscience in Bioanalytical Chemistry

11/15/2004  Kenneth N. Raymond  
*University of California, Berkeley*  
M is for Metals, Medicine and Molecular Architecture

11/16/2004  Kenneth N. Raymond  
*University of California, Berkeley*  
M is for Metals, Medicine and Molecular Architecture

11/17/2004  Kenneth N. Raymond  
*University of California, Berkeley*  
M is for Metals, Medicine and Molecular Architecture
## 5. Faculty, 2004

<table>
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<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>David E. Bergbreiter</td>
<td>Professor</td>
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<tr>
<td>John W. Bevan</td>
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<tr>
<td>Lawrence S. Brown</td>
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<td>Kevin Burgess</td>
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<td>Abraham Clearfield</td>
<td>Professor</td>
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<tr>
<td>Dwight C. Conway</td>
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<td>F. Albert Cotton</td>
<td>Distinguished Professor</td>
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<td>Paul S. Cremer</td>
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<td>Richard M. Crooks</td>
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<tr>
<td>Donald J. Daresbourg</td>
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<tr>
<td>Marcetta Y. Daresbourg</td>
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<tr>
<td>Victoria J. DeRose</td>
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<tr>
<td>Kim R. Dunbar</td>
<td>Professor</td>
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<tr>
<td>John P. Fackler, Jr.</td>
<td>Distinguished Professor</td>
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<tr>
<td>Paul F. Fitzpatrick</td>
<td>Professor (J)</td>
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<tr>
<td>Francois P. Gabbaï</td>
<td>Associate Professor</td>
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<tr>
<td>Yi Qiu Gao</td>
<td>Assistant Professor</td>
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<td>D. Wayne Goodman</td>
<td>Distinguished Professor</td>
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<tr>
<td>Ganesa Gopalakrishnan</td>
<td>Senior Lecturer</td>
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<tr>
<td>Michael B. Hall</td>
<td>Professor</td>
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<tr>
<td>Kenn E. Harding</td>
<td>Professor</td>
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<tr>
<td>Robert A. Hildreth</td>
<td>Lecturer</td>
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<tr>
<td>John L. Hogg</td>
<td>Professor</td>
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<tr>
<td>Timothy R. Hughbanks</td>
<td>Professor</td>
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<tr>
<td>Marian Hyman</td>
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<td>Arthur Johnson</td>
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<tr>
<td>Wendy Keeney-Kennicutt</td>
<td>Senior Lecturer</td>
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<tr>
<td>Jaan Laane</td>
<td>Professor</td>
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<tr>
<td>Paul A. Lindahl</td>
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<tr>
<td>Robert R. Lucchese</td>
<td>Professor</td>
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<tr>
<td>Jack H. Lunsford</td>
<td>Distinguished Professor (J)</td>
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<td>Ronald D. Macfarlane</td>
<td>Professor</td>
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<td>Denise T. Magnuson</td>
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<td>Elmo J. Hawk</td>
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<td>Megan E. McLean</td>
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<td>Joseph B. Natowitz</td>
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<td>James D. Pennington</td>
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<td>Krishan Ponnampерума</td>
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<td>Frank M. Rausel</td>
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<td>Daniel Romo</td>
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<td>Michael P. Rosynuk</td>
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<td>Marvin W. Rowe</td>
<td>Professor</td>
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</tbody>
</table>
David H. Russell ................................. Professor
Raymond E. Schaak .............................. Assistant Professor
Richard P. Schmitt .............................. Professor
Emile A. Schweikert ............................ Professor
A. Ian Scott ........................................... Distinguished Professor
Eva Sevick-Muraca ............................... Professor
Eric E. Simanek .................................... Associate Professor
Daniel A. Singleton ............................... Professor
Elizabeth B. Soriaga ............................. Senior Lecturer
Manuel P. Soriaga ............................... Professor
Earle G Stone ..................................... Lecturer
Gary A. Sulikowski ............................... Professor
Tammy H. Tiner ................................... Senior Lecturer
Gyula Vigh .......................................... Professor
Coran M.H. Watanabe ......................... Assistant Professor
Rand L. Watson .................................. Professor
Robert D. Wells .................................. Professor (J)
Vickie M. Williamson ............................ Senior Lecturer
Danny L. Yeager ................................. Professor
Sherry J. Yennello ................................ Professor
5.1 Professional Activities, 2004

This section contains information, as reported by individual faculty members, encompassing each faculty member’s professional activities for the calendar year 2004.

Subsections of professional activities are defined as follows:

Honors and Awards

▷ All professional honors and awards, both internal and external.

Service Activities

▷ All professional service and leadership roles, including: departmental, college, university, state, national and international.

Teaching

▷ Classes taught during the Spring, Summer and Fall sessions of 2004.

▷ Any missing enrollment numbers were gathered from the Student Information Management System (SIMS) at Texas A&M University.

Research Projects

▷ All research projects, funded and unfunded.

▷ Whenever possible, all research-related employees of that faculty member are listed along with the citation. Key for employees: (P)=Postdoc, (G)=Graduate Student, (U)=Undergraduate Student.

▷ Renewals are marked by “(REN)” at the beginning of their title.

▷ Unfunded grants are marked by “(UNFUNDED)” at the end of the citation.

▷ Additional information (including PIs, CoPIs, and funding) on all funded grants are listed in Section 6.

Presentations

▷ All posters, invited and contributed lectures (plenary, conferences, colloquia, seminars, etc.).

▷ Whenever reported, posters, invited and contributed lectures are noted in parentheses following the citation.

▷ Citations are in chronological order.

Publications

▷ All printed materials published during 2004.

▷ Pre-press, in-press and submitted publications were not included.

▷ Citations were formatted in APA Style and are in alphabetical order by lead author.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Member, Interdisciplinary Faculty, Materials Science and Engineering, [2004]

• SERVICE DURING 2004
  College
  ▶ Member, Undergraduate Curriculum Committee

  Department
  ▶ Coordinator, Graduate Admissions/Recruiting
  ▶ Manager, Departmental Outside Review Committee
  ▶ Member, Graduate Curriculum Committee
  ▶ Member, Departmental Advisory Council
  ▶ Member, Service Course Review Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEM 228.200(H) — Organic Chemistry II (total enrollment: 30)
  ▶ CHEM 491.502 — Research (total enrollment: 1)
  ▶ CHEM 691.602 — Research (total enrollment: 6)

  Summer
  ▶ CHEM 491.302 — Research (total enrollment: 1)
  ▶ CHEM 691.102 — Research (total enrollment: 1)
  ▶ CHEM 691.202 — Research (total enrollment: 1)
  ▶ CHEM 691.302 — Research (total enrollment: 6)

  Fall
  ▶ CHEM 227.200(H) — Organic Chemistry I (total enrollment: 50)

• RESEARCH PROJECTS DURING 2004
  ▶ New Roles for Soluble Polymers in Homogenous Catalysis, National Science Foundation, coworkers: M. Grunlan (P), J. Li (P), I. Owsik (P), H. Chayanant (G), S. Furyk (G), P. Hamilton (G), S. Sung (G), J. Flowers (U), K. Liao (U), A. Shuff (U)
  ▶ New Syntheses of Hyperbranched Ultrathin Grafts, National Science Foundation, coworkers: M. Grunlan (P), H. Chayanant (G), S. Furyk (G), P. Hamilton (G), A. Kippenberger (G), K. Liao (G), D. Ortiz-Acosta (G), S. Sung (G), J. Tian (G), J. Flowers (U), A. Shuff (U)
  ▶ (REN) REU Site-Research Experiences for Undergraduates in Chemistry at Texas A&M University, National Science Foundation

154  2004 CHEMISTRY ANNUAL REPORT
(REN) Catalytic Syntheses in Nontraditional Media, *The Robert A. Welch Foundation*, coworkers: S. Furyk (G), P. Hamilton (G), A. Kippenberger (G), D. Ortiz-Acosta (G), S. Sung (G)

Studies of Temperature Dependent Macromolecule Solubility in Water, *UNFUNDED*, coworkers: S. Furyk (G), D. Ortiz-Acosta (G), E. Pate (U)

**PRESENTATIONS DURING 2004**

- “Recoverable, soluble polymer supports for catalysis and synthesis,” DuPont, Wilmington, DE, April, 2004. (Individual)
- “Designing, Probing and Using Polymers with Lower Critical Solution Temperatures,” IUCCP Symposium, College Station, TX, October, 2004. (Contributed)
- “Soluble Polymer Supports that Facilitate Biphasic Separations after Monophasic Reactions,” Green Solvents for Organic Synthesis, Bruchsal, Germany, October, 2004. (Individual)
- “Soluble Polymer Supports that Facilitate Biphasic Separations after Monophasic Reactions,” San Angelo State University, San Angelo, TX, October, 2004. (Individual)
- “Soluble Polymer Supports that Facilitate Biphasic Separations after Monophasic Reactions,” Rutgers University, Newark, NJ, November, 2004. (Individual)


**PUBLICATIONS DURING 2004**


- Bergbreiter, DE; Li, J. (2004) Terminally functionalized polyisobutylene oligomers as soluble supports in catalysis *Chemical Communications*, 42-43.


- Bergbreiter, DE; Sung, SD; Li, J; Ortiz, D; Hamilton, PN. (2004) Designing polymers for biphasic liquid/liquid separations after homogeneous reactions *Organic Process Research and Development*, vol. 8, 461-468.

- Gonzalez, SO; Furyk, S; Li, C; Tichy, SE; Bergbreiter, DE; Simanek, EE. (2004) Latent solid-phase extraction with thermoresponsive soluble polymers *Journal of Polymer Science Part A: Polymer Chemistry*, vol. 42, 6309-6317.

- Mao, HB; Li, CM; Zhang, YJ; Furyk, S; Cremer, PS; Bergbreiter, DE. (2004) High-throughput studies of the effects of polymer structure and solution components on the phase separation of thermoresponsive polymers *Macromolecules*, vol. 37, 1031-1036.
• SERVICE DURING 2004

National
▷ Fellow, Senior National Research Council

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 322.500 — Physical Chemistry for Engineers (total enrollment: 32)
▷ CHEM 691.603 — Research (total enrollment: 5)

Summer
▷ CHEM 326.200 — Physical Chemistry Laboratory II (total enrollment: 4)
▷ CHEM 691.103 — Research (total enrollment: 1)
▷ CHEM 691.303 — Research (total enrollment: 4)

Fall
▷ CHEM 322.500 — Physical Chemistry for Engineers (total enrollment: 20)

• RESEARCH PROJECTS DURING 2004

▷ Matching Funds for EPA Grant, College of Science
▷ Development of Joint Multi-Pollutant Air Quality Modeling Facilities and Air Monitoring Stations for Houston-Galveston Metropolitan Area, Environmental Protection Agency, coworkers: S. Belov (G), M. Butler (G), M. Gunn-Frantzen (G)
▷ Effective Destruction and Removal of Ozone Depleting and Global Warming Semiconductor Emissions, Environmental Protection Agency, coworkers: M. Butler (G), M. Gunn-Frantzen (G)
▷ Development of Submillimeter/Terahertz Instrumentation for Spectroscopy and Dynamics, National Science Foundation, coworkers: Z. Wang (P), S. Belov (G), B. McElmurry (G), R. Zhang (G)
▷ Morphing Complete Vibrational Potentials for Hydrogen Bonded and Related Interactions, National Science Foundation, coworkers: Z. Wang (P), S. Belov (G), A. Legon (G), F. Lovas (G), B. McElmurry (G), V. Vaks (G)
▷ Probing Intermolecular Interactions Emphasizing Backward Wave Oscillator Submillimeter Spectroscopy, The Robert A. Welch Foundation, coworkers: B. McElmurry (G), G. Shan (G)
▷ Atmospheric Chemistry and the Environment, Vice President for Research, coworkers: S. Belov (G), M. Butler (G), A. Maroly (G), B. McElmurry (G)
• PRESENTATIONS DURING 2004
  ▶ “Analysis of the sub-millimeter Spectrum of (HBr)2 Using a Co-axially configured Supersonic Jet and Frequency and Phase stabilized BWO Spectrometer,” Twentieth Austin Symposium on molecular Structure, University of Texas, Austin, TX, March, 2004. (Individual)
  ▶ “Coaxial Pulsed Jet Sub-millimeter wave Fast Scan Spectrometer with a Frequency and Phase Stabilized BWO,” Twentieth Austin Symposium on molecular Structure, University of Texas, Austin, TX, March, 2004. (Individual)
  ▶ “Current Status of Investigations for Generating Morphing Potentials in Molecular Complexes,” Twentieth Austin Symposium on molecular Structure, University of Texas, Austin, TX, March, 2004. (Individual)
  ▶ “The Direct Observation and analysis of the Jet Cooled Rotation-Tunnelling Transitions K=0-0 of HBr Dimer,” 59th Ohio State University International Symposium on Molecular Spectroscopy, Ohio State University, Columbus, OH, June, 2004. (Individual)

• PUBLICATIONS DURING 2004
  ▶ Castillo-Chara, J; McIntosh, AL; Wang, Z; Lucchese, RR; Bevan, JW. (2004) Near-infrared spectra and rovibrational dynamics on a four-dimensional ab initio potential energy surface of HBr$_2$ Journal of Chemical Physics, vol. 120, 10426-10441.
  ▶ McElmurry, BA; Belov, SP; Lucchese, RR; Bevan, JW. (2004) Analysis of the Submillimeter Ar:HI Σ Bending Transition as a Test of a Morphed Potential Physical Chemistry Chemical Physics, vol. 6, 5318-5323.
• SERVICE DURING 2004

University
▷ Chair, Subcommittee on a Common First-Year Experience, President’s Task Force on Enhancing the Undergraduate Experience
▷ Coordinator, Chemistry Coordinator TAMU-Qatar
▷ Member, Executive Committee, President’s Task Force on Enhancing the Undergraduate Experience

Department
▷ Coordinator, Chemistry 107

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 334.500 — Experimental Physical Chemistry II (total enrollment: 18)

Fall
▷ CHEM 107.501-512 — General Chemistry for Engineering Students (total enrollment: 286)
▷ CHEM 107.801-812 — General Chemistry for Engineering Students (total enrollment: 225)
▷ CHEM 697.602 — Methods in Teaching Chemistry Laboratory (total enrollment: 10)

• RESEARCH PROJECTS DURING 2004
▷ NSF IPA Assignment, National Science Foundation

• PUBLICATIONS DURING 2004
KEVIN BURGESS

PROFESSOR
CHEM-Organic Chemistry

(979) 845-4345
burgess@tamu.edu

- HONORS DURING 2004

University
  ▶ Rachal Professorship, Chemistry

- SERVICE DURING 2004

National
  ▶ Consultant, Expert Witness
  ▶ Consultant, NCI program grant, Southwestern Medical Center
  ▶ Consultant, Proctor and Gamble
  ▶ Member, NIH/NCI Study Section, Gaithersburg, MD
  ▶ Regional Editor, Tetrahedron: Asymmetry
  ▶ Reviewer, National Heart, Lung, and Blood Institute Division of Extramural Affairs Review Branch for Cellular and Molecular Imaging of the Cardiovascular Pulmonary and Hematopoietic Systems, Washington DC
  ▶ Reviewer, Undergraduate Textbook for McGraw Hill

University
  ▶ Chair, Library Committee
  ▶ Member, Sterling C. Evans Library Council

Department
  ▶ Member, Director of Chemistry Biology Interface Training Grant
  ▶ Member, NMR and Mass Spectrometry User Group

Interdisciplinary/Intercollegiate
  ▶ Consultant, L’Oreal

- TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 691.604 — Research (total enrollment: 14)

Summer
  ▶ CHEM 691.104 — Research (total enrollment: 1)
  ▶ CHEM 691.204 — Research (total enrollment: 1)
  ▶ CHEM 691.304 — Research (total enrollment: 14)
Fall
- CHEM 647.600 — Spectra of Organic Compounds (total enrollment: 26)
- CHEM 691.604 — Research (total enrollment: 15)

• RESEARCH PROJECTS DURING 2004
  - Compound Screening, Amersham Biosciences AB
  - Ultrafast SBS Method for Large-Scale Human Resequencing, Baylor College of Medicine, coworkers: G. Lu (P)
  - Design and Synthesis of Functional NGF Peptidomimetics, National Institutes of Health, coworkers: M. Castanada (G), Y. Li (G), J. Lu (G), E. Nnanabu (G), N. Predescu (G), S. Reyes (G)
  - Fluorescent Probes for Multiplexed Intracellular Imaging, National Institutes of Health, coworkers: G. Lu (P), J. Jing (G), A. Loudet (G), L. Wu (G)
  - Graduate Training in Biological Chemistry, National Institutes of Health
  - Synthetic Molecules in Biological Systems, National Institutes of Health
  - Unnatural Nucleotides for DNA Sequencing, National Institutes of Health, coworkers: J. Castro (G), J. Jose (G), A. Loudet (G), S. Reyes (G), Y. Ueno (G), L. Wu (G)
  - Combinatorial Syntheses of Peptidomimetics for Affinity Purifications of Antibodies, Texas Advanced Technology Program, coworkers: Y. Li (G), J. Liu (G), C. Park (G), S. Reyes (G), L. Sang (G), Y. Ueno (G)
  - Accelerated Catalyst Discovery and Optimization, The Robert A. Welch Foundation, coworkers: X. Cui (G), J. Ogle (G)

• PRESENTATIONS DURING 2004
  - “Solid and Solution-phase Synthesis of Peptidomimetics that Mimic or Disrupt Protein-Protein Interactions,” LabAutomation International Conference, San Jose, CA, January, 2004. (Individual)


“Mono- and Bivalent Peptidomimetics to Mimic or Disrupt Protein-protein Interactions,” M.D. Anderson, Houston, TX, September, 2004. (Invited)


“Asymmetric Hydrogenation of Unfunctionalized Alkenes,” Chiral USA Symposium, Boston, MA, October, 2004. (Individual)


“Small Molecule Mimics of the Neurotrophins,” Baylor University, Waco, TX, October, 2004. (Invited)


“Mono- and Bivalent Peptidomimetics to Mimic or Disrupt Protein-protein Interactions,” University of York, United Kingdom, November, 2004. (Invited)


“Mono- and Bivalent Peptidomimetics to Mimic or Disrupt Protein-protein Interactions,” University of Wisconsin, Madison, WI, December, 2004. (Invited)

**PUBLICATIONS DURING 2004**

Bruno, MA; Clarke, PBS; Seltzer, A; Quirion, RM; Burgess, K; Cuello, AC; Saragovi, HU. (2004) Long-lasting rescue of age-associated deficits in cognition and the CNS cholinergic phenotype by a partial agonist peptidomimetic ligand of TrkA *Journal of Neuroscience*, vol. 24, 8009-8018.


Fan, Y; Cui, X; Burgess, K; Hall, MB. (2004) Electronic Effects Steer the Mechanism of Asymmetric Hydrogenations of Unfunctionalized Aryl-substituted Alkenes *Journal of the American Chemical Society*, vol. 126, 1668-16689.


Lee, HB; Zaccaro, MC; Pattarawarapan, M; Roy, S; Saragovi, HU; Burgess, K. (2004) Syntheses and activities of new C-10 beta-turn peptidomimetics *Journal of Organic Chemistry*, vol. 69, 701-713.
• SERVICE DURING 2004

National
▷ Associate Editor, Solvent Extraction and Ion Exchange
▷ Chair, Symposium on Powder Diffraction for the 2002 ACA Meeting in San Antonio
▷ Editor, ACA Transactions
▷ Editorial Advisory Board, Microporous and Mesoporous Materials
▷ Editorial Advisory Board, J. Solid State Chemistry
▷ Elected Chairman, Powder Diffraction Special Interest Group of the American Crystallographic Association (ACA)
▷ Member, ACS Committee to select the Awardee of the Materials Chemistry Prize

Regional
▷ Consultant, Lynntech Corp.

Department
▷ Member, Solid State NMR Committee
▷ Member, Departmental X-ray Diffraction Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 106.502 — Molecular Science for Citizens (total enrollment: 64)
▷ CHEM 491.505 — Research (total enrollment: 5)
▷ CHEM 691.605 — Research (total enrollment: 2)

Summer
▷ CHEM 691.105 — Research (total enrollment: 1)
▷ CHEM 691.305 — Research (total enrollment: 1)

Fall
▷ CHEM 491.505 — Research (total enrollment: 4)
▷ CHEM 689.602 — Special Topics in (total enrollment: 16)

• RESEARCH PROJECTS DURING 2004

▷ Synthesis, Structures and Chemical Properties of Macrocyclic Ligands Covalently Bonded into Layered Arrays, Department of Defense, coworkers: N. Bestaoui (G), L. Holliness (G), D. Kong (G), J. McBee (G)
▷ Strategic Design and Optimization of Inorganic Sorbents for Cesium, Strontium, Department of Energy, coworkers: J. Delgado (G), C. Fewox (G), S. Kerlegon (G), D. Medvedev (G), A. Tripathi (G)
Tailoring Inorganic Sorbents for SRS Strontium and Actinide Separations: Optimized Monosodium Titanate and Pharmacosiderate, Department of Energy, coworkers: S. Kirrurakki (P), A. Tripathi (P), C. Fewox (G), D. Medvedev (G), J. Delgado (U)

Development of A Chelator for Therapeutic RA-22 Radiopharmscuteical, Lynntech Corp., coworkers: D. Kong (G), J. McBee (G)

Inorganic Ion Exchange Materials for $^{90}$Sr/$^{90}$Y, Lynntech Corp., coworkers: D. Medvedev (G)

Inorganic Ion Exchangers for the Production of bi-213 Generators, Lynntech Corp.

SBIR/STTR Phase II: Novel Methodology for Purification and Separation of Platinum Group Metals, Lynntech Corp., coworkers: D. Kong (G)

Acquisition of Small-Angle X-Ray Scattering Instrument, National Science Foundation

(REN) Pillared Layered Compounds: Their Synthesis, Structure and Properties, National Science Foundation, coworkers: J. Heising (G), A. Higginbotham (G), D. Pyle (G), B. Shpeizer (G), B. Smith (G), A. Subbiah (G)

Purchase of a Solid State 400 MHZ NMR Spectrometer, National Science Foundation

U.S.-Polish Collaborative Research: Pillared Compounds: Their Synthesis, Structure, and Properties, National Science Foundation, coworkers: D. Kong (G), A. Subbiah (G)

(REN) Metal Phosphonates as Crystal Engineered Solids, The Robert A. Welch Foundation, coworkers: N. Bestaoui (G), L. Quirindongo (G)

Metal Phosphonates as Crystal Engineered Solids, The Robert A. Welch Foundation, coworkers: N. Bestaoui (G), L. Quirindongo (G)

PRESENTATIONS DURING 2004


“Photochemistry between the layers of zirconium phosphate,” Ph. D. examining committee of Angel Marti, University of San Juan, San Juan, Puerto Rico, May, 2004. (Invited)

“Porous Materials,” Chemistry Department, University of San Juan, San Juan, Puerto Rico, May, 2004. (Invited)


“Crystal Structure of Cd(O$_2$PC$_2$H$_4$COO)$_2$$\cdot$$\cdot$2H$_2$O: Influence of Solid State NMR in the Structure Determination,” CNRS, Nantes, France, July, 2004. (Invited)


“In Situ Study of Hydrothermally Prepared Titanates and Titanosilicates,” Sixth International Conference on Solvothermal Reactions, Mysore, India, August, 2004. (Individual)


Modeling and Design of Molecular Materials, Wroclaw, Poland, September, 2004. (Invited)

• PUBLICATIONS DURING 2004


- Chary, KVR; Kumar, CP; Murali, A; Tripathi, A; Clearfield, A. (2004) Studies on catalytic functionality of V2O5/Nb2O5 catalysts Journal of Molecular Catalysis A: Chemical, vol. 216, 139-146.


- Kong, DY; Li, Y; Xiang, OY; Prosvirin, AV; Zhao, HH; Ross, JH; Dunbar, KR; Clearfield, A. (2004) Syntheses, structure, and magnetic properties of new types of Cu(II), Co(II), and Mn(II) organophosphonate materials: Three-dimensional frameworks and a one-dimensional chain motif Chemistry of Materials, vol. 16, 3020-3031.


- Sue, IJ; Gam, KT; Bestaoui, N; Clearfield, A; Miyamoto, M; Miyatake, N. (2004) Fracture behavior of alpha-zirconium phosphate-based epoxy nanocomposites Acta Materialia, vol. 52, 2239-2250.

Sun, ZM; Mao, JG; Sun, YQ; Zeng, HY; Clearfield, A. (2004) Synthesis, characterization, and crystal structures of three new divalent metal carboxylate-sulfonates with a layered and one-dimensional structure Inorganic Chemistry, vol. 43, 336-341.


Worley, R; Clearfield, A; Ellis, WC. (2004) Binding affinity and capacities for ytterbium(3+) and hafnium(4+) by chemical entities of plant tissue fragments Journal of Animal Science, vol. 81, 3307-3314.
• SERVICE DURING 2004

  Department
  ▶ Coordinator, Chemistry 325/326 Physical Chemistry Laboratory Program
  ▶ Member, Department Safety Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ CHEM 102.515-527 — Fundamentals of Chemistry II (total enrollment: 311)
  ▶ CHEM 325.503 — Physical Chemistry Laboratory I (total enrollment: 10)
  ▶ CHEM 326.501 — Physical Chemistry Laboratory II (total enrollment: 24)

  Summer
  ▶ CHEM 325.100 — Physical Chemistry Laboratory I (total enrollment: 9)

  Fall
  ▶ CHEM 101.487-498 — Fundamentals of Chemistry I (total enrollment: 284)
  ▶ CHEM 325.503 — Physical Chemistry Laboratory I (total enrollment: 23)
  ▶ CHEM 326.500 — Physical Chemistry Laboratory II (total enrollment: 8)
• CHAIRS
  ▶ W.T. Doherty-Welch Foundation Chair in Chemistry [1972]

• HONORS DURING 2004
  International
    ▶ Elected, European Academy of Sciences

• SERVICE DURING 2004
  International
    ▶ Gauss Professorship, Göttingen Academy of Sciences
  National
    ▶ Lecturer, Baxter, University of Northern Illinois
  University
    ▶ Honorary Professorship, Jilin University, PRC
  Interdisciplinary/Intercollegiate
    ▶ Lecturer, Gomberg, University of Michigan

• TEACHING ASSIGNMENTS DURING 2004
  Spring
    ▶ CHEM 491.507 — Research (total enrollment: 1)
    ▶ CHEM 691.607 — Research (total enrollment: 8)
  Summer
    ▶ CHEM 691.207 — Research (total enrollment: 1)
    ▶ CHEM 691.307 — Research (total enrollment: 7)
  Fall
    ▶ CHEM 633.600 — Principles of Inorganic Chemistry (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004
  ▶ NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, National Science Foundation
  ▶ Supramolecular Arrays Based on Dimetal Building Units, National Science Foundation
  ▶ Nanomagnets for Mobile Computing and Telecommunications, Telecommunications and Informatics Task Force
  ▶ Quantum Optics and Telecommunications, Telecommunications and Informatics Task Force
Di- and Polynuclear Compounds, *The Robert A. Welch Foundation*

**PRESENTATIONS DURING 2004**

- “The Use of Variable Temperature X-ray Crystallography to Determine Electronic Structure of Ru$_2$(hpp)$_4$X$_2$ Compound,” ACS Southwest Regional Meeting, Ft. Worth, TX, September, 2004. (Individual)

**PUBLICATIONS DURING 2004**

- Angaridis, P; Berry, JF; Cotton, FA; Lei, P; Lin, C; Murillo, CA; Villagran, D. (2004) Dicarboxylato-bridged diruthenium units in two different oxidation states: the first step towards the synthesis of Creutz-Taube analogs with dinuclear Ru$_2^{2+}$ species *Inorganic Chemistry Communications*, vol. 7, 9-13.
- Berry, JF; Cotton, FA; Fewox, CS; Lu, TB; Murillo, CA; Wang, XP. (2004) Extended metal atom chains (EMACs) of five chromium or cobalt atoms: Symmetrical or unsymmetrical? *Dalton Transactions* 2297-2302.
- Berry, JF; Cotton, FA; Lin, C; Murillo, CA. (2004) Exploring the Reactivity of Rh$_2$(Oac)$_4$ with 2,2'-Dipyridylamine *Journal of Cluster Science*, vol. 15, 531-541.
- Berry, JF; Cotton, FA; Lu, TB; Murillo, CA; Roberts, BK; Wang, XP. (2004) Molecular and electronic structures by design: Tuning symmetrical and unsymmetrical linear trichromium chains *Journal of the American Chemical Society*, vol. 126, 7082-7096.
- Berry, JF; Cotton, FA; Murillo, CA; Roberts, BK. (2004) An efficient synthesis of acetylide/trimetal/acetylide molecular wires *Inorganic Chemistry*, vol. 43, 2277-2283.
- Cotton, FA; Lei, P; Lin, C; Murillo, CA; Wang, XP; Yu, SY; Zhang, ZX. (2004) A calix[4]arene careplex with four Rh$_2^{4+}$ fasteners *Journal of the American Chemical Society*, vol. 126, 1518-1525.

Cotton, FA; Liu, CY; Murillo, CA; Villagrán, D; Wang, X. (2004) Strong Electronic Coupling between Dimolybdenum Units Linked by the N,N'-dimethlyoxamidate Anion in a Molecule Having a Heteronaphthalene-like structure *Journal of the American Chemical Society*, vol. **126**, 14822-14831.
• SERVICE DURING 2004

National
▷ Secretary, American Chemical Society Local Section

College
▷ Member, Undergraduate Curriculum Committee

Department
▷ Chair, Analytical/Physical Faculty Search Committee
▷ Chair, Analytical Chemistry Division
▷ Chair, Physical Chemistry Seminar Chair
▷ Member, Center for Integrated Microchemical Systems
▷ Member, Recruitment Committee for the Molecular Biophysics Program
▷ Member, Graduate Student Recruitment Committee and Admissions, Molecular Biophysics Training Grant
▷ Member, Graduate Student Recruitment Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 691.608 — Research (total enrollment: 7)

Summer
▷ CHEM 491.308 — Research (total enrollment: 1)
▷ CHEM 691.208 — Research (total enrollment: 1)
▷ CHEM 691.308 — Research (total enrollment: 5)

Fall
▷ CHEM 323.501 — Physical Chemistry (total enrollment: 34)
▷ CHEM 601. — Analytical Chemistry I (total enrollment: 16)

• RESEARCH PROJECTS DURING 2004

▷ Designing Lithographically Patterned Phospholipid Bilayer Arrays for Next-Generation Biosensors and Immunoassays, Army Research Office, coworkers: T. Yang (P), Y. Zhang (P), E. Castellana (G), M. Holden (G), J. Shi (G)
▷ Designing Combinatorial Microfluidic Networks for Protemics (Young Investigator Award), Beckman Foundation, coworkers: T. Xu (P), F. Albertorio (G), E. Castellana (G), M. Holden (G)
▷ Using Temperature Gradients to Study Polymer and Protein Solubility, Camille and Henry Dreyfus Foundation
Array-Based Nanopore Stochastic Sensors for Multiplexed Bioassays, *Defense Advanced Research Projects Agency*, coworkers: T. Xu (P), T. Yang (P), F. Albertorio (G), E. Castellana (G), M. Holden (G), K. Kinnibrugh (G), W. Liao (G), J. Shi (G)

Development of a Microfluidic Assay for Bacterial Chemotaxis, *Life Science Task Force*

The Structural Biology of Membranes: A Program Project Proposal, *Life Science Task Force*

Graduate Training in Molecular Biophysics, *National Institutes of Health*

Multivalent Ligand-Receptor Binding on Lipid Bilayers, *National Institutes of Health*, coworkers: T. Yang (P), F. Albertorio (G), E. Castellana (G), S. Lim (G), J. Shi (G)

The Behavior of Proteins at the Liquid-Solid Interface Monitored in situ with Infrared Visible Sum Frequency Generation: Investigating the Role of Interfacial Water, *National Science Foundation*, coworkers: S. Kataoka (P), F. Albertorio (G), M. Gurau (G), S. Lim (G)

The Structure and Dynamics of Phospholipids at the Biomembrane/Oxide Interface, *Research Corporation*

(REN) Investigating Water Structure at Charged Interfaces, *The Robert A. Welch Foundation*

Studies of Temperature Dependent Macromolecule Solubility in Water, *UNFUNDED*

### PRESENTATIONS DURING 2004

- “Combinatorial Microfluidics for Biochemical and Biophysical Studies,” Department of Chemistry, Purdue University, West Lafayette, IN, January, 2004. (Individual)
- “Combinatorial Microfluidics for Biochemical and Biophysical Studies,” Department of Chemistry, Oxford University, Oxford, UK, April, 2004. (Individual)
- “Protein-Membrane Binding on a Chip: Investigations of Protein and Water Structure at the Liquid/Solid Interface,” ELETTRA, Sincrotrone Trieste and Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste, Italy, April, 2004. (Individual)


“Biofouling Studies on a Chip,” Department of Bioengineering, Rice University, Houston, TX, September, 2004. (Individual)


“Biofouling Studies on a Chip,” Department of Chemistry, UIUC, Urbana, IL, December, 2004. (Graduate)

- PUBLICATIONS DURING 2004


Mao, HB; Li, CM; Zhang, YJ; Furyk, S; Cremer, PS; Bergbreiter, DE. (2004) High-throughput studies of the effects of polymer structure and solution components on the phase separation of thermoresponsive polymers Macromolecules, vol. 37, 1031-1036.
• SERVICE DURING 2004

National
▷ Editorial Advisory Board, *Analytical Chemistry*
▷ Senior Editor, *Langmuir*

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 602.600 — *Analytical Chemistry II* (total enrollment: 7)
▷ CHEM 691.609 — *Research* (total enrollment: 8)

Summer
▷ CHEM 491.309 — *Research* (total enrollment: 1)
▷ CHEM 691.309 — *Research* (total enrollment: 6)

• RESEARCH PROJECTS DURING 2004

▷ Diaster Relief and Emergency Medical Services (DREAMS): Texas A&M Digital EMS and the Detection and Remediation of Chemical Threat Agents, *Army Medical Research and Materiel Command*, coworkers: Y. Bae (P), D. Liu (P), L. Sun (P), R. Dhopeshwarkar (G), J. Heo (G), J. Kim (G)
▷ A Fundamental Study of Transport within a Single Nanoscopic Channel, *Department of Energy*
▷ From First Principles Design to Realization of Bimetallic Catalysts for Ultrahigh Selectivity, *Department of Energy*, coworkers: O. Wilson (G), H. Ye (G)
▷ Measurements of Mass Transport Rates Through Well-Defined Nanoscopic Tubes, *Department of Energy*, coworkers: T. Ito (P), S. Lee (P), L. Sun (P), R. Henriquez (G)
▷ Institute for Intelligent Bio-Nano Materials and Structures for Aerospace Vehicles, *National Aeronautics and Space Administration*
▷ Institute for Intelligent Bio-Nano Materials for Aerospace Vehicles, *National Aeronautics and Space Administration*, coworkers: H. Lin (P), M. Malta dos Santos (P)
▷ Acquisition of a Field Emission Scanning Electron Microscope, *National Science Foundation*
▷ Dendrimer-Encapsulated Metal Nanoparticles, *National Science Foundation*, coworkers: R. Scott (P), Y. Kim (G), R. Lezutekong (G)
▷ A Fundamental Study of Size-Selective Catalysis, *The Robert A. Welch Foundation*, coworkers: J. Garcia (P)
▷ Intradendrimer Chemical Reactions, *The Robert A. Welch Foundation*
• PRESENTATIONS DURING 2004
  ▶ “ECL-Based Diagnostics: Commercial Success and Prospects for the Future,” American Chemical Society ProSpectives Conference on Emerging Opportunities in Chemical and Biosensing, Santa Fe, NM, May, 2004. (Individual)

• PUBLICATIONS DURING 2004
> Liu, DJ; Perdue, RK; Sun, L; Crooks, RM. (2004) Immobilization of DNA onto poly(dimethylsiloxane) surfaces and application to a microelectrochemical enzyme-amplified DNA hybridization assay *Langmuir*, vol. 20, 5905-5910.


• SERVICE DURING 2004

International
▷ Member, International Scientific Committee for the International Conference on Carbon Dioxide Utilization

National
▷ Discussion Leader, Organometallic Gordon Research Conference, Salve Regina University, Newport, RI
▷ Editorial Advisory Board, Advances in Inorganic Chemistry
▷ Member, NSF Workshop Proposal "Constructing a Kinetics Database" Gaithersburg, Virginia

College
▷ Member, Promotion and Tenure Committee

Department
▷ Chair, Department X-Ray Committee
▷ Member, Undergraduate Awards Committee
▷ Member, Graduate Admission and Review Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 636.600 — Mechanistic Inorganic Chemistry (total enrollment: 8)
▷ CHEM 691.610 — Research (total enrollment: 6)

Summer
▷ CHEM 491.310 — Research (total enrollment: 1)
▷ CHEM 691.210 — Research (total enrollment: 2)
▷ CHEM 691.310 — Research (total enrollment: 6)

Fall
▷ CHEM 103.500 — Structure and Bonding (total enrollment: 16)
▷ CHEM 113.501-502 — Physical and Chemical Principles (total enrollment: 16)
▷ CHEM 491.510 — Research (total enrollment: 1)
▷ CHEM 691.610 — Research (total enrollment: 7)
• RESEARCH PROJECTS DURING 2004
  ▶ Mechanistic Studies Employing in situ Infrared Spectroscopy of Reactions Pertinent to Metal-Catalyzed Carbon Dioxide/Epoxide, National Science Foundation, coworkers: J. Andreatta (G), D. Billodeaux (G), W. Choi (G), C. Fang (G), S. Fitch (G), E. Frantz (G), P. Ganguly (G), R. Mackiewicz (G), A. Phelps (G), J. Rodgers (G)
  ▶ Mixed Metal Cyanide Derivatives and Their Role in Catalysis, The Robert A. Welch Foundation, coworkers: J. Andreatta (G), D. Billodeaux (G), W. Choi (G), C. Fang (G), S. Fitch (G), E. Frantz (G), P. Ganguly (G), R. Mackiewicz (G), A. Phelps (G), J. Rodgers (G)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
Darensbourg, DJ; Fang, CC; Rodgers, JL. (2004) Catalytic Coupling of Carbon Dioxide and 2,3-epoxy-1,2,3,4-tetrahydronaphthalene in the Presence of a (Salen)CrIIICl Derivative Organometallics, vol. 23, 924-927.


• SERVICE DURING 2004

National
▷ Editorial Advisory Board, Chemical Communications
▷ Member, National Science Foundation, Chemistry Division’s Chemical Bonding Center
▷ Member, Inorganic Synthesis Corporation

University
▷ Member, Library Committee

Department
▷ Chair, External Review Self-Study Committee
▷ Chair, Inorganic Division
▷ Member, Faculty Advisory Awards
▷ Member, Advisory Council
▷ Member, X-Ray Diffraction User Group
▷ Member, NMR User Group
▷ Member, ESR User Group

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 433.502 — Advanced Inorganic Chemistry Laboratory (total enrollment: 14)
▷ CHEM 691.611 — Research (total enrollment: 8)

Summer
▷ CHEM 491.311 — Research (total enrollment: 1)
▷ CHEM 691.311 — Research (total enrollment: 6)

Fall
▷ CHEM 642.600 — Organometallic Chemistry and Homogeneous Catalysis (total enrollment: 31)
▷ CHEM 691.611 — Research (total enrollment: 9)

• RESEARCH PROJECTS DURING 2004
▷ Natural Organometallic Catalytic Sites: H2-Activating Metalloenzymes, National Science Foundation, coworkers: J. Lee (P), E. Almaraz (G), C. Chiang (G), S. Fitch (G), K. Green (G), S. Jeffery (G), R. Jenkins (G), M. Rampersad (G), J. Tye (G), H. Wang (G)
• PRESENTATIONS DURING 2004


▷ “N₂S₂ Nickel Complexes as Metallothiolate Ligands: From Enzyme Active Sites to New Molecular Clusters to SO₂ Visual Sensor,” 15th Summer School on Coordination Chemistry, Wroclaw, Poland, June, 2004. (Invited)


▷ “Development of Metal Dithiolate Complexes as Bidentate Ligands for Organometallic Chemistry,” XXXVIth International Conference on Coordination Chemistry, Mérida, Mexico, July, 2004. (Poster Graduate)


▷ “Asymmetric Models of the Active Site of [FeFe]H₂ase and Electrocatalysis: As Good as Platinum or as Good as it Gets?,” 7th International Hydrogenase Conference, University of Reading, Reading, UK, August, 2004. (Invited)


▷ “Synergy Between Theory and Experiment as Applied to Models of the Active Site of [Fe]H₂ase,” The University of Reading, Reading, UK, August, 2004. (Poster Graduate)

▷ “Metal Dithiolate Complexes as Bidentate Ligands for Organometallic Chemistry: Bioinspired Catalysts,” Queen’s University, Kingston, Ontario, November, 2004. (Invited)

• PUBLICATIONS DURING 2004

▷ Chiang, CY; Miller, ML; Darensbourg, MY. (2004) Bismercaptoehanediazacyclooctane as a N$_2$S$_2$ Chelating Agent and Cys-X-Cys Mimic for Fe(NO) and Fe(NO)$_2$ Journal of the American Chemical Society, vol. 126, 10867-10874.

▷ Golden, ML; Jeffery, SP; Miller, ML; Reibenspies, JH; Darensbourg, MY. (2004) The construction of (N$_2$S$_2$)Ni-Pd clusters: A slant-chair, a basket and a C-4-paddlewheel structure European Journal of Inorganic Chemistry 231-236.


- **HONORS DURING 2004**
  - National
    - Inaugural Distinguished Women in Science Lecturer, Department of Chemistry, Stanford University

- **SERVICE DURING 2004**
  - University
    - Chair, Life Sciences Task Force
    - Member, Texas A&M University, Life Sciences Building Committee
    - Member, Executive Committee, TAMU Molecular Biophysics Training Program and Chemistry/Biology Interface Program
  - Department
    - Chair, Undergraduate Chemistry Curriculum Committee
    - Member, Biological Chemistry Faculty Search Committee
    - Member, Department NMR User Group
    - Member, Department EPR User Group

- **TEACHING ASSIGNMENTS DURING 2004**
  - Spring
    - CHEM 602.600 — Analytical Chemistry II (total enrollment: 15)
    - CHEM 691.612 — Research (total enrollment: 6)
  - Summer
    - CHEM 491.312 — Research (total enrollment: 1)
    - CHEM 691.212 — Research (total enrollment: 1)
    - CHEM 691.312 — Research (total enrollment: 8)

- **RESEARCH PROJECTS DURING 2004**
  - Directed Evolution of Novel Enzymatic Activities, *Life Science Task Force*
  - Graduate Training in Molecular Biophysics, *National Institutes of Health*
  - Metal Sites and Dynamics in Large RNA Molecules, *National Institutes of Health*, coworkers: A. Buckelew (G), S. Burns (G), N. Kim (G), S. Tate (G), C. Zalma (G), N. Harbison (U), R. Martin (U)
  - Metal Sites in Ribozymes, *National Science Foundation*, coworkers: M. Ayaluru (P), J. Schaak (P), E. Osborne (G), M. Vogt (G)
  - (REN) Metal-Peptide Complexes as Models for Protein Active Sites, *The Robert A. Welch Foundation*
• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
  ▶ Kim, NK; Murali, A; DeRose, VJ. (2004) A distance ruler for RNA using EPR and site-directed spin labeling Chemistry and Biology, vol. 11, 939-948.
• CHAIRS
  ▶ Davidson Chair in Science [2004]

• HONORS DURING 2004

  National
  ▶ Elected Fellow, American Association for the Advancement of Science

  University
  ▶ Department of Chemistry Distinguished Alumnae Award, Purdue University

• SERVICE DURING 2004

  National
  ▶ Advisory Board, Crystal Engineering
  ▶ Advisory Board, Journal of the Chemical Society Dalton Transactions
  ▶ Associate Editor, Inorganic Chemistry
  ▶ Editorial Board, European Journal of Inorganic Chemistry
  ▶ Expert Analyst, CHEMTRACTS
  ▶ Fellow, American Institute of Chemists
  ▶ Fellow, American Association for the Advancement of Science
  ▶ Member, New York Academy of Science
  ▶ Member, Gordon Research Conference Council
  ▶ Member, Kappa Mu Epsilon National Mathematics Honor Society
  ▶ Member, Sigma Xi
  ▶ Member, Phi Lambda Upsilon
  ▶ Member, Pi Sigma Pi National Scholastic Honorary
  ▶ Member, American Chemical Society, Inorganic Division Secretary

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ CHEM 634.600 — Physical Methods in Inorganic Chemistry (total enrollment: 7)
  ▶ CHEM 691.613 — Research (total enrollment: 8)

  Summer
  ▶ CHEM 691.213 — Research (total enrollment: 1)
  ▶ CHEM 691.313 — Research (total enrollment: 5)
• RESEARCH PROJECTS DURING 2004
  ▶ Design Principles for Nanomagnets Based on Molecules: The Role of Spin and Orbital Anisotropy in the Magnetic Properties, Department of Energy, coworkers: H. Zhao (Research Associate), J. Basca (P), A. Chouai (P), M. Shatruk (P), M. Bazile, Jr. (G), N. Lopez (G), E. Reinheimer (G), B. Schottel (G)
  ▶ Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, National Science Foundation
  ▶ Molecules, Large Clusters and Extended Arrays with Metal-Ligand Open-shell Units: Syntheses, Magneto-Structural Correlations and Applications to Materials Design, National Science Foundation
  ▶ NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, National Science Foundation, coworkers: H. Zhao (Research Associate), J. Basca (P), A. Prosvirin (P), M. Shatruk (P), C. Avendano (G), C. Berlinguette (G), K. Chambers (G), F. Karadas (G), E. Shelter (G)
  ▶ Nanomagnets for Mobile Computing and Telecommunications, Telecommunications and Informatics Task Force
  ▶ Nanomagnets Based on Molecules: Investigation of the Effect of Magnetic Anisotropy on the Properties of Large Moment Molecules, The Robert A. Welch Foundation, coworkers: H. Chifotides (P), A. Chouai (P), J. Aguirre (G), A. Angeles-Boza (G), M. Hilfiger (G), M. Kang (G)
  ▶ A New Strategy for Single-Molecule Magnets with High Blocking Temperatures: Synthesis, Magnetic Characterization and Theoretical Modeling of Cyanide Clusters Containing Highly Anistropic Metal Ions, U.S. Civilian Research and Development Foundation, coworkers: J. Bacsa (P), A. Prosvirin (P), M. Shatruk (P), C. Avendano (G), C. Berlinguette (G), K. Chambers (G), F. Karadas (G), E. Schelter (G)

• PRESENTATIONS DURING 2004
  ▶ “Nanomagnetic Molecular Materials Based on a Building Block Approach,” Southern Methodist University, Dallas, TX, February, 2004.( Individual)
  ▶ “Building Block Approaches to Nanomagnetic Materials,” North Carolina State University, Raleigh, NC, May, 2004.( Individual)
  ▶ “Building Block Approaches to Molecular Nanomagnets,” 36th International Conference on Coordination Chemistry, Merida, Mexico, July, 2004.( Individual)
  ▶ “Building Block Approaches to Molecular Nanomagnets,” Colloquium talk presented at Purdue University, West Lafayette, IN, October, 2004.( Individual)
  ▶ “Building Block Approaches to Molecular Nanomagnets,” Michigan State University, East Lansing, MI, November, 2004.( Individual)
PUBLICATIONS DURING 2004


- Berlinguette, CP; Dragulescu-Andrasi, A; Sieber, A; Galán-Mascarós, JR; Gudel, HU; Achim, C; Dunbar, KR. (2004) A Charge-Transfer-Induced Spin Transition in the Discrete Cyanide-Bridged Complex \{[Co(tmphen)_2]_3[Fe(CN)_6]_2\} Journal of the American Chemical Society, vol. 126, 6222-6223.


- Conan, F; Le Gall, B; Kerbaol, JM; Le Stang, S; Sala-Pala, J; Le Mest, Y; Bacs, J; Ouyang, X; Dunbar, KR; Campana, CF. (2004) Electrochemical, Spectroscopic, and Structural Evidence for the Mild Hydrolysis of Tetracyanoethylene, TCNE, to Form the 2,3,3-Tricyanoacrylamidate Ligand: Isolation of an Unexpected Quadruply-Bonded Polymeric Material [Mo_2(O_2CCMe_3)_3((NC)CC(CN)CONH)]\infty Inorganic Chemistry, vol. 43, 3673-3681.


- Galán-Mascarós, JR; Thetiot, F; Triki, S; Sala Pala, J; Le Mest, Y; Bacs, J; Ouyang, X; Dunbar, KR; Campana, CF. (2004) A two-dimensional magnetic architecture with bridging polynitrile and 2,2'-bipyrimidine ligands Journal de Physique IV, vol. 114, 625-626.


- Kong, D; Li, Y; Duyang, X; Prosveirin, AV; Zhao, H; Ross, JH; Dunbar, KR; Clearfield, A. (2004) Syntheses, Structure, and Magnetic Properties of New Types of Cu(II), Co(II), and Mn(II) Organophosphonate Materials: Three-Dimensional Frameworks and a One-Dimensional Chain Motif Chemistry of Materials, vol. 16, 3020-3031.

▶ Meenakshi, V; Teizer, W; Naugle, DG; Zhao, H; Dunbar, KR. (2004) Films of Mn\textsubscript{12}-acetate by pulsed laser evaporation *Solid State Communications*, vol. 132, 471-476.

▶ Palii, AV; Ostrovsky, SM; Klokishner, SI; Tsukerblat, BS; Berlinguette, CP; Dunbar, KR; Galán-Mascarós, JR. (2004) Role of the Orbitally Degenerate Mn(III) Ions in the Single-Molecule Magnet Behavior of the Cyanide Cluster \{[\text{Mn}^{\text{II}}(\text{tmpphen})_2][\text{Mn}^{\text{III}}(\text{CN})_6]_2\} (\text{tmpphen} = 3,4,7,8-tetramethyl-1,10-phenanthroline) *Journal of the American Chemical Society*, vol. 126, 16860-16867.

▶ Schelter, EJ; Prosvirin, AV; Reiff, WM; Dunbar, KR. (2004) Unusually Magnetic Metal-Cyanide Cubes of Re\textsuperscript{II} with Alternating Octahedral and Tetrahedral Corners *Angewandte Chemie International Edition*, vol. 43, 4912-4915.

▶ Zhao, H; Bacsa, J; Dunbar, KR. (2004) Tetrakis(2,2'-bipyridine)tetrakis(µ\textsubscript{3}-hydroxo-di-µ\textsubscript{3}-tri-fluoroacetato-tetracobalt(II)) diiodide diacetonitrile monohydrate: a compound containing a tetraneuclear ‘cubane’-type cobalt(II) core *Acta Crystallographica Section E Structure Reports Online*, vol. 60, m637-m640.
John P. Fackler, Jr.

Distinguished Professor

Chemistry

Inorganic Chemistry

fackler@mail.chem.tamu.edu

\begin{itemize}
  \item **SERVICE DURING 2004**
  \begin{itemize}
    \item National
      \begin{itemize}
        \item Career Counselor, American Chemical Society
        \item Chair, American Association of Advanced Science, Chemistry Division
        \item Editor, *Profiles in Inorganic Chemistry*
        \item Editor, *Comments on Inorganic Chemistry*
        \item Member, Canvassing Committee ACS Cotton Award in Inorganic Syntheses
        \item Member, Advisory Committee Chemistry Department, Valparaiso University
        \item Member, Editorial Advisory Board, *Journal of Cluster Science*
        \item Member, Inorganic Synthesis Corporation
      \end{itemize}
    \item University
      \begin{itemize}
        \item Member, TAMU Chapter Sigma Xi, Planning and Executive Committees
        \item Member, Executive Committee Distinguished Professors
        \item Member, Advisory Board, Center for Teaching Excellence
        \item Member, Faculty Senate Executive Committee and Senate Research Committee
        \item Member, Scholarship of Assessment Think Tank
      \end{itemize}
    \item College
      \begin{itemize}
        \item Member, ITS National Advisory Committee
        \item Member, International Advisory Board PEER, College of Veterinary Medicine
      \end{itemize}
    \item Department
      \begin{itemize}
        \item Chair, Quality Enhancement Program Council
        \item Member, Awards Committee
        \item Member, IUCCP Board
      \end{itemize}
    \item Interdisciplinary/Intercollegiate
      \begin{itemize}
        \item Member, Executive Committee, Faculty of Materials Science
      \end{itemize}
  \end{itemize}
  \item **TEACHING ASSIGNMENTS DURING 2004**
  \begin{itemize}
    \item Spring
      \begin{itemize}
        \item CHEM 481.500 — Seminar (total enrollment: 21)
        \item CHEM 691.614 — Research (total enrollment: 1)
      \end{itemize}
    \item Summer
      \begin{itemize}
        \item CHEM 691.114 — Research (total enrollment: 1)
      \end{itemize}
  \end{itemize}
\end{itemize}
Fall

▷ CHEM 673.600 — Symmetry and Group Theory in Chemistry (total enrollment: 17)

• RESEARCH PROJECTS DURING 2004

▷ Complexes of Group 11 Elements, Especially Gold-Electronic and Molecular Structures and Reactivities, The Robert A. Welch Foundation, coworkers: J. Lopez (Visiting Scientist), A. Mohamed (P), H. Abdou (G), M. Irwin (G)

▷ (REN) Complexes of Group 11 Elements, Especially Gold-Electronic and Molecular Structures and Reactivities, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004

▷ “Ethics in Science,” Texas A&M University, College of Veterinary Medicine, College Station, TX, February, 2004. (Individual)

▷ “Gold - An Element we all love - Why I love it more than you do,” Rotary Club of College Station, College Station, TX, March, 2004. (Individual)

▷ “Gold, an Element we all know about but with a chemistry that is new,” Oak Ridge National Laboratory, Oak Ridge, April, 2004. (Individual)

▷ “How Mass Spectroscopy... helped destroy two myths and opened the possibility of another,” Oak Ridge Mass Spectroscopy Group, Oak Ridge, April, 2004. (Individual)

▷ “Gold an Old Element we all know about but with a Chemistry that is new,” University of Camerino, Camerino, Italy, May, 2004. (Individual)

▷ “Gold an Old Element we all know about but with a New Chemistry,” University of Texas, Austin, TX, June, 2004. (Individual)


▷ “Gold, An Old Element with a New Chemistry,” University of North Texas, Denton, TX, October, 2004. (Individual)

• PUBLICATIONS DURING 2004


Fernandez, EJ; Lopez-De-Luzuriaga, JM; Monge, M; Montiel, M; Olmos, ME; Perez, J; Laguna, A; Mendizabal, F; Mohamed, AA; Fackler, JP. (2004) A detailed study of the vapochromic behavior of \{[Au(C\textsubscript{6}Cl\textsubscript{5})\textsubscript{2}]\}_n Inorganic Chemistry, vol. 43, 3573-3581.


Liu, CW; Irwin, MD; Mohamed, AA; Fackler, Jr, JP. (2004) Cluster Self-Assembly of Centered Cubes of Copper(I) with Dialkyldithiophosphate Ligands. X-Ray Structures of [Cu\textsubscript{8}(DDP)\textsubscript{6}(8-X)]PF\textsubscript{6}(DDP=S\textsubscript{2}P(OiPr)\textsubscript{2}; X=Cl or Br) and their Relationship to Oxide and Sulfide Centered Zinc(II) Dialkyldithiophosphates [Zn\textsubscript{4}(DDP)\textsubscript{6}(8-S or O)] Inorganica Chimica Acta, vol. 357, 3950-3956.


Reger, DL; Little, CA; Lamba, JJS; Brown, KJ; Krumper, JR; Bergman, RG; Irwin, M; Fackler, Jr, JP. (2004) Main group compounds. Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate, Na[B(3,5-(CF\textsubscript{3})2C\textsubscript{6}H\textsubscript{3})4] Inorganic Syntheses, vol. 34, 5-8.

Yan, Z; Chinta, S; Mohamed, AA; Fackler, Jr, JP; Goodman, DW. (2004) The Role of F-centers in Catalysis by Au Supported on MgO Journal of the American Chemical Society.
• SERVICE DURING 2004

National
▷ Executive Editor, Archives of Biochemistry and Biophysics
▷ Member, NIH Physical Biochemistry Study Section, ad hoc

State
▷ Review Panel, Oklahoma Center for the Advancement of Science and Technology

Department
▷ Chair, Protein Chemistry Lab Users’ Group

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ BICH 609. — Preparation of a Research (total enrollment: 8)
▷ BICH 691. — Research (total enrollment: 3)
▷ CHEM 691.615 — Research (total enrollment: 1)

Summer
▷ BICH 691. — Research (total enrollment: 4)
▷ CHEM 691.315 — Research (total enrollment: 2)

Fall
▷ BICH 440. — General Biochemistry (total enrollment: 70)
▷ BICH 691. — Research (total enrollment: 4)
▷ CHEM 691. — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

▷ Directed Evolution of Novel Enzymatic Activities, Life Science Task Force
▷ Enzymes of Neurotransmitter Biosynthesis, National Institutes of Health
▷ Graduate Training in Molecular Biophysics, National Institutes of Health
▷ Mechanisms of Flavoproteins, National Institutes of Health
▷ Mechanisms of Oxidative Enzymes, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004

• Publications during 2004
• SERVICE DURING 2004
  Department
  ▶ Chair, Undergraduate Curriculum Committee
  ▶ Chairman, X-Ray Powder Users Committee
  ▶ Editorial Board, *Heteroatom Chemistry*
  ▶ Elected Member, Department of Chemistry Advisory Council
  ▶ Member, Service courses overseeing the review committee
  ▶ Member, Colloquium and Seminar Committee
  ▶ Member, Laboratory For Molecular Simulation Users Committee
  ▶ Member, NMR Users Committee
  ▶ Member, X-Ray Single Crystal Users Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEM 691.616 — Research (total enrollment: 6)

  Summer
  ▶ CHEM 491.316 — Research (total enrollment: 2)
  ▶ CHEM 691.216 — Research (total enrollment: 2)
  ▶ CHEM 691.316 — Research (total enrollment: 4)

  Fall
  ▶ CHEM 101.203-204(H) — Fundamentals of Chemistry I (total enrollment: 27)
  ▶ CHEM 681.603 — Seminar (total enrollment: 24)

• RESEARCH PROJECTS DURING 2004
  ▶ Heavy Atom-Induced Phosphorescence of Organic Materials for OLED Applications, *Advanced Research Program/Advanced Technology Program*, coworkers: C. Burress (G), T. Taylor (G)
  ▶ Disaster Relief and Emergency Medical Services (DREAMS): Texas A&M Digital EMS and the Detection and Remediation of Chemical Threat Agents, *Army Medical Research and Materiel Command*, coworkers: M. Kim (P), A. Picot (G)
  ▶ Polydentate Lewis Acids for Anion Recognition and Organic Reaction Catalysis, *National Science Foundation*, coworkers: A. Picot (G), H. Wang (G)
  ▶ Purchase of a Solid State 400 MHZ NMR Spectrometer, *National Science Foundation*
  ▶ Supramolecular Chemistry of Trimeric ortho-tetrafluoro-phenylene Mercury with Arenes and Related Other Unsaturated Substrates, *Petroleum Research Fund*, coworkers: C. Chiu (G), M. Haneline (G), T. Taylor (G)
Understanding Alkyl Exchange Processes in Mixtures Containing ATE, a Fluorinated Boron Activator and A Zirconocene Pre-Catalyst, Sasol North America, coworkers: G. Mani (P), M. Qian (P)

Boron-boron One-Electron Sigma-Bonds, The Robert A. Welch Foundation, coworkers: M. Melaimi (P), S. Solé (P), H. Wang (G)

**PRESENTATIONS DURING 2004**

- “Cooperative effects in polypotentate Lewis acids,” Department of Chemistry, University of Iowa, Iowa City, IA, January, 2004. (Individual)
- “Cooperative effects in the chemistry of polyfunctional Lewis acids,” Department of Chemistry, Rutgers University, Newark, NJ, February, 2004. (Individual)
- “Rooms temperature phosphorescent supramolecules containing \([\text{OC}_6\text{F}_4\text{Hg}]_3\) and arenes,” Symposium on Optoelectronic Properties of Transition Metal Complexes in Honor of Professor John Fackler, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, September, 2004. (Individual)
- “Polyfunctional Lewis Acid Molecules,” Department of Chemistry, Texas A&M University, College Station, TX, October, 2004. (Individual)

**PUBLICATIONS DURING 2004**

- Haneline, MR; Gabbaï, FP. (2004) Polymorphism of Trimeric Perfluoro-ortho-phenylene Mercury \([\text{Hg(OC}_6\text{F}_4])_3\) *Zeitschrift fur Naturforschung B: Journal of Chemical Sciences*, vol. 59, 1483-1487.
- Haneline, MR; Gabbaï, FP. (2004) Electrophilic double-sandwiches formed by interaction of \(\text{Cp}_2\text{Fe}\) and \(\text{Cp}_2\text{Ni}\) with the tridentate Lewis acid \([\text{OC}_6\text{F}_4\text{Hg}]_3\) *Angewandte Chemie International Edition*, vol. 43, 5471-5474.
- Hoefelmeyer, JD; Solè, S; Gabbaï, FP. (2004) Reactivity of the dimesityl-1,8- naphthalediylborate anion - Isolation of the borataalkene isomer and synthesis of 1,8-diborylnaphthalenes *Dalton Transactions* 1254-1258.
- Kim, M; Liu, Q; Gabbaï, FP. (2004) Use of an organometallic palladium oxazoline catalyst for the hydrolysis of methylparathion *Organometallics*, vol. 23, 5560-5564.
- Mani, G; Gabbaï, FP. (2004) \([\text{CpCr(C}_6\text{F}_5)(\text{Me})(\text{Py})]\) as a living chromium(III) catalyst for the “Aufbaureaktion” *Organometallics*, vol. 23, 4608-4613.
- Solé, S; Gabbaï, FP. (2004) A bidentate borane as colorimetric fluoride ion sensor *Chemical Communications* 1284-1285.

Wang, HD; Webster, CE; Perez, LM; Hall, MB; Gabbaï, FP. (2004) Reaction of the 1,8-bis(diphenylmethylium)naphthalenediyl dication with fluoride: Formation of a cation containing a C-F → C bridge *Journal of the American Chemical Society*, vol. 126, 8189-8196.
• HONORS DURING 2004
  National
    ▶ Camille and Henry Dreyfus New Faculty Award, Camille and Henry Dreyfus Foundation

• RESEARCH PROJECTS DURING 2004
  ▶ New Faculty Award, Camille and Henry Dreyfus Foundation

No report received from faculty member.
• CHAIRS
  ▶ Robert A. Welch Foundation Chair in Chemistry [1994]

• HONORS DURING 2004
  National
  ▶ Gabor A. Somorjai Award for Creative Research in Catalysis, Gabor A. and Judkith K. Somorjai Endowment Fund

• SERVICE DURING 2004
  Department
  ▶ Member, IUCCP Advisory Board
  ▶ Member, XPS User Group
  ▶ Member, Electronics and Machine Shop User Group
  ▶ Member, Awards Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEM 691.617 — Research (total enrollment: 10)
  Summer
  ▶ CHEM 691.217 — Research (total enrollment: 1)
  ▶ CHEM 691.317 — Research (total enrollment: 9)
  Fall
  ▶ CHEM 623.600 — Surface Chemistry (total enrollment: 17)
  ▶ CHEM 691.617 — Research (total enrollment: 8)

• RESEARCH PROJECTS DURING 2004
  ▶ Catalysis by In Situ-Generated Oxidants: A Surface Science Study of the Nature of the Active Species and the Structure of the Relevant Surface Sites, Civilian Research & Development Foundation (CRDF)
  ▶ Catalysis by IN-SITU Generated Oxidants, Surface Science Study of the Nature of Active Species and the Structure of, Civilian Research & Development Foundation (CRDF)
  ▶ Toward an Understanding of Catalysis by Supported Metal Nanoclusters, Department of Energy
  ▶ The Physical and Chemical Properties of Nanosized Metal Clusters on Oxide Surfaces, National Science Foundation
  ▶ CO-Free Hydrogen for Fuel Cells via Stepwise Reforming of Hydrocarbons, Texas Advanced Technology Program
• PUBLICATIONS DURING 2004


▷ Han, YF; Kumar, D; Sivadinarayana, C; Goodman, DW. (2004) Kinetics of ethylene combustion in the synthesis of vinyl acetate over a Pd/SiO2 catalyst Journal of Catalysis, vol. 224, 60-68.


No report received from faculty member.
• HONORS DURING 2004

National
▷ Outstanding Panhellenic Professor Award, Collegiate Panhellenic Council

University
▷ Award of Excellence-Outstanding Service and Dedication to Students with Disabilities, Texas A&M University

• SERVICE DURING 2004

College
▷ Member, Regional Engineering and Science Fair Committee
▷ Organizer, “Hands on Experience in Chemistry” in National Chemistry Week

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 228.502 — Organic Chemistry II (total enrollment: 100)
▷ CHEM 228.504 — Organic Chemistry II (total enrollment: 102)
▷ CHEM 228.506 — Organic Chemistry II (total enrollment: 100)

Summer
▷ CHEM 222.300 — Elements of Organic and Biological Chemistry (total enrollment: 96)
▷ CHEM 228.301 — Organic Chemistry II (total enrollment: 129)
▷ CHEM 238.201-203 — Organic Chemistry Laboratory (total enrollment: 41)

Fall
▷ CHEM 227.502 — Organic Chemistry I (total enrollment: 100)
▷ CHEM 227.504 — Organic Chemistry I (total enrollment: 100)
▷ CHEM 227.505 — Organic Chemistry I (total enrollment: 102)
• CHAIRS
  ▶ Davidson Chair in Science [2004]

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Executive Associate Dean, College of Science, [2002]
  ▶ Associate Director, Institute for Scientific Computation, [1997]
  ▶ Director, Laboratory for Molecular Simulation, [1997]

• SERVICE DURING 2004

  University
  ▶ Member, Telecommunications and Informatics Task Force
  ▶ Member, Supercomputer Steering Committee
  ▶ Member, University Research Council

  College
  ▶ Chair, Research Advisory Committee
  ▶ Chair, Quality Enhancement Plan Council
  ▶ Chair, Information Technology Committee
  ▶ Chair, Qatar Advisory Committee
  ▶ Member, Executive Committee

  Department
  ▶ Chair, Computer User Group

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ CHEM 641.600 — Structural Inorganic Chemistry (total enrollment: 11)
  ▶ CHEM 691.618 — Research (total enrollment: 2)

  Summer
  ▶ CHEM 691.118 — Research (total enrollment: 1)
  ▶ CHEM 691.218 — Research (total enrollment: 1)
  ▶ CHEM 691.318 — Research (total enrollment: 1)

  Fall
  ▶ CHEM 691.618 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  ▶ Graduate Training in Molecular Biophysics, National Institutes of Health
Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*

Theoretical Studies of Inorganic and Organometallic Systems, *National Science Foundation*, coworkers: L. Perez (Assistant Research Scientist), Y. Fan (P), C. Webster (P), S. Zaric (P), A. Pardo (G), B. Vastine (G), J. Manson (U)

Molecular Orbital Calculations on Chemical Reactions of Transition Metals, *The Robert A. Welch Foundation*, coworkers: C. Beddie (G), P. Surawatanawong (G), J. Tye (G)

### PRESENTATIONS DURING 2004

- “Separating Electronic, Steric, and Packing Interactions in Crystallographic Structures by Density Functional Theory,” 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, September, 2004. (Invited)
“Theoretical Studies on Dioxomolybdenum (VI) Complexes for Oxygen Atom Transfer (OAT),” Physical Chemistry 2004 (7th International Conference), Belgrade, Serbia, September, 2004. (Invited)

“Modelling Metalloenzymes,” Indiana University, Bloomington, IN, October, 2004. (Invited)

“Modelling Metalloenzymes,” University of Michigan, Ann Arbor, MI, October, 2004. (Invited)


• PUBLICATIONS DURING 2004

Adams, RD; Captain, B; Fu, W; Hall, MB; Manson, J; Smith, MD; Webster, CE. (2004) Bimetallic Cluster Complexes: The Synthesis, Structures and Bonding of Ruthenium Carbonyl Cluster Complexes Containing Palladium and Platinum with the Bulky Tri-tert-butyl-phosphine Ligand Inorganic Chemistry, vol. 43, 5253-5267.

Adams, RD; Captain, B; Fu, W; Hall, MB; Smith, MD; Webster, CE. (2004) Dinuclear ruthenium and iron complexes containing palladium and platinum with tri-tert-butylphosphine ligands: Synthesis, structures, and bonding Inorganic Chemistry, vol. 43, 3921-3929.

Adams, RD; Captain, B; Smith, Jr, JL; Hall, MB; Beddie, CL; Webster CE. (2004) Super-loading of Tin Ligands into Rhodium and Iridium Carbonyl Cluster Complexes Inorganic Chemistry, vol. 43, 7576-7578.

Adams, RD; Miao, S; Smith, MD; Farach, H; Webster, CE; Manson, J; Hall, MB. (2004) Nickel-manganese sulfido carbonyl cluster complexes. Synthesis, structure, and properties of the unusual paramagnetic complexes Cp2Ni2Mn(CO)3(µ3-E)2, E = S, Se Inorganic Chemistry, vol. 43, 2515-2525.


Wang, HD; Webster, CE; Perez, LM; Hall, MB; Gabbai, FP. (2004) Reaction of the 1,8- bis(diphenylmethylium)naphthalenediyl dication with fluoride: Formation of a cation containing a C-F→C bridge Journal of the American Chemical Society, vol. 126, 8189-8196.


Zampella, G; Kravitz, JY; Webster, CE; Fantucci, P; Hall, MB; Carlson, HA; Pecoraro, VL; De Gioia, L. (2004) Quantum mechanical models of the resting state of the vanadium-dependent haloperoxidase Inorganic Chemistry, vol. 43, 4127-4136.
• SERVICE DURING 2004

National
▷ Faculty Officer, Phi Kappa Phi Honor Society
▷ Treasurer, Phi Kappa Phi Honor Society

University
▷ Member, Faculty Senate
▷ Member, Faculty Senate Executive Committee

College
▷ Member, Caucus of College of Science Faculty Senators

Department
▷ Alternate Member, Advisory Committee
▷ Coordinator, Organic Teaching Laboratories
▷ Member, Departmental M.S. Chemical Education Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 227.504 — Organic Chemistry I (total enrollment: 72)
▷ CHEM 237.502 — Organic Chemistry Laboratory (total enrollment: 24)
▷ CHEM 238.529 — Organic Chemistry Laboratory (total enrollment: 24)
▷ CHEM 242.501 — Elementary Organic Chemistry Laboratory (total enrollment: 19)
▷ CHEM 697.603 — Methods in Teaching Chemistry Laboratory (total enrollment: 13)

Summer
▷ CHEM 227.300 — Organic Chemistry I (total enrollment: 64)
▷ CHEM 237.201-202 — Organic Chemistry Laboratory (total enrollment: 37)
▷ CHEM 242.200 — Elementary Organic Chemistry Laboratory (total enrollment: 15)

Fall
▷ CHEM 231.501-502 — Techniques of Organic Chemistry (total enrollment: 42)
▷ CHEM 697.603 — Methods in Teaching Chemistry Laboratory (total enrollment: 19)
• PUBLICATIONS DURING 2004
TEACHING ASSIGNMENTS DURING 2004

Spring
- CHEM 227.503 — Organic Chemistry I (total enrollment: 75)

Fall
- CHEM 227.513 — Organic Chemistry I (total enrollment: 90)
• HONORS DURING 2004

University
▷ Advising Award, Mervin and Annette Peters
▷ Teaching Award of Merit, Gamma Sigma Delta

• SERVICE DURING 2004

University
▷ Member, University Undergraduate Appeals Panel
▷ Member, Faculty Senate Undergraduate Admissions Advisory Council

College
▷ Member, Undergraduate Curriculum Committee

Department
▷ Advisor, Undergraduate Students
▷ Chair, Undergraduate Organic Course Coordination
▷ Chair, Undergraduate Awards Committee
▷ Chair, Internal Awards Committee
▷ Co-Director, Chemistry Road Show
▷ Coordinator, Department of Chemistry SIMS Access
▷ Editor, Orbitals: What’s Happening in Chemistry Circles
▷ Member, Chemistry Department Advisory Council

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 100.500 — Horizons in Chemistry (total enrollment: 87)
▷ CHEM 106.501 — Molecular Science for Citizens (total enrollment: 137)
▷ CHEM 228.503 — Organic Chemistry II (total enrollment: 32)
▷ CHEM 491.520 — Research (total enrollment: 1)

Summer
▷ CHEM 485.514 — Directed Studies (total enrollment: 1)
▷ CHEM 491.200 — Research (total enrollment: 3)

Fall
▷ CHEM 106.501 — Molecular Science for Citizens (total enrollment: 185)
▷ CHEM 227.503 — Organic Chemistry I (total enrollment: 54)
• RESEARCH PROJECTS DURING 2004
  ▶ Chemistry Road Show, UNFUNDED, coworkers: E. Stone (P), A. Wooddell (U)

• PRESENTATIONS DURING 2004
  ▶ “Chemistry Demos,” Post Oak Mall Kids Fair, College Station, TX, January, 2004. (Individual)
  ▶ “Chemistry Road Show,” Texas Junior Science and Humanities Symposium, Texas A&M University, College Station, TX, January, 2004. (Individual)
  ▶ “Chemistry Road Show,” Jane Long Middle School, Bryan, TX, March, 2004. (Individual)
  ▶ “Chemistry Road Show,” Stephen F. Austin Middle School Science Night, Bryan, TX, March, 2004. (Individual)
  ▶ “Chemistry Road Show,” Crockett Elementary School Science Night, Bryan, TX, April, 2004. (Individual)
  ▶ “Chemistry Road Show,” MSC Leadership Camp, Texas A&M University, College Station, TX, June, 2004. (Individual)
  ▶ “Everything has a Mirror Image Except a Vampire: The Importance of Mirror Image Stereoisomers,” TAMU Summer Honors Invitational Program, College Station, TX, June, 2004. (Individual)
  ▶ “Everything has a Mirror Image Except a Vampire: The Importance of Mirror Image Stereoisomers,” TAMU Summer Honors Invitational Program, College Station, TX, June, 2004. (Individual)
  ▶ “Everything has a Mirror Image Except a Vampire: The Importance of Mirror Image Stereoisomers,” TAMU Summer Honors Invitational Program, College Station, TX, July, 2004. (Individual)
  ▶ “Chemistry Road Show,” 15th Anniversary of National Chemistry Week, Texas A&M University, College Station, TX, October, 2004. (Individual)
  ▶ “Chemistry Road Show,” Pebble Creek Elementary and Rock Prairie Elementary School, College Station, TX, October, 2004. (Individual)
  ▶ “Chemistry Road Show,” University Outreach Program for Pre-College Day in Aggieland, College Station, TX, November, 2004. (Individual)
• SERVICE DURING 2004

  College
  ▷ Member, Promotion and Tenure Committee

  Department
  ▷ Coordinator, Graduate Admissions and Recruiting
  ▷ Member, Computer User Group
  ▷ Member, X-Ray Diffraction User Group
  ▷ Member, Graduate Curriculum Committee

  Interdisciplinary/Intercolligate
  ▷ Member, Executive Committee, Faculty of Materials Science and Engineering

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▷ CHEM 102.201-203(H) — Fundamentals of Chemistry II (total enrollment: 38)
  ▷ CHEM 691.621 — Research (total enrollment: 5)

  Summer
  ▷ CHEM 691.121 — Research (total enrollment: 1)
  ▷ CHEM 691.321 — Research (total enrollment: 2)

  Fall
  ▷ CHEM 462.500 — Inorganic Chemistry (total enrollment: 21)

• RESEARCH PROJECTS DURING 2004

  ▷ Rare-Earth Metal Clusters as Single-Molecule Magnets, Texas Advanced Research Program
  ▷ (REN) Zirconium Clusters as Building Blocks for Aggregates and Solids, The Robert A. Welch Foundation, coworkers: C. Magliocchi (G), J. Shen (G)

• PRESENTATIONS DURING 2004

  ▷ “From Zirconium to Lanthanide Clusters: Future Molecular Magnets?,” University of California, Irvine, CA, March, 2004.( Individual)
• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

University
▷ Member, Faculty Senate Academic Affairs Committee
▷ Member, Faculty Senate
▷ Member, Women in Science and Engineering Executive Board
▷ Member, Faculty Senate Diversity Committee
▷ Member, Faculty Senate Science Caucus Leader
▷ Member, Faculty Senate Committee on the Status of Women
▷ Member, University Distinguished Lecture Committee
▷ Participant, Texas A&M University Phone-a-Fish Campaign

College
▷ Board Member, Susan M. Arseven Memorial Award
▷ Board Member, Ethel Ashworth-Tsutsui Memorial Awards in Research and Mentoring
▷ Organizing Board, Twelfth Annual Women in Science and Engineering Career Development Conference "Taking Care of Yourself"

Department
▷ Coordinator, Chemistry 320 Instrumental Analysis Laboratory
▷ Developer, website
▷ Member, Chemical Education Committee
▷ Member, Graduate Awards Committee
▷ Member, Graduate Admissions and Review
▷ Member, Advisory Council

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 320.502 — Instrumental Analysis Laboratory (total enrollment: 16)
▷ CHEM 320.503 — Instrumental Analysis Laboratory (total enrollment: 16)
▷ CHEM 686.600 — Ethics in Chemical Research and Scholarship (total enrollment: 52)

Fall
▷ CHEM 317.500 — Quantitative Analysis (total enrollment: 15)
▷ CHEM 320.501 — Instrumental Analysis Laboratory (total enrollment: 14)
• PUBLICATIONS DURING 2004
    Texas A&M University.
• SERVICE DURING 2004
  
  National
  ▶ Editorial Board, *Journal of Biological Chemistry*
  ▶ Editorial Board, *Journal of Fluorescence*
  ▶ Member, M.D.-Ph.D. Advisory Committee, TAMUS HSC

  University
  ▶ Member, Executive Committee of Distinguished Professors
  ▶ Member, Search Committee for Vice President for Research
  ▶ Member, Council of Principal Investigators
  ▶ Member, TAMUS HSC Research Executive Committee

  College
  ▶ Director, Interdisciplinary Molecular Biophysics Training Program
  ▶ Member, Research Advisory Council, College of Medicine

  Department
  ▶ Member, Advisory Committee, Laboratory for Biological Mass Spectrometry
  ▶ Member, Faculty Search Committee

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▶ CHEM 691.622 — Research (total enrollment: 1)

  Summer
  ▶ CHEM 691.322 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  
  ▶ The Structural Biology of Membranes: A Program Project Proposal, *Life Science Task Force*
  ▶ Graduate Training in Molecular Biophysics, *National Institutes of Health*

• PUBLICATIONS DURING 2004
  
Saksena, S; Shao, YL; Braunagel, SC; Summers, MD; Johnson, AE. (2004) Cotranslational integration and initial sorting at the endoplasmic reticulum translocon of proteins destined for the inner nuclear membrane Proceedings of the National Academy of Sciences USA, vol. 101, 12537-12542.


No report received from faculty member.
• HONORS DURING 2004
  
  National
  ▶ Who’s Who Among America’s Teachers,

  University
  ▶ Outstanding Panhellenic Professor Award, Collegiate Panhellenic Council

• SERVICE DURING 2004
  
  National
  ▶ Co-Founder, Organization of Professional Academic Lecturers (OPAL)
  ▶ Coordinator, ACS Poster Contest for K-12
  ▶ Coordinator, ACS Chemistry Open House and Science Exploratorium
  ▶ Member, American Chemical Society-Chemical Education Division

  University
  ▶ Chemistry Coordinator, “Hands-On Science Exhibition” at Texas A&M University
  ▶ Faculty Advisor, Aggie School Volunteers
  ▶ Faculty in Attendance, MSC Conversations
  ▶ Master Administrator, Calibrated Peer Review for TAMU
  ▶ Member, TAMU Women’s Center Advisory Committee
  ▶ Member, ATMentors
  ▶ Member, University Scholar Interviewer

  College
  ▶ Coordinator, All Chemistry Events and Pentathlon, Texas Science Olympiad
  ▶ Co-Organizer, Hands-On Chemistry, Expanding Your Horizons Conference
  ▶ Judge, Texas A&M Regional Junior Science Bowl
  ▶ Judge, Texas A&M Regional Science Bowl
  ▶ Judge, Texas Junior Science and Humanities Symposium
  ▶ Judge, Texas Junior Academy of Science
  ▶ Judge, Brazos Valley Regional Science and Engineering Fair

  Department
  ▶ ALLY, GLBT Members of the University Community
  ▶ Co-Chair, Faculty Senate Sub-committee on the Status of Non-Tenure Track Faculty
  ▶ Member, Chemistry Road Show
  ▶ Mentor, Graduate Teaching Academy
TEACHING ASSIGNMENTS DURING 2004

Spring
- CHEM 101.501-510 — Fundamentals of Chemistry I (total enrollment: 252)
- CHEM 116.502 — Molecular Science for Citizens Laboratory (total enrollment: 24)

Fall
- CHEM 102.515-524 — Fundamentals of Chemistry II (total enrollment: 236)

RESEARCH PROJECTS DURING 2004
- Chemistry Road Show, UNFUNDED

PRESENTATIONS DURING 2004
- “Chemistry Road Show,” College Station Intermediate School, College Station, TX, February, 2004.( Individual)
- “Is it Magic or is it Science,” Jane Long Middle School, “March to College,” Sponsored by National Society of Collegiate Scholars, Bryan, TX, March, 2004.( Individual)
- “Chemistry at Texas A&M University,” MAES Science Extravaganza, College Station, TX, April, 2004.( Individual)
- “Chemistry Road Show,” MAES Extravaganza at Texas A&M University(2), College Station, TX, April, 2004.( Individual)
- “What is a Chemical Reaction,” IPC Workshop for Teachers, Texas A&M University, College Station, TX, July, 2004.( Individual)
- “What is the Difference between a Physical and a Chemical Process?,” Pre-AP Workshop for Teachers, Texas A&M University, College Station, TX, July, 2004.( Individual)
- “Best Practices in Large Class Teaching: Techniques that Engage Students,” The Center for Teaching Excellence, panel discussion, Texas A&M University, College Station, TX, September, 2004.( Individual)
- “Chemistry Road Show,” Expanding Your Horizons at TAMU, College Station, TX, November, 2004.( Individual)
- “What do the Bernoulli Principle, UV Detectors and Chromatography Have in Common?,” Expanding Your Horizons, College of Science Program for 6th grade girls, Texas A&M University, College Station, TX, November, 2004.( Individual)

PUBLICATIONS DURING 2004
- Keeney-Kennicutt, WL. (2004) Update on CPR™. Teaching & Technology Newsletter College Station, TX: Instructional Technology Services, TAMU.
• **HONORS DURING 2004**

  **International**
  ➢ Plenary lecturer, European Congress on Molecular Spectroscopy, Krakow, Poland

• **SERVICE DURING 2004**

  **International**
  ➢ Board of Directors, Elected Member, Alexander von Humboldt Association of America
  ➢ Elected Member, International Committee, European Congress on Molecular Spectroscopy

  **National**
  ➢ Editor, *Journal of Molecular Structure*

  **State**
  ➢ President, (Immediate Past) Texas Section of Alexander von Humboldt Association of America

  **College**
  ➢ Member, College of Science Grievance Committee
  ➢ Vice-Chair, College of Science Grievance Committee

  **Department**
  ➢ Chairman, Graduate Student Awards Committee

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ➢ CHEM 324.501 — Physical Chemistry (total enrollment: 36)
  ➢ CHEM 691.623 — Research (total enrollment: 4)
  ➢ CHEM 691.623 — Research (total enrollment: 4)

  **Summer**
  ➢ CHEM 691.123 — Research (total enrollment: 1)
  ➢ CHEM 691.323 — Research (total enrollment: 3)

  **Fall**
  ➢ CHEM 324.500 — Physical Chemistry (total enrollment: 31)

• **RESEARCH PROJECTS DURING 2004**

  ➢ Matching Funds for Instrument Purchase, *College of Science*
  ➢ Development of Submillimeter/Terahertz Instrumentation for Spectroscopy and Dynamics, *National Science Foundation*
• PRESENTATIONS DURING 2004
  ◦ “Spectroscopic Determination of Potential Energy Functions and Molecular Structures in Electronic Ground States,” Texas A&M University, Physics Department, College Station, TX, January, 2004. (Individual)
  ◦ “Spectroscopic Determination of Potential Energy Functions and Molecular Structures in Electronic Ground States,” Texas A&M University, Physics Department, College Station, TX, February, 2004. (Individual)
  ◦ “Spectroscopic Determination of Vibrational Potential Energy Surfaces of Molecules in their Electronic Excited Singlet and Triplet States,” Austin Symposium on Molecular Structure, Austin, TX, March, 2004. (Contributed)
  ◦ “Vibrational Frequencies and Structure of Cyclopropenone from Ab Initio Calculations,” Austin Symposium on Molecular Structure, Austin, TX, March, 2004. (Poster Contributed)
  ◦ “Vibrational Spectra of 3-methylindole as a Model Compound for Tryptophan,” Austin Symposium on Molecular Structure, Austin, TX, March, 2004. (Poster Contributed)
  ◦ “Vibrational Spectra of Model Compounds for Amino Acids,” Austin Symposium on Molecular Structure, Austin, TX, March, 2004. (Poster Contributed)
  ◦ “Ultraviolet Fluorescence and Cavity Ringdown Absorption Spectra and Structures of Eones and Aromatic Bicyclic Molecules in the Singlet and Triplet Excited States,” XXVII European Congress on Molecular Spectroscopy, Krakow, Poland, September, 2004. (Invited)

• PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National
▷ Member, External Advisor Committee for the Neuro-physical-computational sciences graduate training program at the University of Minnesota
▷ Panel Member, Instrumentation, National Institutes of Health
▷ Referee: Journals, Professional Scientific Journals

College
▷ Member, Promotion and Tenure Committee

Department
▷ Ad hoc Member, Biochemistry Study section, National Institutes of Health
▷ Chair, Biological Division
▷ Chair, Departmental EPR User Group
▷ Graduate Advisor, Biological Division
▷ Member, Chemistry Service-Course Evaluation Committee
▷ Member, Chemical Biology Interface Program
▷ Member, Center for Advanced Biomolecular Research
▷ Member, Awards Committee
▷ Member, Search Committee, Biological Division
▷ Participant, Graduate Visitation Weekend (Chemistry and Biochemistry Departments)

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 628.600 — Coordination and Bioinorganic Chemistry (total enrollment: 9)
▷ CHEM 681.607 — Seminar (total enrollment: 8)
▷ CHEM 691.624 — Research (total enrollment: 4)

Summer
▷ CHEM 491.324 — Research (total enrollment: 1)
▷ CHEM 691.324 — Research (total enrollment: 1)

Fall
▷ CHEM 627.600 — Principles of Biological Chemistry (total enrollment: 21)

• RESEARCH PROJECTS DURING 2004

▷ Genetic Probes of Acetyl-CoA-Synthase Cluster Assembly, Department of Energy
▷ (REN) Bioinorganic Chemistry of CO Dehydrogenase, National Institutes of Health, coworkers: X. Tan (P), M. Bramlett (G), J. Feng (G)
Iron Metabolism in Mitochondria, National Institutes of Health, coworkers: B. Hudder (G), S. Lester (G)

Kinetic Simulations of Minimal Living Systems, National Institutes of Health

Biochemistry and Biophysics of YFH1p from Saccharomyces Cervisiae, The Robert A. Welch Foundation

Crystallization of CO Dehydrogenase and Related Metalloenzymes, The Robert A. Welch Foundation, coworkers: E. Kim (G)

• PRESENTATIONS DURING 2004
  “Acetyl-CoA Synthase: The Case for a Ni(0)-based Mechanism of Catalysis,” Uniformed Services University of Health Sciences, October, 2004. (Individual)
  “Acetyl-CoA Synthase: The Case for a Ni(0)-based Mechanism of Catalysis,” Austin College, Sherman, TX, November, 2004. (Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

College
  ▶ Member, Faculty Advisory Council

Department
  ▶ Chair, Promotion and Tenure Committee
  ▶ Member, Advisory Council
  ▶ Member, Computer User Group
  ▶ Member, Library Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 323.500 — Physical Chemistry (total enrollment: 45)
  ▶ CHEM 691.625 — Research (total enrollment: 1)

Summer
  ▶ CHEM 324.200 — Physical Chemistry (total enrollment: 18)

Fall
  ▶ CHEM 681.604 — Seminar (total enrollment: 16)
  ▶ CHEM 689.601 — Special Topics in (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004

▶ Development of Joint Multi-Pollutant Air Quality Modeling Facilities and Air Monitoring Stations for Houston-Galveston Metropolitan Area, Environmental Protection Agency
▶ Photoelectron- Vibration Coupling in Nonlinear Molecules, Louisiana State University
▶ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
▶ Development of Submillimeter/Terahertz Instrumentation for Spectroscopy and Dynamics, National Science Foundation
▶ Morphing Complete Vibrational Potentials for Hydrogen Bonded and Related Interactions, National Science Foundation
▶ Research on Molecular Frame Photoelectron Angular Distributions, National Science Foundation
▶ Nuclear Motion in the Photoionization of Polyatomic Molecules, The Robert A. Welch Foundation
• PRESENTATIONS DURING 2004
  ▶ “The Effects of Shape Resonances on Vibrational Excitation in the Photoionization of Triatomic Molecules,” American Physical Society, Division of Atomic, Molecular, and Optical Physics, Annual Meeting, Tucson, AZ, May, 2004. (Contributed)

• PUBLICATIONS DURING 2004
  ▶ Castillo-Chara, J; McIntosh, AL; Wang, Z; Lucchese, RR; Bevan, JW. (2004) Near-infrared spectra and rovibrational dynamics on a four-dimensional ab initio potential energy surface of (HBr)2 Journal of Chemical Physics, vol. 120, 10426-10441.
  ▶ Gianturco, FA; Lucchese, RR; Grandi, A; Sanna, N. (2004) Low-energy electron scattering by cubane: Resonant states and Ramsauer-Townsend features from quantum calculations in the gas phase Journal of Chemical Physics, vol. 120, 4172-4181.
  ▶ Lebech, M; Houver, JC; Dowek, D; Lucchese, RR. (2004) Dissociative photoionization of N2O in the region of the N2O+(B2II) state studied by ion-electron velocity vector correlation Journal of Chemical Physics, vol. 120, 8226-8240.


Rathbone, GJ; Poliakoff, ED; Bozek, JD; Lucchese, RR; Lin, P. (2004) Mode-specific photoelectron scattering effects on CO_2^+ (C 2Σ^+_g) vibrations. Journal of Chemical Physics, vol. 120, 612-622.

Saito, N; Toffoli, D; Lucchese, RR; Nagoshi, M; De Fanis, A; Yamenori, Y; Oura, M; Yamaoka, H; Kitajima, M; Tanaka, H; Hergenhahn, U; Ueda, K. (2004) Symmetry- and multiplet-resolved N 1s photoionization cross sections of the NO_2 molecule. Physical Review A: Atomic Molecular and Optical Physics, vol. 70, 062724:1-9.


• RESEARCH PROJECTS DURING 2004

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Member, EPA Review Panel
▷ Member, NIH Review Panel

State
▷ Member, Texas Health and Biotechnology Institute

University
▷ Member, Cardiovascular Research Institute

College
▷ Member, Texas A&M Institute of Food Science & Nutrition

Department
▷ Member, Chemistry Department, Post-Tenure Review Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 315.500 — Quantitative Analysis (total enrollment: 38)
▷ CHEM 491.526 — Research (total enrollment: 2)
▷ CHEM 602.600 — Analytical Chemistry II (total enrollment: 16)
▷ CHEM 691.626 — Research (total enrollment: 3)

Summer
▷ CHEM 691.326 — Research (total enrollment: 5)

Fall
▷ CHEM 601.600 — Analytical Chemistry I (total enrollment: 23)
▷ CHEM 681.605 — Seminar (total enrollment: 12)

• RESEARCH PROJECTS DURING 2004

▷ Lipoprotein Profiling, Diabetes, Baylor College of Medicine
▷ New Borns Inherited Risk Factors for Heart Disease, Johns-Hopkins University
▷ Lipoprotein Density Profiling for Clinical Studies, National Institutes of Health, coworkers: Z. Farwig (P), C. Benjamin (G), L. Espinosa (G), S. Lester (G), C. Myers (G), M. Nowlin (G), N. Bell (U), J. Johnson (U)
▷ Children’s Studies in Cardiovascular Disease, Scott and White Research Foundation
▷ Texas Pecans Health Benefit, Texas Department of Agriculture
• PRESENTATIONS DURING 2004
  ▶ “Lipoprotein(a): Extraction from serum, Molecular Weight Measurement and Apolipoprotein(a) Isoform Phenotyping,” Student Research Week, Texas A&M University, College Station, TX, March, 2004. (Poster Individual)
  ▶ “The Analysis of Triglyceride-rich Lipoproteins in Human Serum for Clinical Studies,” Student Research Week, Texas A&M University, College Station, TX, March, 2004. (Individual)
  ▶ “New Challenges for Analytical Chemistry in Cardiovascular Disease Research,” Department of Chemistry, Ohio State University, Columbus, OH, May, 2004. (Invited)
  ▶ “Characterization and Detection of Remnant Lipoproteins in Human Serum,” Texas A&M University System Pathways Student Research Symposium, Corpus Christi, TX, October, 2004. (Poster Individual)
  ▶ “Characterization and Detection of Remnant Lipoproteins in Human Serum,” Industrial-University Cooperative Chemistry Program (IUCCP), College Station, TX, October, 2004. (Poster Individual)
  ▶ “Lipoprotein Particle Density Profiling using Metal-ion EDTA Complexes,” Industrial-University Cooperative Chemistry Program (IUCCP), College Station, TX, October, 2004. (Poster Individual)
  ▶ “Lipoprotein(a): Extraction from serum, Molecular Weight Measurement and Apolipoprotein(a) Isoform Phenotyping,” Texas A&M University System Pathways Student Research Symposium, Corpus Christi, TX, October, 2004. (Poster Individual)
  ▶ “Lipoprotein(a): Extraction from serum, Molecular Weight Measurement and Apolipoprotein(a) Isoform Phenotyping,” Industrial-University Cooperative Chemistry Program (IUCCP), College Station, TX, October, 2004. (Poster Individual)

• PUBLICATIONS DURING 2004
  ▶ Kwiterovich, PO; Virgil, DG; Garrett, ES; Otvos, J; Driggers, R; Blakemore, K; Cockrill, SL; Macfarlane, RD. (2004) Lipoprotein Heterogeneity at Birth: Influence of Gestational Age and Race on Lipoprotein Subclasses Ethnicity & Disease, vol. 14, 351-359.
DENISE T. MAGNUSON

LECTURER (979) 845-2356
denisemagnuson@tamu.edu

CHEM-First Year Chemistry

* SERVICE DURING 2004

  College
  ▶ Judge, Texas A&M University, Regional Science Fair

* TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ CHEM 101.516-522 — Fundamentals of Chemistry I (total enrollment: 125)
  ▶ CHEM 101.529-536 — Fundamentals of Chemistry I (total enrollment: 177)
  ▶ CHEM 116.506 — Molecular Science for Citizens Laboratory (total enrollment: 25)
• SERVICE DURING 2004

National
▷ Assistant Coordinator, American Chemical Society Open House
▷ Book Reviewer, Chemistry: Principles, Patterns, and Applications
▷ Book Reviewer, Chemistry Principles and Applications for Engineering Students
▷ Book Reviewer, Chemical Principles: The Quest for Insight

College
▷ Event Coordinator, Science Olympiad
▷ Presentation Judge, Texas Junior Science and Humanities Symposium
▷ Presentation Judge, Texas Junior Academy of Science
▷ Project Judge, Brazos Valley Regional Science and Engineering Fair
▷ Reviewer, U.S Department of Energy Regional Science Bowl

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 107.501-504 — General Chemistry for Engineering Students (total enrollment: 95)
▷ CHEM 107.505-516 — General Chemistry for Engineering Students (total enrollment: 264)
▷ CHEM 107.517-524 — General Chemistry for Engineering Students (total enrollment: 189)
▷ CHEM 107.801-810 — General Chemistry for Engineering Students (total enrollment: 151)
▷ CHEM 116.505 — Molecular Science for Citizens Laboratory (total enrollment: 25)

Summer
▷ CHEM 101.101-103 — Fundamentals of Chemistry I (total enrollment: 47)

Fall
▷ CHEM 101.540-550 — Fundamentals of Chemistry I (total enrollment: 254)
▷ CHEM 101.551-561 — Fundamentals of Chemistry I (total enrollment: 240)
▷ CHEM 101.579-589 — Fundamentals of Chemistry I (total enrollment: 257)
MEGAN E. MCLEAN

LECTURER
CHEM

(979) 862-1221
mclean@mail.chem.tamu.edu

• SERVICE DURING 2004

College
▷ Judge, Texas Jr. Academy of Science
▷ Judge, Regional Science Bowl
▷ Moderator, Jr. Science Bowl

Department
▷ Mentor, Graduate Visitation Weekend (GVW)

• TEACHING ASSIGNMENTS DURING 2004

Fall
▷ CHEM 227.509 — Organic Chemistry I (total enrollment: 100)
▷ CHEM 227.510 — Organic Chemistry I (total enrollment: 99)
▷ CHEM 227.511 — Organic Chemistry I (total enrollment: 73)
▷ CHEM 228.508,510 — Organic Chemistry II (total enrollment: 200)
• SERVICE DURING 2004

University
▷ Co-Chair/Organizer, Texas A&M Catalysis Symposium
▷ Member, Texas A&M University, Polymer Technology Center

Department
▷ Associate Member, Inorganic Division
▷ Faculty Representative, Graduate Student Advisory Council
▷ Member, Graduate Student Recruiting Committee
▷ Presenter, IUCCP Faculty Participant

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 383.500 — Chemistry of Environmental Pollution (total enrollment: 11)
▷ CHEM 466.500 — Polymer Chemistry (total enrollment: 48)
▷ CHEM 491.527 — Research (total enrollment: 1)
▷ CHEM 681.601 — Seminar (total enrollment: 49)
▷ CHEM 691.627 — Research (total enrollment: 6)

Summer
▷ CHEM 491.327 — Research (total enrollment: 5)
▷ CHEM 685.500 — Directed Studies (total enrollment: 7)
▷ CHEM 691.327 — Research (total enrollment: 7)

Fall
▷ CHEM 491.527 — Research (total enrollment: 3)
▷ CHEM 646.600 — Organic Chemistry (total enrollment: 25)
▷ CHEM 646.600 — Organic Chemistry (total enrollment: 25)

• RESEARCH PROJECTS DURING 2004

▷ Synthesis and Application of Enantiomerically Pure Transition Metal Catalysts and Synthesis and Application of Late Transition Metal Catalysts (New Faculty Start-Up Funds), College of Science, coworkers: C. Crews (G), J. Grill (G), M. Kubena (U)
▷ Synthesis and Polymerization Behavior of New Transition Metal Catalysts, Dow Chemical Co.
▷ Dimerization, Cyclization, and Polymerization Via Aldimine Coupling, Petroleum Research Fund, coworkers: J. Grill (G), J. Gross (G), J. Reich (G)
▷ Activation of Carbon Dioxide: Polyester Formation via Coordination Polymerization of Carbon Dioxide and Olefins, Research Corporation, coworkers: C. Price (G), J. Reich (G)
• Design and Synthesis of Novel Isoselective Olefin Polymerization Catalysts, *Saudi Basic Industries Corporation*

• New Polyolefin Architectures from Next-Generation Transition Metal Polymerization Catalysts, *The Robert A. Welch Foundation*, coworkers: M. Cortez (G), L. Irwin (G), H. Malcolm (G), L. Martine (G), C. Price (G), E. Schwerdtfeger (G)

**PRESENTATIONS DURING 2004**

- “Syndiotactict-hemiisotactic polypropylene from metalloncne catalysis,” Polymer Technology Industrial Consortium, Texas A&M University, College Station, TX, April, 2004. (Invited)
- “Single Site Catalysts for Olefin Polymerization,” NSF-REU Symposium Series, College Station, TX, June, 2004. (Invited)
- “Expanding Cyanaide Catalysis,” IUCCP Symposium, College Station, TX, October, 2004. (Invited)
- “Serically Expanded Transition Metal Catalysts for Olefin Polymerization,” Polymer Technology Industrial Consortium, Texas A&M University, College Station, TX, October, 2004. (Invited)
- “Next-Generation Single-Site Catalysts for Olefin Polymerization,” Midwestern State University, Wichita Falls, TX, November, 2004. (Invited)

**PUBLICATIONS DURING 2004**

- Jesse, B; Reich, E; Justice, AK; Beckstead, BT; Reibenspies, JH; Miller, SA. (2004) Cyanide- catalyzed cyclizations via aldimine coupling *Journal of Organic Chemistry*, vol. 69, 1357-1359.

TEACHING ASSIGNMENTS DURING 2004

Spring
- CHEM 316.502 — Quantitative Analysis (total enrollment: 42)
- CHEM 318.501 — Quantitative Analysis Laboratory (total enrollment: 22)
- CHEM 318.503 — Quantitative Analysis Laboratory (total enrollment: 16)
- CHEM 318.505 — Quantitative Analysis Laboratory (total enrollment: 20)

Fall
- CHEM 316.501 — Quantitative Analysis (total enrollment: 63)
- CHEM 316.502 — Quantitative Analysis (total enrollment: 57)
- CHEM 318.501 — Quantitative Analysis Laboratory (total enrollment: 15)
- CHEM 318.502 — Quantitative Analysis Laboratory (total enrollment: 18)
- CHEM 318.505 — Quantitative Analysis Laboratory (total enrollment: 17)
- CHEM 318.508 — Quantitative Analysis Laboratory (total enrollment: 20)
• SERVICE DURING 2004
  
  Department
  ▷ Executive Director, Laboratory for Molecular Structure and Bonding

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▷ CHEM 433.502 — Advanced Inorganic Chemistry Laboratory (total enrollment: 11)

  Fall
  ▷ CHEM 102.501-508 — Fundamentals of Chemistry II (total enrollment: 163)

• PRESENTATIONS DURING 2004
  

• PUBLICATIONS DURING 2004
  
  ▷ Angaridis, P; Berry, JF; Cotton, FA; Lei, P; Lin, C; Murillo, CA; Villagran, D. (2004) Dicarboxylato-bridged diruthenium units in two different oxidation states: the first step towards the synthesis of Creutz-Taube analogs with dinuclear Ru_{n+}^2 species Inorganic Chemistry Communications, vol. 7, 9-13.


  ▷ Berry, JF; Cotton, FA; Fewox, CS; Lu, TB; Murillo, CA; Wang, XP. (2004) Extended metal atom chains (EMACs) of five chromium or cobalt atoms: Symmetrical or unsymmetrical? Dalton Transactions, 2004, 2297-2302.


  ▷ Berry, JF; Cotton, FA; Lu, TB; Murillo, CA; Roberts, BK; Wang, XP. (2004) Molecular and electronic structures by design: Tuning symmetrical and unsymmetrical linear trichromium chains Journal of the American Chemical Society, vol. 126, 7082-7096.


Berry, JF; Cotton, FA; Murillo, CA; Roberts, BK. (2004) An efficient synthesis of acetylide/trimetal/acetylide molecular wires *Inorganic Chemistry*, vol. 43, 2277-2283.

Cotton, FA; Murillo, CA; Reibenspies, JH; Villagrán, D; Wang, X; Wilkinson, CC. (2004) Paramagnetism at Ambient Temperature, Diamagnetism at Low Temperature in a Ru_6^{5+} Core: Structural Evidence for Zero-Field Splitting *Inorganic Chemistry*, vol. 43, 8373-8378.


Cotton, FA; Lei, P; Lin, C; Murillo, CA; Wang, XP; Yu, SY; Zhang, ZX. (2004) A calix[4]arene carceplex with four Rh_4^{4+} fasteners *Journal of the American Chemical Society*, vol. 126, 1518-1525.


Cotton, FA; Liu, CY; Murillo, CA; Villagrán, D; Wang, X. (2004) Strong Electronic Coupling between Dimolybdenum Units Linked by the N,N'-dimethyloxamidate Anion in a Molecule Having a Heteronaphtahalene-like Structure *Journal of the American Chemical Society*, vol. 126, 14822-14831.

JOSEPH B. NATOWITZ

DISTINGUISHED PROFESSOR
CHEM-Physical/Nuclear Chemistry

• CHAIRS
  ▶ Cyclotron Institute Bright Chair in Nuclear Science [2002]

• SERVICE DURING 2004
  
  International
  ▶ Chairman, Programs Advisory Committee, Frenc-Belgian DEMON Detector Array
  ▶ Member, International Advisory Committee, Nucleus-Nucleus Collisions 2006, Rio Di Janerio, Brazil
  ▶ Member, Steering Committee International WCI Initiative
  ▶ Member, Oaxtepec, Mexico Nuclear Physics Symposium International Advisory Committee

  National
  ▶ Member, Steering Committee, Rare Isotope Accelerator Project

  Department
  ▶ Chair, First and Second Year Service Course Review Committee
  ▶ Member, Graduate Student PhD Committee
  ▶ Member, Space Committee
  ▶ Member, Advisory Council

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▶ CHEM 102.571-582 — Fundamentals of Chemistry II (total enrollment: 230)
  ▶ CHEM 681.604 — Seminar (total enrollment: 11)
  ▶ CHEM 691. — Research (total enrollment: 1)

  Fall
  ▶ CHEM 464.500 — Nuclear and Radiochemistry (total enrollment: 18)
  ▶ CHEM 691. — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  ▶ Cyclotron-Based Nuclear Science, Department of Energy
  ▶ Highly Excited Nuclei, Department of Energy
  ▶ Nuclear Reaction Studies, The Robert A. Welch Foundation
  ▶ (REN) Nuclear Reaction Studies, The Robert A. Welch Foundation
• PRESENTATIONS DURING 2004
  ▶ “Towards the critical behavior for the light nuclei by the NIMROD detector,” SQM 2004 Conference, Capetown, South Africa, September, 2004. (Contributed)

• PUBLICATIONS DURING 2004
  ▶ Keutgen, T; Cabrera, J; El Masri, Y; et. al. (2004) Properties of neutron emission in fission processes induced by Ne-20+Tb-159 and Ne-20+Tm-169 reactions between E=8 and 16 MeV/nucleon Physical Review C: Nuclear Physics, vol. 70(1), 014611.
  ▶ Ma, YG; Wada, R; Hagel, K; et. al. (2004) Evidence of critical behavior in the disassembly of nuclei with A similar to 36 Physical Review C: Nuclear Physics, vol. 69(3), 031604.
  ▶ Moretto, S; Fabris, D; Lunardon, M; et. al. (2004) Search for temperature and N/Z dependent effects in the decay of A=98 compound nuclei Physical Review C: Nuclear Physics, vol. 69(4), 044604.
  ▶ Murray, M; Arsene, I; Bearden, IG; et. al. (2004) Scanning the phases of QCD with BRAHMS Journal of Physics G: Nuclear and Particle Physics, vol. 30(8), S667-S674.
  ▶ Wada, R; Keutgen, T; Hagel, K; et. al. (2004) Reaction dynamics and multifragmentation in Fermi energy heavy ion reactions Physical Review C: Nuclear Physics, vol. 69(4), 044610.
• HONORS DURING 2004

University
▷ Distinguished Achievement College-Level Award in Teaching, Association of Former Students

• SERVICE DURING 2004

National
▷ Member, Project Research Team, Advanced Light Source, Berkeley, CA

College
▷ Chair elect, American Chemical Society, Texas A&M University Local Section
▷ Member, Quality Enhancement Program Committee

Department
▷ Member, Self-Study Committee
▷ Member, Undergraduate Curriculum Committee
▷ Member, Center for Atmospheric Chemistry and the Environment
▷ Member, Graduate Admission and Review Committee
▷ Member, Faculty Recruiting Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 491.529 — Research (total enrollment: 2)
▷ CHEM 621.600 — Chemical Kinetics (total enrollment: 14)
▷ CHEM 691.629 — Research (total enrollment: 4)

Summer
▷ CHEM 491.329 — Research (total enrollment: 1)
▷ CHEM 691.129 — Research (total enrollment: 1)
▷ CHEM 691.229 — Research (total enrollment: 1)
▷ CHEM 691.329 — Research (total enrollment: 2)

Fall
▷ CHEM 101.566-576 — Fundamentals of Chemistry I (total enrollment: 262)

• RESEARCH PROJECTS DURING 2004

▷ Development of Joint Multi-Pollutant Air Quality Modeling Facilities and Air Monitoring Stations for Houston-Galveston Metropolitan Area, Environmental Protection Agency
Atmospheric Oxidation Mechanism of Isoprene, National Science Foundation

Photofragment Imaging of Atmospheric Free Radicals, The Robert A. Welch Foundation

Probing Unimolecular Reaction Dynamics Using Transient Frequency-Modulated Doppler Spectroscopy, The Robert A. Welch Foundation

Hypersonic Transition and Turbulence with Non-Equilibrium Thermo-Chemistry, United States Air Force

**PRESENTATIONS DURING 2004**

“ Atmospheric Oxidation Mechanisms of Biogenic Hydrocarbons: Insight from Experiment and Theory,” Center for Atmospheric Chemistry and the Environment: The Inaugural Seminar, Department of Chemistry, Texas A&M University, College Station, TX, 2004. (Individual)


**PUBLICATIONS DURING 2004**


Zhao, J; Zhang, RY; Fortner, EC; North, SW. (2004) Quantification of hydroxycarbonyls from OH- isoprene reactions *Journal of the American Chemical Society*, vol. 126, 2686-2687.

M. LARRY PECK

PROFESSOR (979) 845-2356
CHEM-First Year Chemistry peck@mail.chem.tamu.edu

• SERVICE DURING 2004

National
  ▶ Member, National Science Teachers Association
  ▶ Member, Passer Portfolio Committee for ACS Division of Chemical Education
  ▶ Member, American Chemical Society, Division of Chemical Education

State
  ▶ Member, Texas Teachers Organization for Physical Science
  ▶ Member, Science Teachers Association of Texas
  ▶ Member, ACT2 (Associated Chemistry Teachers of Texas)

University
  ▶ Building Proctor, Heldenfels Hall
  ▶ Member, University Council on Teacher Education

College
  ▶ Member, Education Outreach Program Committee

Department
  ▶ Co-Director, Chemistry Road Show
  ▶ Departmental Advisor, Students Seeking Teacher Certification in Chemistry
  ▶ Director, First-Year Chemistry Program
  ▶ Member, Undergraduate Awards Committee
  ▶ Member, Outreach Committee
  ▶ Member, Advisory Council
  ▶ Member, Science and Math Education Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 102.530-541 — Fundamentals of Chemistry II (total enrollment: 282)
  ▶ CHEM 285.530 — Directed Studies (total enrollment: 3)
  ▶ CHEM 485.530 — Directed Studies (total enrollment: 1)
  ▶ CHEM 697.601 — Methods in Teaching Chemistry Laboratory (total enrollment: 16)

Summer
  ▶ CHEM 685.230 — Directed Studies (total enrollment: 1)
Fall
▷ CHEM 101.514-524 — Fundamentals of Chemistry I (total enrollment: 251)
▷ CHEM 285.530 — Directed Studies (total enrollment: 6)
▷ CHEM 697.601 — Methods in Teaching Chemistry Laboratory (total enrollment: 29)

• RESEARCH PROJECTS DURING 2004
  ▷ High School Teachers of Advanced Placement Chemistry Courses, UNFUNDED
  ▷ Investigating Students Attitudes Towards Organic Chemistry, UNFUNDED
  ▷ Knowledge of Historical Background Compared to Understanding of the Structure of the Atom, UNFUNDED
  ▷ Student Attitudes Towards Learning Conceptual Quantitative Analysis, UNFUNDED

• PUBLICATIONS DURING 2004
• HONORS DURING 2004
  University
    ▶ Namesake, Aggie Access

• TEACHING ASSIGNMENTS DURING 2004
  Spring
    ▶ CHEM 228.501 — Organic Chemistry II (total enrollment: 48)
    ▶ CHEM 228.505 — Organic Chemistry II (total enrollment: 82)
    ▶ CHEM 228.509 — Organic Chemistry II (total enrollment: 83)
  Fall
    ▶ CHEM 227.501 — Organic Chemistry I (total enrollment: 96)
    ▶ CHEM 227.506 — Organic Chemistry I (total enrollment: 93)
    ▶ CHEM 227.512 — Organic Chemistry I (total enrollment: 94)
KRISHAN PONNAMPERUMA

LECTURER
CHEM

(979) 845-4205
ponnamperuma@mail.chem.tamu.edu

- TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 227.501-505 — Organic Chemistry I (total enrollment: 195)
  ▶ CHEM 228.501-503 — Organic Chemistry II (total enrollment: 243)
• CHAIRS
  ▶ Davidson Chair in Science [2004]

• SERVICE DURING 2004

  International
  ▶ Member, Study Panel - Deutsche Forchungsgemeinschaft (DFG)

  National
  ▶ Editorial Advisory Board, Biochemistry
  ▶ Member, Editorial Board, BioOrganic Chemistry

  Department
  ▶ Member, Undergraduate Curriculum Committee
  ▶ Member, Graduate Admissions Committee
  ▶ Member, Space Committee
  ▶ Member, Promotion and Tenure Committee
  ▶ Member, Mass Spectrometry User Group
  ▶ Member, NMR User Group

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ CHEM 491.531 — Research (total enrollment: 2)
  ▶ CHEM 672.600 — Bioorganic Reaction Mechanisms (total enrollment: 13)
  ▶ CHEM 681.605 — Seminar (total enrollment: 16)
  ▶ CHEM 685.630 — Directed Studies (total enrollment: 1)
  ▶ CHEM 691.631 — Research (total enrollment: 8)

  Summer
  ▶ CHEM 491.331 — Research (total enrollment: 3)
  ▶ CHEM 691.231 — Research (total enrollment: 3)
  ▶ CHEM 691.331 — Research (total enrollment: 5)

  Fall
  ▶ CHEM 491.531 — Research (total enrollment: 2)
  ▶ CHEM 681.606 — Seminar (total enrollment: 13)
  ▶ CHEM 691.631 — Research (total enrollment: 8)

• RESEARCH PROJECTS DURING 2004
  ▶ Directed Evolution of Novel Catalytic Sites, Life Science Task Force
Deciphering Enzyme Specificity, *National Institutes of Health*
Enzymatic Detoxification of Organophosphate Nerve Agents, *National Institutes of Health*
Graduate Training in Molecular Biophysics, *National Institutes of Health*
Isotopic Probes of Enzyme Reaction Mechanisms, *National Institutes of Health*
Mechanism and Control of Urea Biosynthesis, *National Institutes of Health*
Investigations of Enzyme Reaction Mechanisms, *The Robert A. Welch Foundation*

### Presentations During 2004

- “Modulation of the Stereoselectivity of the Bacterial Phosphotriesterase,” University of Cologne, Department of Biochemistry, Cologne, Germany, March, 2004. (Individual)
- “Amidohydrolase Superfamily: Mechanism, Design, and Discovery,” Johns Hopkins University, Baltimore, MD, April, 2004. (Individual)
- “Evolution of Enzyme Active Sites,” Department of Chemistry, Texas A&M University-Prairie View, Waller, TX, October, 2004. (Individual)
- “Amidohydrolase Superfamily: Mechanism, Design, and Discovery,” Department of Chemistry, Scripps Research Institute, LaJolla, CA, November, 2004. (Individual)

### Publications During 2004

- Aubert, SD; Li, YC; Raushel, FM. (2004) Mechanism for the hydrolysis of organophosphates by the bacterial phosphotriesterase *Biochemistry, vol. 43*, 5707-5715.
Li, YC; Aubert, SD; Maes, EG; Raushel, FM. (2004) Enzymatic resolution of chiral phosphinate esters Journal of the American Chemical Society, vol. 126, 8888-8889.


DANIEL ROMO

PROFESSOR (979) 845-9571
CHEM-Organic Chemistry romo@mail.chem.tamu.edu

• HONORS DURING 2004

State
▷ Camille and Henry Dreyfus Teacher-Scholar, Camille and Henry Dreyfus Foundation

• SERVICE DURING 2004

National
▷ Member, NIH Medicinal Chemistry Study Section Regular Member

College
▷ Member, Diversity Committee

Department
▷ Member, Advisory Council (as Organic Division Chair)
▷ Member, X-ray Users Group
▷ Member, NMR User Group
▷ Member, Mass Spectrometry User Group

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 234.201-203(H) — Organic Synthesis and Analysis IV (total enrollment: 43)
▷ CHEM 491.532 — Research (total enrollment: 3)
▷ CHEM 691.632 — Research (total enrollment: 9)

Summer
▷ CHEM 491.132 — Research (total enrollment: 1)
▷ CHEM 491.332 — Research (total enrollment: 2)
▷ CHEM 691.232 — Research (total enrollment: 1)
▷ CHEM 691.332 — Research (total enrollment: 9)

Fall
▷ CHEM 615.600 — Organic Synthesis (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004

▷ Synthesis and Biological Studies of Natural Products Displaying Potent Physiological Effects, Camille and Henry Dreyfus Foundation
▷ Synthesis of Pateamine A and Derivatives, Johns-Hopkins University
▷ Synthesis and Detection of Marine Toxins, Life Science Task Force
▷ Synthetic/Mechanistic Studies of Bioactive Marine Agents, National Institute of General Medical Studies
Beta-Lactones: Bioactive Targets and Vehicles for Synthesis, National Institutes of Health
Minority Predoctoral Supplement for Francisco F. Torres, National Institutes of Health
Novel Anticancer Fatty Acid Synthase Inhibitors, National Institutes of Health
(REN) Novel Asymmetric Routes to 2-Oxetanones and Their Applications, National Science Foundation
Novel Asymmetric Synthesis and Novel Transformations of 2-Oxetanones, National Science Foundation
Texas Bridges to the Doctorate, Texas A&M University

• PRESENTATIONS DURING 2004
  “Methodology, Total synthesis, and Protein Isolation Driven by an Awe of Natural Products,” Roche Lecturer, Colorado State University, January, 2004. (Invited)
  “Adventures with Bioactive Marine Natural Products: Happenstances or Designed Drug Candidates,” Baylor University, Waco, TX, April, 2004. (Invited)
  “Adventures with Bioactive Marine Natural Products: Happenstances or Designed Drug Candidates,” Tarleton State, Stephenville, TX, April, 2004. (Invited)
  “Methodology, Total synthesis, and Protein Isolation Driven by an Awe of Natural Products,” Proctor & Gamble Organic Synthesis Symposium, July, 2004. (Invited)
  University of Maryland, Department of Chemistry, College Park, MD, October, 2004. (Invited)
  Brigham Young University, Provo, UT, November, 2004. (Invited)
  5th Annual UCSD/Merck Symposium, Brigham Young University, Provo, UT, December, 2004. (Invited)

• PUBLICATIONS DURING 2004
  Romo, D; Choi, NS; Li, S; Buchler, I; Shi, ZG; Liu, JO. (2004) Evidence for separate binding and scaffolding domains in the immunosuppressive and antitumor marine natural product, pateamine A: Design, synthesis, and activity studies leading to a potent simplified derivative Journal of the American Chemical Society, vol. 126, 10582-10588.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▷ Associate Department Head

• SERVICE DURING 2004
  University
  ▷ Director, Industry-University Cooperative Chemistry Program
  ▷ Member, Safety Committee

  Department
  ▷ Chair, Space Committee
  ▷ Coordinator, Chemistry 101H/102H and 113/114 Laboratory Program
  ▷ Member, IUCCP Advisory Board
  ▷ Member, Undergraduate Awards Committee
  ▷ Member, Graduate Curriculum Committee
  ▷ Member, Advisory Council

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▷ CHEM 470.500 — Industrial Chemistry (total enrollment: 29)
  ▷ CHEM 690.600 — Theory of Chemical Research (total enrollment: 90)
  ▷ CHEM 691.633 — Research (total enrollment: 5)
  ▷ CHEM 691.670 — Research (total enrollment: 4)

  Summer
  ▷ CHEM 691.200 — Research (total enrollment: 2)
  ▷ CHEM 691.333 — Research (total enrollment: 2)

  Fall
  ▷ CHEM 101.201-202(H) — Fundamentals of Chemistry I (total enrollment: 18)
  ▷ CHEM 690.600 — Theory of Chemical Research (total enrollment: 3)
• SERVICE DURING 2004

University
▷ Member, National Scholarship Committee

Department
▷ Chair, Post-Tenure Review (PTR) Committee
▷ Coordinator, Quantitative Analysis Laboratory Program
▷ Member, Search Committee for Nuclear Chemistry Chair

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 316.501 — Quantitative Analysis (total enrollment: 30)
▷ CHEM 318.502 — Quantitative Analysis Laboratory (total enrollment: 18)
▷ CHEM 691.634 — Research (total enrollment: 1)

Summer
▷ CHEM 316.200 — Quantitative Analysis (total enrollment: 19)
▷ CHEM 318.200 — Quantitative Analysis Laboratory (total enrollment: 17)
▷ CHEM 489.150 — Special Topics in (total enrollment: 22)
▷ CHEM 691.334 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

▷ Texas Rock Art Project, Center for Big Bend Studies
▷ Non-Destructive AMS Analysis, Lawrence Livermore National Laboratory
▷ Supercritical Fluid Cleaning of Perishable Organic Artifacts for Non-destructive Radiocarbon Dating, National Center for Preservation Technology and Training
▷ Non-Destructive AMS Analysis, National Science Foundation
▷ Non-Destructive Radiocarbon and Stable Carbon Isotopic Analyses on Perishable Organic Archaeological Artifacts, National Science Foundation
▷ Non-Destructive Radiocarbon Dating of Peyote Cactus Specimens from the Archaic Site in the, Summerlee Foundation

• PRESENTATIONS DURING 2004


“Archaeobotany of Cacti of the Chihuahuan Desert,” Chihuahuan Desert Symposium, Sul Ross State University, Alpine, TX, October, 2004. (Contributed)


“Radiocarbon Date and X-ray Diffraction Analysis of Pictograph Samples from Tall Rock Shelter, Texas,” 11th Annual Conference for Big Bend Studies, Sul Ross State University, Alpine, TX, November, 2004. (Contributed)

• PUBLICATIONS DURING 2004

Jensen, A; Mallouf, RJ; Guilderson, T; Steelman, KL; Rowe, MW. (2004) Radiocarbon Assay and X-ray Diffraction Analysis of Pictograph Samples from Tall Rockshelter, Davis Mountains, TX The Journal of Big Bend Studies, vol. 16, 31-46.


• HONORS DURING 2004
  College
    ▶ Distinguished Achievement Award, Association of Former Students

• SERVICE DURING 2004
  National
    ▶ Member, NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Washington, DC
    ▶ Member, DOE Oak Ridge National Laboratory (ORNL) Analytical, Electrochemistry, and Heavy Element Review, Oak Ridge, Tennessee
    ▶ Member, NIH Bioanalytical, Engineering and Chemistry (BECM) study section, Washington, DC

• TEACHING ASSIGNMENTS DURING 2004
  Spring
    ▶ CHEM 691.635 — Research (total enrollment: 10)
  Summer
    ▶ CHEM 691.235 — Research (total enrollment: 2)
    ▶ CHEM 691.335 — Research (total enrollment: 8)
  Fall
    ▶ CHEM 315.502 — Quantitative Analysis (total enrollment: 30)
    ▶ CHEM 318.506 — Quantitative Analysis Laboratory (total enrollment: 21)

• RESEARCH PROJECTS DURING 2004
  ▶ Development of Laser-Ion Beam Photodissociation Methods, Department of Energy
  ▶ Center for Environmental Rural Health, National Institute for Environmental Health Sciences
  ▶ Graduate Training in Molecular Biophysics, National Institutes of Health
  ▶ Ion Mobility Mass Spectrometry for Proteomics, National Institutes of Health
  ▶ Development of Advanced TOF-Mass Spectrometry, National Science Foundation
  ▶ Development of Advanced Time-of-Flight (TOF) Mass Spectrometry, Texas Advanced Research Program
  ▶ Studies of the Structure of Gas-Phase Peptide Ions, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004


“A New Paradigm for Proteomics: Combining MALDI Imaging-MS and Ion Mobility-MS/MS,” 31st Annual FACSS Meeting, Portland, OR, October, 2004. (Individual)


**PUBLICATIONS DURING 2004**

Atshaves, B; McIntosh, A; Payne, HR; Tichy, S; Russell, D; Kier, A; Schroeder, F. (2004) Sexually dimorphic metabolism of branched chain lipids in C57BL/6J mice *FASEB Journal*, vol. **18**, .


• HONORS DURING 2004
  National
  ▷ Petroleum Research Fund-New Faculty Award, American Chemical Society

• SERVICE DURING 2004
  National
  ▷ Participant, NSF 12th Workshop on Materials Chemistry and Nanoscience
  University
  ▷ Panelist, Academic Job Search Panel for the TAMU Career Center
  Department
  ▷ Coordinator, Inorganic Student Research Seminars
  ▷ Member, Center for Integrated Microchemical Systems
  ▷ Member, Electron Microscopy Advisory Committee of the Microscopy and Imaging Center

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▷ CHEM 491.537 — Research (total enrollment: 2)
  ▷ CHEM 681.603 — Seminar (total enrollment: 10)
  ▷ CHEM 691.637 — Research (total enrollment: 2)
  Summer
  ▷ CHEM 491.337 — Research (total enrollment: 1)
  ▷ CHEM 691.337 — Research (total enrollment: 3)
  Fall
  ▷ CHEM 107.514-525 — General Chemistry for Engineering Students (total enrollment: 262)
  ▷ CHEM 491.537 — Research (total enrollment: 2)
  ▷ CHEM 691.637 — Research (total enrollment: 4)

• RESEARCH PROJECTS DURING 2004
  ▷ Synthesis and Thermodynamic Studies of Atomically Ordered Nanocrystals, American Chemical Society
  ▷ Synthesis of Atomically Ordered Nanocrystals, College of Science
  ▷ Template-Directed Assembly of Structured Colloidal Crystals, College of Science
• PRESENTATIONS DURING 2004
  ▶ “Synthesis and Hierarchical Assembly of Complex Solid-State Materials,” Department of Chemistry and Nanoscience, Texas Lutheran University, Seguin, TX, September, 2004.( Individual)
  ▶ “Solution-Based Synthesis of Intermetallic Nanomaterials,” NSF 12th Workshop on Materials Chemistry and Nanoscience, Broomfield, CO, October, 2004.( Individual)
  ▶ “Synthesis and Hierarchical Assembly of Complex Solid-State Materials,” Department of Chemistry, Texas A&M University- Commerce, Commerce, TX, November, 2004.( Individual)

• PUBLICATIONS DURING 2004
  ▶ Schaak, RE; Avdeev, M; Lee, W-L; Lawes, G; Zandbergen, HW; Jorgensen, JD; Ong, NP; Ramirez, AP; Cava, RJ. (2004) Formation of transition metal boride and carbide perovskites related to superconducting MgCNi$_3$ Journal of Solid State Chemistry, vol. 177, 1244-1251.
  ▶ Ueland, BG; Schiffer, P; Schaak, RE; Foo, ML; Miller, VL; Cava, RJ. (2004) Specific heat study of the Na$_{0.3}$CoO$_2$$\cdot$1.3H$_2$O superconductor: Influence of the complex chemistry Physica C, vol. 402, 27-30.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Department Head

• SERVICE DURING 2004
  Department
  ▶ Chair, Trace Elemental Analysis User Group
  ▶ Member, X-Ray Diffraction User Group
  ▶ Member, NMR User Group
  ▶ Member, Mass Spectrometry User Group

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEM 691.639 — Research (total enrollment: 4)

  Summer
  ▶ CHEM 691.239 — Research (total enrollment: 1)
  ▶ CHEM 691.339 — Research (total enrollment: 4)

• RESEARCH PROJECTS DURING 2004
  ▶ Purchase of a Solid State 400 MHZ NMR Spectrometer, National Science Foundation
  ▶ Secondary ion Mass Spectrometry with Massive Projectiles, National Science Foundation, coworkers: C. Guillermier (P), S. Verkhoturov (P), S. Balderas (G), G. Hager (G), Z. Li (G), J. Locklear (G), R. Rickman (G)
  ▶ (REN) Studies in Surface Ionization, The Robert A. Welch Foundation, coworkers: C. Guillermier (P), S. Verkhoturov (P), S. Balderas (G), G. Hager (G), Z. Li (G), J. Locklear (G), R. Rickman (G)

• PRESENTATIONS DURING 2004
  ▶ “Desorption from Massive Gold Cluster Impacts,” DESPORPTION 2004, 10th International Conference, St. Petersburg, Russia, August, 2004. (Invited)
  ▶ “Multi-Ion Emission Stimulated by Large Cluster Bombardment,” 18th International Conference on the Application of Accelerators in Research and Industry, Ft. Worth, TX, October, 2004. (Invited)
• PUBLICATIONS DURING 2004


• CHAIRS
  ▶ Robert A. Welch Foundation Chair in Chemistry [2001]

• SERVICE DURING 2004
  National
  ▶ Ad hoc Member, Study Section on Natural Products, NIH
  ▶ Member, Bio-organic Chemistry
  ▶ Member, Chemistry and Biology
  ▶ Member, Tetrahedron Publications
  ▶ Member, IUPAC Committee Bioorganic Chemistry

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEM 691.640 — Research (total enrollment: 2)
  Summer
  ▶ CHEM 691.140 — Research (total enrollment: 1)
  ▶ CHEM 691.240 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  ▶ Porphyrin and Corrinoid Biosynthesis, National Institutes of Health, coworkers: P. Santander (Research Scientist), C. Pichon (Research Associate), Y. Gao (Research Staff), C. Roessner (Research Staff), H. Williams (Research Staff), G. Crawford (Technician), Y. Kajiwara (P), K. Kim (P), S. Nanda (P), J. Pennington (P), Y. Ryu (P), S.
  ▶ (REN) Porphyrin and Corrinoid Biosynthesis, National Institutes of Health, coworkers: P. Santander (Research Scientist), C. Pichon (Research Associate), Y. Gao (Research Staff), C. Roessner (Research Staff), H. Williams (Research Staff), G. Crawford (Technician), Y. Kajiwara (P), K. Kim (P), S. Nanda (P), J. Pennington (P), S. Chow (G), C.
  ▶ Genetically Engineered Synthesis of Anti-Cancer Drugs, Texas Higher Education Coordinating Board, coworkers: P. Santander (Research Scientist), C. Pichon (Research Associate), Y. Gao (Research Staff), C. Roessner (Research Staff), H. Williams (Research Staff), G. Crawford (Technician), Y. Kajiwara (P), K. Kim (P), S. Nanda (P), J. Pennington (P), Y. Ryu (P), H.

• PUBLICATIONS DURING 2004

Vévodová, J; Graham, RM; Raux, E; Schubert, HL; Roper, DI; Brindley, AA; Scott, AI; Roessner, CA; Patrick, N; Stamford, J; Stroupe, ME; Getzoff, ED; Warren, MJ; Wilson, KS. (2004) Structure/Function Studies on a S-Adenosyl-L-methionine-dependent Uroporphyrinogen III C Methyltransferase (SUMT), a Key Regulatory Enzyme of Tetrapyrrole Biosynthesis *Journal of Molecular Biology*, vol. 344, 419-433.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Professor (J), Chemical Engineering, [2003]

• SERVICE DURING 2004
  National
  ▶ Advisory Committee, NSF IGERT in Nanophotonics external advisory board, Rice University
  ▶ Elected Member, Society of Molecular Imaging
  ▶ Member, IEEE Transactions of Medical Imaging
  ▶ Member, Journal of Biomedical Optics
  ▶ Referee: Research, National Institutes of Health, Radiology (ad hoc)
  ▶ Review Panel, National Institutes of Health Review Panel, Special Study Section (ad hoc)
  ▶ Review Panel, National Institutes of Health, In Vivo Cellular and Molecular Imaging Centers (ad hoc)
  ▶ Review Panel, National Science Foundation CAREER panel, Fluid, Participate and Hydraulic Systems (ad hoc)
  ▶ Review Panel, National Institutes of Health Medical Imaging Study Panel (appointed)

University
  ▶ Member, Council of Principal Investigators

Department
  ▶ Member, Faculty Senate Member

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ CHEN 689. — Special Topics in (total enrollment: 6)

• RESEARCH PROJECTS DURING 2004
  ▶ Polymeric Carriers for Molecularity Targeted Diagnostic Agents for Near-Infrared Optical Imaging, Advanced Research Program/Advanced Technology Program
  ▶ 3-D Fluorescence Tomography with CONTN, National Institutes of Health
  ▶ 3-D Frequency-Domain Optical Mammography with APPRIZE, National Institutes of Health
  ▶ Assessment of Angiogenesis by Near-Infrared Optical Imaging, National Institutes of Health, coworkers: S. Kwon (G)
  ▶ Fluorescence Optical Imaging for Sentinel Lymph Node Mapping, National Institutes of Health
  ▶ Frequency-Domain Lifetime Spectroscopy and Imaging, National Institutes of Health
- Immobilized FRET Sensing Using FDPM, *National Institutes of Health*, coworkers: F. Liang (G)
- Small Animal Fluorescence Enhanced Optical Tomography, *National Institutes of Health*, coworkers: J. Rasmussen (G)
- GOALI: Characterization of Dense Colloidal Dispersions with FDPM, *National Science Foundation*, coworkers: S. Dali (G), Y. Huang (G)

**PRESENTATIONS DURING 2004**

- “Clinical and small animal imaging: fluorescence and bioluminescence,” Center for Gene Therapy, Baylor College of Medicine, Houston, TX, February, 2004. (Individual)
- “Fluorescence-enhanced optical tomography on large phantoms using dual point illumination geometry,” Optical Society of American Topical Meeting on Advances in Optical Imaging and Photon Migration, Orlando, FL, April, 2004. (Contributed)
- “Diagnostic molecular imaging with NIR fluorescent contrast agents,” Great Lakes Photonics Symposium, Cleveland, OH, June, 2004. (Individual)


“Assessment of in vivo near infrared fluorescence-enhanced optical imaging quality complementary to conventional gamma image display,” Society for Molecular Imaging, St. Lewis, MO, September, 2004. (Poster Contributed)

“Dual-modality optical/nuclear imaging of integrin alpha-v-beta-3 in melanoma with a single imaging probe,” Society for Molecular Imaging, St. Lewis, MO, September, 2004. (Poster Contributed)

“In vivo pharmacokinetic comparison between human Kaposi’s sarcoma and melanoma tumor models using dynamic optical imaging,” Society for Molecular Imaging, St. Lewis, MO, September, 2004. (Contributed)

“Small animal fluorescence tomography with weighted backprojection,” Society of Molecular Imaging, St. Lewis, MO, November, 2004. (Contributed)

“Three-dimensional fluorescence-enhanced absorption and lifetime tomography,” Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside, Bethesda, MD, September, 2004. (Poster Contributed)

“Towards high resolution fluorescence optical tomography with adaptive finite element methods,” Society for Molecular Imaging, St. Lewis, MO, September, 2004. (Poster Contributed)


“FRET effects assessed through frequency-domain lifetime spectroscopy of ConA-Dextran affinity system,” Fourth Annual Diabetes Technology Meeting, Philadelphia, PA, October, 2004. (Poster Contributed)

“In vivo fluorescence enhanced optical imaging and nuclear gamma camera comparison,” BMES Annual Meeting, Philadelphia, PA, October, 2004. (Contributed)


“Adaptive methods for distributed system identification in fluorescence enhanced optical tomography,” Annual Meeting of the American Institute of Chemical Engineers, Austin, TX, November, 2004. (Contributed)

“Application of frequency-domain photon migration measurements for the analysis of dense colloidal dispersions,” Annual Meeting of the American Institute of Chemical Engineers, Austin, TX, November, 2004. (Poster Contributed)
“Dual modality in vivo NIR optical and conventional gamma imaging: exploring image display figures of merit,” Annual Meeting of the American Institute of Chemical Engineers, Austin, TX, November, 2004.(Poster Contributed)

“Monitoring powder blend homogeneity with frequency domain photon migration,” Annual Meeting of the American Institute of Chemical Engineers, Austin, TX, November, 2004. (Contributed)


PUBLICATIONS DURING 2004


Pan, TS; Barber, D; Coffin-Beach, D; Sun, ZG; Sevick-Muraca, EM. (2004) Measurement of low-dose active pharmaceutical ingredient in a pharmaceutical blend using frequency-domain photon migration Journal of Pharmaceutical Sciences, vol. 93, 635-645.


• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- CHEM 222.500 — *Elements of Organic and Biological Chemistry* (total enrollment: 142)
- CHEM 383.500 — *Chemistry of Environmental Pollution* (total enrollment: 14)
- CHEM 691.641 — Research (total enrollment: 6)

**Summer**
- CHEM 491.341 — Research (total enrollment: 1)
- CHEM 685.200 — *Directed Studies* (total enrollment: 7)
- CHEM 691.241 — Research (total enrollment: 2)
- CHEM 691.341 — Research (total enrollment: 5)

**Fall**
- CHEM 222.500 — *Elements of Organic and Biological Chemistry* (total enrollment: 178)

• **RESEARCH PROJECTS DURING 2004**
- Novel Polymeric Soil Amendments to Remove Pesticides and Protect Buffer Zones, Filter Strips, and Waterways, *Department of Agriculture*
- Molecular Recognition in Dendrimers, *National Institutes of Health*
- Engineering of Nanospaces: Hybrid Membranes for Environmentally Important Separations, *National Science Foundation*
- Molecular Recognition in Clays, *The Robert A. Welch Foundation*

• **PRESENTATIONS DURING 2004**
- “Dendrimers Based on Melamine,” University of Konstanz, Germany, Konstanz, Germany, 2004. (Individual)
- “Dendrimers Based on Melamine,” Colorado State University, Fort Collins, CO, April, 2004. (Individual)
- “Dendrimers Based on Melamine,” University of Colorado, Boulder, CO, April, 2004. (Individual)
- “Dendrimers Based on Melamine,” University of Wisconsin, Madison, WI, May, 2004. (Individual)
“Dendrimers Based on Melamine,” University of Berlin, Berlin, Germany, July, 2004. (Individual)

“Dendrimers Based on Melamine,” University of Dortmund, Germany, Dortmund, Germany, July, 2004. (Individual)

“Dendrimers Based on Melamine,” University of Hamburg, Germany, Hamburg, Germany, July, 2004. (Individual)


“Dendrimers Based on Melamine,” Texas A&M University, College Station, TX, October, 2004. (Individual)

“Dendrimers Bond on Melamine,” University of Massachusetts, Amherst, MA, October, 2004. (Individual)

- PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National

Department
▷ Chair, NMR User Group
▷ Coordinator, SECC
▷ Member, Nuclear Search Committee
▷ Member, External Review Self-Study Committee
▷ Member, Computer User Group

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 689.601 — Special Topics in (total enrollment: 20)
▷ CHEM 691.642 — Research (total enrollment: 10)

Summer
▷ CHEM 691.242 — Research (total enrollment: 2)
▷ CHEM 691.342 — Research (total enrollment: 8)

Fall
▷ CHEM 234.500 — Organic Synthesis and Analysis IV (total enrollment: 14)

• RESEARCH PROJECTS DURING 2004

▷ Combinatorial Determination of Isotope Effects, National Institutes of Health
▷ (REN) New Concepts in Organic Selectivity and Mechanisms, National Institutes of Health, coworkers: C. Christian (G), A. Evans (G), J. Hirschi (G), K. Kelly (G), D. Nowlan (G), Z. Wang (G)
▷ Dynamic Effects on Ordinary Organic Reactions in Solution, The Robert A. Welch Foundation, coworkers: J. Besinaiz (G), B. Ussing (G), R. Weikel (G)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- CHEM 317.500 — *Quantitative Analysis* (total enrollment: 27)
- CHEM 318.504 — *Quantitative Analysis Laboratory* (total enrollment: 14)
- CHEM 325.501 — *Physical Chemistry Laboratory I* (total enrollment: 13)
- CHEM 325.502 — *Physical Chemistry Laboratory I* (total enrollment: 10)

**Fall**
- CHEM 325.501 — *Physical Chemistry Laboratory I* (total enrollment: 25)
- CHEM 325.502 — *Physical Chemistry Laboratory I* (total enrollment: 24)
- CHEM 434.501 — *Analytical Instrumentation Laboratory* (total enrollment: 11)
- CHEM 434.502 — *Analytical Instrumentation Laboratory* (total enrollment: 11)
• SERVICE DURING 2004

  National
  ▷ Advisory Board, Continuing International Conferences on Electrified Interfaces
  ▷ Editorial Board, *The Physics and Chemistry of Surfaces and Interfaces*
  ▷ National Vice President, Phi Lambda Upsilon (National Chemistry Honor Society)

  Department
  ▷ Chairman, Research Awards Committee
  ▷ Member, XPS User Group
  ▷ Member, Glass Blowing Shop User Group
  ▷ Member, Electronics and Machine Shops User Group

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▷ CHEM 681.602 — Seminar (total enrollment: 14)
  ▷ CHEM 691.643 — Research (total enrollment: 6)
  ▷ CHEM 695.601-602 — *Frontiers in Chemical Research* (total enrollment: 42)

  Summer
  ▷ CHEM 102.201-204 — *Fundamentals of Chemistry II* (total enrollment: 68)
  ▷ CHEM 691.343 — Research (total enrollment: 6)

  Fall
  ▷ CHEM 415.500 — *Analytical Chemistry* (total enrollment: 32)
  ▷ CHEM 695.601-602 — *Frontiers in Chemical Research* (total enrollment: 49)

• RESEARCH PROJECTS DURING 2004

  ▷ Surface Coordination Chemistry of Noble-Metal Electrodes, *The Robert A. Welch Foundation*, coworkers: J. Baricuatro (G), X. Chen (G), J. Cruz (G), M. Hossain (G), Y. Park (G), J. Sanabria-Chincilla (G)
  ▷ (REN) Surface Structure of Nanostructured Noble-Metal Electrodes, *The Robert A. Welch Foundation*, coworkers: J. Baricuatro (G), X. Chen (G), J. Cruz (G), M. Hossain (G), Y. Park (G), J. Sanabria-Chinchilla (G)

• PRESENTATIONS DURING 2004

  ▷ “Surface Chemistry of Well-Defined Palladium Electrodes,” Rockhurst University, April, 2004. (Individual)
  ▷ “Elecrocatalytic Oxidation of Aromatic Compounds Chemisorbed at Pd Surfaces,” IUCCP Meeting, Texas A&M University, College Station, TX, October, 2004. (Poster Contributed)
• PUBLICATIONS DURING 2004


➤ Jerkiewicz, G; Vatankhah, G; Lessard, J; Soriaga, MP; Park, YS. (2004) Surface-oxide growth at platinum electrodes in aqueous H2SO4 Reexamination of its mechanism through combined cyclic- voltammetry, electrochemical quartz-crystal nanobalance, and Auger electron spectroscopy measurements Electrochimica Acta, vol. 49, 1451-1459.

No report received from faculty member.
• SERVICE DURING 2004

National
  ▶ Member, National Science Foundation - REU - Leadership Group

Regional
  ▶ Chair, Local Section of the American Chemical Society

Department
  ▶ Chair, Pharmaceutical Industry-University Cooperative Chemistry Program
  ▶ Chair, Mass Spectrometry User Group
  ▶ Member, Pharmaceutical Industry - University Cooperative Chemistry Program
  ▶ Member, Protein Chemistry Laboratory User Group
  ▶ Member, Head Search Committee
  ▶ Member, Protein Chemistry Laboratory User Group
  ▶ Member, CBI Training Grant Steering Committee
  ▶ Member, X-Ray User Group
  ▶ Member, NMR User Group
  ▶ Member, IUCCP Advisory Board
  ▶ Member, Advisory Council
  ▶ Member, Admissions and Review

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 610.600 — Organic Reactions (total enrollment: 17)
  ▶ CHEM 691.644 — Research (total enrollment: 8)

Summer
  ▶ CHEM 491.344 — Research (total enrollment: 1)
  ▶ CHEM 691.144 — Research (total enrollment: 1)
  ▶ CHEM 691.344 — Research (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004

  ▶ Directed Evolution of Novel Enzymatic Activities, Life Science Task Force
  ▶ (REN) Texas A&M University Interdisciplinary Chemistry Research Program, National Science Foundation
  ▶ Total Synthesis of Bioactive Natural and Unnatural Products, The Robert A. Welch Foundation
• SERVICE DURING 2004

National
▷ Representative, Executive Board of the University Advisors and Counselors

University
▷ Faculty Advisor, Student Affiliate Chapter of the American Chemical Society

Department
▷ Associate Coordinator, Undergraduate Studies, Department of Chemistry

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 228.507 — Organic Chemistry II (total enrollment: 100)
▷ CHEM 228.511 — Organic Chemistry II (total enrollment: 99)

Fall
▷ CHEM 100.500 — Horizons in Chemistry (total enrollment: 86)
▷ CHEM 227.507 — Organic Chemistry I (total enrollment: 100)
▷ CHEM 227.508 — Organic Chemistry I (total enrollment: 100)

• PUBLICATIONS DURING 2004

• CHAIRS
  ▶ Gradipore Chair in Separation Science in Chemistry /2001/

• SERVICE DURING 2004

National
  ▶ Editor, *Special Issue of Electrophoresis*
  ▶ Editorial Board, *Electrophoresis*
  ▶ Editorial Board, *Journal of Separation Science*
  ▶ Editorial Board, *Enantiomer*
  ▶ Editorial Board, *Journal of Chromatography*

Department
  ▶ Member, Graduate Curriculum Committee
  ▶ Member, Graduate Awards Committee
  ▶ Member, Undergraduate Awards Committee
  ▶ Member, Library Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 491.545 — Research (total enrollment: 1)
  ▶ CHEM 689.602 — Special Topics in (total enrollment: 5)
  ▶ CHEM 691.645 — Research (total enrollment: 11)

Summer
  ▶ CHEM 691.145 — Research (total enrollment: 2)
  ▶ CHEM 691.245 — Research (total enrollment: 2)
  ▶ CHEM 691.345 — Research (total enrollment: 9)

Fall
  ▶ CHEM 315.501 — Quantitative Analysis (total enrollment: 21)
  ▶ CHEM 318.504 — Quantitative Analysis Laboratory (total enrollment: 19)
  ▶ CHEM 681.602 — Seminar (total enrollment: 25)
• RESEARCH PROJECTS DURING 2004
  ▶ Commercialization of a Novel Family of Nitrogen-Free Reagents for Biomedical Analysis
  (matching funds for ATP grant), Antek Instruments, Inc., coworkers: M. Busby (G), S.
  Lalwani (G), S. Li (G), P. Lim (G), O. Maldonado (G), K. Nzeadive (G), A. Salinas (G),
  B. Sinajon (G)
  ▶ High-Resolution Protein Separations, Beckman Foundation
  ▶ Membrane-Mediated Electrophoretic Separations, Gradiopore Ltd.
  ▶ Preparative-Scale Electrophoretic Separations, Gradiopore Ltd.
  ▶ Commercialization of a Novel Family of Nitrogen-Free Reagents for Biomedical Analysis,
  Texas Advanced Technology Program
  ▶ Capillary and Prepartive Isoelectric Focusing, UNFUNDED, coworkers: R. Estrada (G),
  N. Fleisher (G), A. Hwang (G), P. Lim (G), R. North (G), E. Shave (G), B. Sinajon (G),
  E. Tutu (G)
  ▶ Full Column Imaging Capillary Isoelectric Focusing, UNFUNDED, coworkers: P. Lim (G),
  R. North (G), E. Shave (G)
  ▶ Synthesis of Novel Isoelectric Buffers, UNFUNDED, coworkers: N. Fleischer (G), A.
  Hwang (G), S. Lalwami (G), E. Shave (G), E. Tutu (G)
  ▶ Synthesis of Single-Isomer Charged-Cyclodextrins for Capillary Electrophoresis, UN-
  FUNDED, coworkers: M. Busby (G), S. Li (G), O. Maldonado (G), K. Nzeadibe (G),
  S. Sanchez- Vindas (G)

• PRESENTATIONS DURING 2004
  ▶ “Recent Developments in Preparative-Scale Electrophoretic Separations,” HPCE=04,
  Salzburg, Austria, February, 2004.( Individual)
  ▶ “Enantiomer Separations Using Single-Isomer Sulfated Cyclodextrins,” Eli Lilly, Indiana-
  polis, IN, April, 2004.( Individual)
  ▶ “Protein Separations by Preparative-Scale Electrophoresis,” Eli Lilly, Indianapolis, IN,
  April, 2004.( Individual)
  ▶ “pH-Biased Preparative-Scale Electrophoretic Separations,” PREP2004 Symposium, Bal-
  timore, MD, May, 2004.( Individual)
  ▶ “Recent Developments in Preparative-Scale Electrophoretic Separations,” European
  Biochromatography Meeting, Bordeaux, France, May, 2004.( Individual)
  ▶ “Protein Separations by Preparative-Scale Electrophoresis,” BIO2004, San Francisco, CA,
  June, 2004.( Individual)
  ▶ “Recent Developments in Preparative-Scale Electrophoretic Separations,” HPLC=04,
  Philadelphia, PA, June, 2004.( Individual)
  ▶ “Antibody Separations by Isoelectric Focusing,” Berlex Biosciences, Richmond, CA, July,
  2004.( Individual)
  ▶ “Protein Separations by Preparative-Scale Electrophoresis,” Genetech, San Francisco, CA,
  August, 2004.( Individual)
  ▶ “pH-Biased Preparative-Scale Electrophoretic Separations,” ITP’04, Rome, Italy, Septem-
  ber, 2004.( Individual)

**PUBLICATIONS DURING 2004**

• SERVICE DURING 2004

National

Department
▷ Member, Faculty recruiting for biological and organic divisions
▷ Member, Biological division faculty candidate screening committee
▷ Presenter, Graduate recruitment talk- Texas PanAm
▷ Seminar Coordinator, Organic Division

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 446.500 — Organic Chemistry III (total enrollment: 13)
▷ CHEM 691.646 — Research (total enrollment: 4)

Summer
▷ CHEM 691.146 — Research (total enrollment: 1)
▷ CHEM 691.246 — Research (total enrollment: 1)
▷ CHEM 691.346 — Research (total enrollment: 4)

Fall
▷ CHEM 481.500 — Seminar (total enrollment: 16)
▷ CHEM 681.601 — Seminar (total enrollment: 38)

• RESEARCH PROJECTS DURING 2004

▷ Probing Marine Natural Product Biosynthetic Pathways, *Center for Environmental and Rural Health*
▷ Natural Product Center Funds, *College of Science*
▷ New Faculty Start-Up Funds, *College of Science*
▷ Research Corporation Innovation Award, *Research Corporation*
▷ Investigation of the Biological Roles of 1,2,4-Trisubstituted and 1,4-Disubstituted Cyclolhexadienes, *The Robert A. Welch Foundation*

• PRESENTATIONS DURING 2004

▷ Ohio State University, Coleman Research Group, February, 2004.( Individual)
▷ Texas A&M University, Department of Biology, College Station, TX, April, 2004.( Individual)
▷ Texas PanAm, Department of Chemistry, October, 2004.( Individual)
• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

College
▶ Member, Promotion and Tenure Review Committee

Department
▶ Chair, Colloquium and Seminar Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▶ CHEM 324.502 — Physical Chemistry (total enrollment: 28)
▶ CHEM 491.547 — Research (total enrollment: 1)
▶ CHEM 691.647 — Research (total enrollment: 1)

Summer
▶ CHEM 691.247 — Research (total enrollment: 1)

Fall
▶ CHEM 323.502 — Physical Chemistry (total enrollment: 36)

• RESEARCH PROJECTS DURING 2004

▶ (REN) Excitation of Atoms and Molecules in Collisions with Fast, Highly-Charged Ions, The Robert A. Welch Foundation, coworkers: V. Horvat (P), A. Perumal (P), Y. Peng (G), K. Fruchey (U)
▶ Excitation of Atoms and Molecules in Collisions with Fast, Highly-Charged Ions, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004

▶ “Energy Dependence of Cross Sections for Target K Vacancy Production in Heavy Ion Collisions,” 18th International Conference on the Application of Accelerators in Research and Technology, Ft. Worth, TX, October, 2004.(Poster Individual)
▶ “Multiple Ionization in L-shell Ionizing Collisions,” 18th International Conference on the Application of Accelerators in Research and Technology, Ft. Worth, TX, October, 2004.(Invited)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

**International**
- Foreign Member, Polish Academy of Sciences

**National**
- Editorial Advisory Board, *Journal of Biochemistry and Molecular Biology*
- Editorial Board, *ASBMB Today*
- Editorial Board, *HEMTRACTS-Biochemistry and Molecular Biology*
- Editorial Board, International Bulletin of Molecular Medicine
- Elected Member, Nominations Committee, American Society for Biochemistry and Molecular Biology (ASBMB)
- Elected Member, American Society for Biochemistry and Molecular Biology Publications Committee
- Fellow, American Academy of Microbiology, American Society of Microbiology, Washington, D.C.
- Founding Associate Editor, *Journal of Experimental Therapeutics and Oncology*
- Founding Member, *Molecular and Cellular Proteomics*
- Initiator and Organizer, White House visits with Nobel Laureates
- Member, NIH, National Institute of Environmental Health Science Scientific Advisory Council
- Member, FASEB Executive Director Search Committee
- Member, FASEB Executive Committee
- Member, American Society for Biochemistry and Molecular Biology Council
- Member, American Society for Biochemistry and Molecular Biology Membership Task Force
- Member, U.S. National Committee, International Union of Biochemistry and Molecular Biology
- Member, National Institutes of Health, Site Visit Committee
- Member, FASEB Finance and Science Policy Committee
- Member, Campaign for Medical Research, Board of Directors
- Member, National Institute of Environmental Health Sciences (NIEHS) Directorship Search Committee
- Member, FASEB Location Committee
- Member, FASEB, Board of Directors
- Member, American Society for Biochemistry and Molecular Biology Centennial Organization Committee
Member, Nat’l Institute of Environmental Health Sciences, Nat’l Advisory Environmental Health Sci. Council
Member, American Society for Biochemistry and Molecular Biology Finance and Meetings Committees
Member, Nat’l Inst. of Environ. Health Sci., External Review Comm., Div. of Extramural Research and Training
Member, Damon Ruyon-Walter Winchell Cancer Research Fund, Nat’l Steering Committee of Former Fellows
Member, NIH Study Section Committees
Member, American Society for Biochemistry and Molecular Biology, Search Committee for new Executive Officer
Organizer, Coalition of American Scientific Society Presidents (CASSP)
President, Federation of American Societies for Experimental Biology (FASEB)
President, American Society for Biochemistry and Molecular Biology
Scientific Advisory Board, Helen Keller Eye Research Foundation

State
Member, Baylor College Of Medicine (BCOM), External Advisory Board, Specific Progress of Research Excellence in Prostate Cancer

University
Member, Cullen College of Engineering, University of Houston, Engineering Leadership Board

• RESEARCH PROJECTS DURING 2004
(REN) DNA Triplexes in the Etiology of Friederich’s Ataxia, Friederich’s Ataxia Research Alliance
DNA Triplexes in the Etiology of Friederich’s Ataxia, Friederich’s Ataxia Research Alliance
Mechanisms of Genetic Instabilities of Triplet Repeats, National Institutes of Health
Kinetics and Thermodynamics of GAA-TCC Repeat Sequences, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004
AMGDB Conference, Guayaquil, Galapagos, Panama City, Panama, January, 2004. (Individual)
NIH Meeting regarding Extramural Research funding, Washington, DC, January, 2004. (Individual)
FASEB meetings with the NIH and VA, Washington, DC, February, 2004. (Individual)
▶ NIEHS Director Search Committee meeting, Washington, DC, March, 2004. (Individual)
▶ FASEB Experimental Biology meetings, and ASPET, ASIP, and AAA council meetings, Washington, DC, April, 2004. (Individual)
▶ FASEB Finance Committee meeting, Bethesda, MD, April, 2004. (Individual)
▶ FASEB Board of Directors meeting, May, 2004. (Individual)
▶ FASEB Staff Retreat and Conference, Gaithersburg, MD, May, 2004. (Individual)
▶ University of Minnesota lecture, Minneapolis, MN, May, 2004. (Individual)
▶ University of Wisconsin, Steenbock Symposium presentation, Madison, WI, May, 2004. (Individual)
▶ ASBMB Council Meeting, Boston, MA, June, 2004. (Individual)
▶ Campaign for Medical Research Capitol Hill visits, Washington, DC, June, 2004. (Individual)
▶ FASEB Staff Retreat and Conference, Reston, VA, June, 2004. (Individual)
▶ IUBMB/ASBMB annual meetings, Boston, MA, June, 2004. (Individual)
▶ Representative James Greenwood meeting, Washington, DC, June, 2004. (Individual)
▶ FASEB Science Policy Committee Face-to-Face meeting, Bethesda, MD, September, 2004. (Individual)
▶ Daniel W. Kempner Visiting Professorship Symposium, Plenary Speaker, University of Texas Medical Branch, Galveston, TX, October, 2004. (Individual)
▶ H. Gobind Khorana International Symposium on Nucleic Acids and Signal Transduction presentations, Okayama, Japan, October, 2004. (Individual)
▶ Shizuoka Cancer Center Research Institute, Applied Genome Informatics Division Lecture, Shizuoka, Japan, October, 2004. (Individual)
▶ Tokyo University of Pharmacy and Life Sciences, School of Pharmacy Lectures, Tokyo, Japan, October, 2004. (Individual)
▶ Yale University, Lecture to the Department of Molecular, Cellular, and Developmental Biology, New Haven, CT, October, 2004. (Individual)
▶ “Stem Cells: Saving Lives or Crossing Lines,” James A Baker, III Institute for Public Policy, University of Texas MD Anderson Cancer Center, Houston, TX, November, 2004. (Individual)
▶ ASBMB Public Affairs Advisory Committee meeting, Dallas, TX, November, 2004. (Individual)
▶ University of Texas at Dallas, Department of Biology Lecture, Richardson, TX, November, 2004. (Individual)
▶ ASBMB Centennial Committee meeting, Bethesda, MD, December, 2004. (Individual)
FASEB Board of Directors meeting, Bethesda, MD, December, 2004. (Individual)

NIEHS/NIH Advisory Committee meeting and the Toxicogenomics Research Conference at UNC- Chapel Hill, Chapel Hill and Research Triangelpark, December, 2004. (Individual)

University of Cardiff, Wales, Lectures and collaborative meetings, Cardiff, Wales, UK, December, 2004. (Individual)

• PUBLICATIONS DURING 2004

Bacolla, A; Jaworski, A; Larson, JE; Jakupciak; JP; Chuzhanova, N; Abeysinghe, SS; O’Connell, CD; Cooper, DN; Wells, RD. (2004) Breakpoints of Gross Deletions Coincide with Non-B DNA Conformations Proceedings of the National Academy of Science, **vol. 101**, 14162-14167.


Dere, R; Napierala, M; Ranum, LPW; Wells, RD. (2004) Hairpin Structure-Forming Propensity of the (CCTG●CAGG) Tetrancleotide Repeats Contributes to the Genetic Instability Associated with Myotonic Dystrophy Type 2 Journal of Biological Chemistry, **vol. 279**, 41715-41726.


Mochmann, LH; Wells, RD. (2004) Transcription Influences the Types of Deletion and Expansion Products in an Orientation-Dependent Manner from GAC●GTC Repeats, a Triplet Repeat Associated with Skeletal Dysplasias Nucleic Acids Research, **vol. 32**, 4469-4479.


VICKIE M. WILLIAMSON

SENIOR LECTURER (979) 845-4634
CHEM-First Year Chemistry williamson@mail.chem.tamu.edu

• SERVICE DURING 2004

National
▷ Editorial Board, *Journal for Science Education and Technology*
▷ Feature Editor, *Journal of Chemical Education*
▷ Member, ACS General Chemistry Blended Exam Committee
▷ Member, ACS Chemical Education Research Committee
▷ Referee: Journals, *Journal of Chemical Education*

University
▷ Member, Texas A&M Regents’ Initiative

Department
▷ Organizer, Chemistry 101-102 TA lab training
▷ Organizer, New Graduate Student training

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ CHEM 102.543-554 — *Fundamentals of Chemistry II* (total enrollment: 300)
▷ CHEM 102.554-559 — *Fundamentals of Chemistry II* (total enrollment: 311)
▷ CHEM 116.503 — *Molecular Science for Citizens Laboratory* (total enrollment: 15)
▷ CHEM 685.600 — *Directed Studies* (total enrollment: 3)

Summer
▷ CHEM 485.201 — *Directed Studies* (total enrollment: 1)
▷ CHEM 685.100 — *Directed Studies* (total enrollment: 2)
▷ CHEM 685.201 — *Directed Studies* (total enrollment: 7)
▷ CHEM 685.202 — *Directed Studies* (total enrollment: 1)

Fall
▷ CHEM 101.501-511 — *Fundamentals of Chemistry I* (total enrollment: 262)
▷ CHEM 685.601 — *Directed Studies* (total enrollment: 3)
▷ CHEM 698.600 — *Inquiry and Chemical Concepts* (total enrollment: 6)

• RESEARCH PROJECTS DURING 2004

▷ Investigating Students Attitudes Towards Organic Chemistry, *UNFUNDED*
▷ Knowledge of Historical Background Compared to Understanding of the Structure of the Atom, *UNFUNDED*
Student Attitudes Towards Learning Conceptual Quantitative Analysis, *UNFUNDED*

**PRESENTATIONS DURING 2004**

- “Teaching assistant attitudes and concerns relevant to a laboratory innovation implementation,” 18th Biennial Conference on Chemical Education, Ames, IA, July, 2004. (Contributed)
- “Creating the collective,” Southwest Regional Meeting of the American Chemical Society, Dallas, TX, October, 2004. (Individual)
- “Electronic homework in the undergraduate chemistry classroom,” Southwest Regional Meeting of the American Chemical Society, Dallas, TX, October, 2004. (Individual)
- “Teaching assistant attitudes and concerns relevant to a laboratory innovation implementation,” Southwest Regional Meeting of the American Chemical Society, Dallas, TX, October, 2004. (Contributed)
- “The use of video and molecular animations to induce conceptual change,” Southwest Regional Meeting of the American Chemical Society, Dallas, TX, October, 2004. (Contributed)
- “Molecular visualization in the chemistry classroom,” Conference for the Advancement of Science Teaching for the Science Teachers Association of Texas, Corpus Christi, TX, November, 2004. (Individual)

**PUBLICATIONS DURING 2004**

• SERVICE DURING 2004

University
  ▶ ALLY, Texas A&M ALLY
  ▶ Faculty Advisor, Equal Rights Alliance
  ▶ Membership Chair, AAUP (Texas A&M University)

Department
  ▶ Member, Computer Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ CHEM 631.600 — Statistical Thermodynamics (total enrollment: 12)

Summer
  ▶ CHEM 323.100 — Physical Chemistry (total enrollment: 12)
  ▶ CHEM 691.349 — Research (total enrollment: 1)

Fall
  ▶ CHEM 648.600 — Principles of Quantum Mechanics (total enrollment: 13)
  ▶ CHEM 691.349 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

  ▶ (REN) Multiconfigurational-Based Green’s Function Approaches for Directly Calculating Inner Valence Principal and Valence Shake-up Ionization Potentials, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004


• PUBLICATIONS DURING 2004


SHERRY J. YENNELLO

PROFESSOR
CHEM-Physical/Nuclear Chemistry
(979) 845-7361
yennello@comp.tamu.edu

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Associate Dean for Diversity, College of Science, [2004]

• SERVICE DURING 2004
  National
    ▶ Executive Committee, Women Encouraging the Competitive Advancement in Nuclear science
    ▶ Member, APS Division of Nuclear Physics Program Committee
    ▶ Member, Nuclear Science Advisory Committee - subcommittee on Education
    ▶ Member, APS Committee on the Status of Women in Physics
    ▶ Member, APS Division of Nuclear Physics Nominating Committee
    ▶ Member, WCI organizing committee
    ▶ Treasurer, ACS Division of Nuclear Chemistry and Technology
  University
    ▶ Chair, Sigma Xi (TAMU chapter)
    ▶ Member, Undergraduate Research Advisory Committee
    ▶ Member, Graduate Appeals Panel
    ▶ Member, Diversity Advisory Committee
    ▶ President, Women’s Faculty Network
  College
    ▶ Chair, Diversity Committee
    ▶ Member, Executive Committee
  Department
    ▶ Member, Faculty Awards Committee for Teaching/Service
    ▶ Member, Department Self Study Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
    ▶ CHEM 104.500 — Chemistry of the Elements (total enrollment: 10)
    ▶ CHEM 114.501 — Quantitative Analysis (total enrollment: 10)
    ▶ CHEM 691.660 — Research (total enrollment: 5)
  Summer
    ▶ CHEM 691.160 — Research (total enrollment: 1)
    ▶ CHEM 691.260 — Research (total enrollment: 2)
    ▶ CHEM 691.360 — Research (total enrollment: 3)
• RESEARCH PROJECTS DURING 2004
  ▶ Cyclotron-Based Nuclear Science, *Department of Energy*
  ▶ REU Site: Nuclear Science at the Texas A&M Cyclotron Institute, *National Science Foundation*
  ▶ The Equation of State for a Two-Component Nuclear System, *The Robert A. Welch Foundation*

• PRESENTATIONS DURING 2004
  ▶ “Equilibrium study: Results,” APS Meeting, Denver, CO, May, 2004.( Contributed, E. Bell)
  ▶ “Isospin and kinematical properties of heavy residues from the multifragmentation of neutron-rich systems,” Annual APS Meeting, Dever, CO, May, 2004.( Contributed, G. Souliotis)
  ▶ “Physical observables of isospin equilibrium,” Annual APS Meeting, Dever, CO, May, 2004.( Contributed)
  ▶ “Heavy Residues as probes of isospin dynamics and equilibrium in deep inelastic collisions around the Fermi energy,” Nuclear Chemistry Gordon Conference, Colby-Sawyer College, New London, NH, June, 2004.( Contributed, G. Souliotis)
  ▶ “Deep-Inelastic collisions with accelerated fission fragments from the ANL Californium source upgrade,” ATLAS User Group Meeting, Physics Division, Argonne National Laboratory, Argonne, IL, July, 2004.( Contributed, G. Souliotis)
  ▶ “Heavy-ion reaction and the nuclear equation-of-state,” 228th ACS National Meeting - Fall 2004, Philadelphia, PA, August, 2004.( Individual)
  ▶ “LabVIEW simulation of pulse shape discrimination electronics,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed)
  ▶ “Probing the density dependence of the nuclear symmetry energy via heavy-residue isoscaling,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed, G. Souliotis)
  ▶ “Pulse Shape Discrimination Using a Single Silicon Detector,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed)
  ▶ “Pulse Shape Discrimination with n-TD Silicon Detectors,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed)
  ▶ “Quasiprojectile fragmentation around mass 40,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed, A. Keksis)
  ▶ “Symmetry energy and the isospin dependent equation of state,” Division of Nuclear Physics - Fall Meeting, Chicago, IL, October, 2004.( Contributed, D. Shetty)
“Quasiprojectile fragmentation with 32 & 45 MeV/u $^{40}$Ar, $^{40}$Ca & $^{48}$Ca on $^{112}$Sn & $^{124}$Sn,” Texas A&M University, Cyclotron Institute, Graduate Student Seminar on Progress in Research, College Station, TX, November, 2004. (Contributed, A. Keksis)

“The N/Z degree of freedom and nuclear multifragmentation,” Los Alamos National Laboratory, Los Alamos, NM, November, 2004. (Contributed, E. Bell)

“We need you: the top 10 reasons to go to graduate school: graduate studies in science and engineering an exciting beginning to a great future,” MAES meeting, Austin, TX, November, 2004. (Individual)

“We need you: the top 10 reasons to go to graduate school: graduate studies in science and engineering an exciting beginning to a great future,” UT Pan American, Edinburg, TX, November, 2004. (Individual)

**PUBLICATIONS DURING 2004**

- Ma, YG; Wada, R; Hagel, K; Wang, J; Keutgen, T; Majka, Z; Murray, M; Qin, L; Smith, P; Natowitz, JB; Alfaro, R; Cibor, J; Cinuasero, M; El Masri, Y; Fabris, D; Fioretto, E; Keksis, A; Lunardon, M; Makeev, A; Marie, N; Martin, E; Martinez-Davalos, A; Menchaca-Rocha, A; Nebbia, G; Prete, G; Rizzi, V; Ruanma, A; Shetty, DV; Soulitiotis, G; Staszel, P; Veselsky, M; Viesti, G; Winchester, EM; Yennello, SJ. (2004) Evidence of critical behavior in the disassembly of nuclei with A 36 *Physical Review C: Nuclear Physics*, vol. 69, 031604 (R).

- Moustabchir, R; Beaulieu, L; Gingras, L; Roy, R; Samri, M; Boudreau, G; Gauthier, J; Gélinas, GP; Grenier, P; Ibbotson, R; Larochell, Y; Martin, E; Moisan, J; Ouerdan, D; Rowlan, D; Ruanma, A; St- Pierr, C; Thériault, D; Vallè, A; Winchester, E; Yennello, SJ. (2004) Target proximity effect and dynamical projectile breakup at intermediate energies *Nuclear Physics A*, vol. 739, 15.

- Shetty, DV; Keksis, A; Martin, E; Ruanma, A; Soulitiotis, GA; Veselsky, M; Winchester, EM; Yennello, SJ; Hagel, K; Ma, YG; Makeev, A; Mari, N; Murray, M; Natowitz, JB; Qin, J; Smith, P; Wada, R; Wan, J; Cinuasero, M; Fioretto, E; Pret, G; Fabris, D; Lunardon, M; Nebbia, G; Rizzi, V; Viesti, G; Cibor, J; Majka, Z; Staszel, P; Alfaro, R; Martinez-Davalos, A; Menchaca-Rocha, A; El Masri, Y; Keutgen, T. (2004) Mid-rapidity emission in $^{124}$Sn, $^{124}$Xe + $^{124}$Sn, $^{112}$Sn reactions at 28 MeV/nucleon *Nuclear Physics A*, vol. 734, E100.

- Shetty, DV; Yennello, SJ; Botvina, AS; Soulitiotis, GA; Jandel, M; Bell, E; Keksis, A; Soisson, S; Stein, B; Iglio, J. (2004) Symmetry energy and the isospin dependent equation of state *Physical Review C: Nuclear Physics*, vol. 70, 011601 (R).

- Soulitiotis, GA; Veselsky, M; Chubarian, G; Trache, L; Yennello, SJ. (2004) Neutron-rich rare isotope production in the Fermi energy domain *Nuclear Physics A*, vol. 734, 557.

- Soulitiotis, GA; Veselsky, M; Shetty, DV; Trache, L; Yennello, SJ. (2004) Neutron-rich rare isotope production and studies of the N/Z degree of freedom in binary collisions at Fermi energies *Nuclear Physics A*, vol. 746, 526-531.

Turbide, S; Beaulieu, L; Danielewicz, P; Viola, VE; Roy, R; Kwiatkowski, K; Hsi, WC; Wang, G; Lefort, T; Bracken, DS; Breuer, H; Cornell, E; Gimeno-Nogues, F; Ginger, DS; Gushue, S; Huang, R; Korteling, R; Lynch, WG; Morley, KB; Ramakrishnan, E; Remsberg, LP; Rowland, D; Tsang, MB; Xi, H; Yennello, SJ. (2004) Effects of in-medium cross sections and optical potential on thermal-source formation in p+ $^{197}$Au reactions at 6.2-14.6 GeV/c Physical Review C: Nuclear Physics, vol. 70, 014608.

Veselsky, M; Souliotis, GA; Yennello, SJ. (2004) Isoscaling in peripheral nuclear collisions around the Fermi energy and a signal of chemical separation from its excitation energy dependence Physical Review C: Nuclear Physics, vol. 69, 031602.


Wada, R; Keutgen, T; Hagel, K; Ma, YG; Wang, J; Murray, M; Qin, L; Smith, P; Natowitz, JB; Alfarro, R; Cibor, J; Cinausero, M; El Masri, Y; Fabris, D; Fioretto, E; Keksis, A; Kowalski, S; Lunardon, M; Makeev, A; Marie, N; Martin, E; Majka, Z; Martinez-Davalos, A; Menchaca-Rocha, A; Nebbia, G; Prete, G; Rizzi, V; Ruangma, A; Shetty, DV; Souliotis, G; Staszel, P; Veselsky, M; Viesti, G; Winchester, EM; Yennello, SJ; Zipper, W; Ono, A. (2004) Reaction dynamics and multifragmentation in Fermi energy heavy ion reactions Physical Review C: Nuclear Physics, vol. 69, 044610.
6. Research Activity, 2004

This section contains information on all funded research activity for the calendar year 2004. Information was initially reported by faculty and verified whenever possible through the granting agency. Because of calculations and rounding there is a small margin of error.

*Information reported by faculty:*

- Title
- Granting Agency
- PIs, Co-PIs, and co-workers (internal/external)
- Total Funding
- Indirect Costs
- Start & End Dates

*Calendar year calculations:*

- Total - Indirect = Direct
- # Days Total Grant = End Date - Start Date
- Daily Grant Award = Total Funding Reported / # Days Total Grant
- Grant Award for 2004 = # Days 2004 × Daily Grant Award
### 6.1 Summary of Research Support, 2004

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
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<td><strong>Federal Agencies</strong></td>
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<tr>
<td>* American Chemical Society</td>
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<tr>
<td>Schaak, R.E.</td>
<td>Synthesis and Thermodynamic Studies of Atomically Ordered Nanocrystals</td>
<td>9/1/2004</td>
<td>8/31/2006</td>
<td>5,809</td>
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<td>* Subtotal: American Chemical Society</td>
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<tr>
<td>* Army Medical Research and Materiel Command</td>
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<td>Gabbaï, F.P.</td>
<td>Disaster Relief and Emergency Medical Services (DREAMS): Texas A&amp;M Digital EMS and the Detection and Remediation of Chemical Threat Agents, (with: R. Crooks, F. Gabbaï)</td>
<td>11/1/2003</td>
<td>10/31/2005</td>
<td>70,642</td>
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<tr>
<td>* Subtotal: Army Medical Research and Materiel Command</td>
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<tr>
<td>* Army Research Office</td>
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<tr>
<td>* Subtotal: Army Research Office</td>
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<tr>
<td>* Defense Advanced Research Projects Agency</td>
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<tr>
<td>* Subtotal: Defense Advanced Research Projects Agency</td>
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<tr>
<td>* Department of Agriculture</td>
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<tr>
<td>* Subtotal: Department of Agriculture</td>
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<tr>
<td>Grantee</td>
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<td>Start</td>
<td>End</td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
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<tr>
<td>Clearfield, A.</td>
<td>Synthesis, Structures and Chemical Properties of Macrocyclic Ligands Covalently Bonded into Layered Arrays</td>
<td>8/15/2003</td>
<td>8/14/2006</td>
<td>89,347</td>
<td>40,653</td>
<td>130,000</td>
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<tr>
<td>Clearfield, A.</td>
<td>Strategic Design and Optimization of Inorganic Sorbents for Cesium, Strontium</td>
<td>9/15/2001</td>
<td>9/14/2004</td>
<td>50,046</td>
<td>8,623</td>
<td>58,669</td>
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<td>Crooks, R.M.</td>
<td>From First Principles Design to Realization of Bimetallic Catalysts for Ultrahigh Selectivity</td>
<td>9/1/2003</td>
<td>8/31/2006</td>
<td>40,200</td>
<td>19,800</td>
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<td>Natowitz, J.B.</td>
<td>Highly Excited Nuclei</td>
<td>1/1/2002</td>
<td>12/31/2006</td>
<td>194,600</td>
<td>17,200</td>
<td>211,800</td>
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**Subtotal: Department of Defense**

89,347 | 40,653 | 130,000

**Subtotal: Department of Energy**

1,273,111 | 267,539 | 1,530,649

**Environmental Protection Agency**
<table>
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<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
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</table>

- **Subtotal:** Environmental Protection Agency 108,801 23,999 132,800

- **Lawrence Livermore National Laboratory**
  - Rowe, M.W. | Non-Destructive AMS Analysis | 1/1/2003  | 12/31/2004 | 3,250  | 0        | 3,250  |

- **Subtotal:** Lawrence Livermore National Laboratory 3,250 0 3,250

- **National Aeronautics and Space Administration**

- **Subtotal:** National Aeronautics and Space Administration 31,417 0 31,417

- **National Center for Preservation Technology and Training**
  - Rowe, M.W. | Supercritical Fluid Cleaning of Perishable Organic Artifacts for Non-destructive Radiocarbon Dating | 6/1/2004  | 12/31/2005 | 5,528  | 1,843    | 7,370  |

- **Subtotal:** National Center for Preservation Technology and Training 5,528 1,843 7,370

- **National Institute for Environmental Health Sciences**

- **Subtotal:** National Institute for Environmental Health Sciences 17,402 14,529 31,931
<table>
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<th>Grantee</th>
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<tr>
<td>Romo, D.</td>
<td>Synthetic/Mechanistic Studies of Bioactive Marine Agents</td>
<td>8/1/2000</td>
<td>7/31/2005</td>
<td>157,449</td>
<td>60,580</td>
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<td><strong>Subtotal:</strong> National Institute of General Medical Studies</td>
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<td>Burgess, K.</td>
<td>Fluorescent Probes for Multiplexed Intracellular Imaging</td>
<td>8/1/2004</td>
<td>7/31/2008</td>
<td>60,856</td>
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<td>Burgess, K.</td>
<td>Graduate Training in Biological Chemistry</td>
<td>7/12/2002</td>
<td>6/30/2004</td>
<td>19,963</td>
<td>1,357</td>
<td>21,320</td>
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<td>Burgess, K.</td>
<td>Unnatural Nucleotides for DNA Sequencing</td>
<td>8/1/2001</td>
<td>7/31/2005</td>
<td>325,012</td>
<td>52,991</td>
<td>378,003</td>
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<tr>
<td>DeRose, V.J.</td>
<td>Graduate Training in Molecular Biophysics, (with: P. Cremer, V. DeRose, P. Fitzpatrick, M. Hall, A. Holzenburg, A. Johnson, F. Raushel, D. Russell)</td>
<td>7/1/2003</td>
<td>6/30/2008</td>
<td>6,010</td>
<td>358</td>
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<td>Fitzpatrick, P.F.</td>
<td>Enzymes of Neurotransmitter Biosynthesis</td>
<td>12/1/2003</td>
<td>11/30/2007</td>
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<td>Fitzpatrick, P.F.</td>
<td>Mechanisms of Flavoproteins</td>
<td>7/1/2003</td>
<td>6/30/2007</td>
<td>200,000</td>
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<td>Lindahl, P.A.</td>
<td>Iron Metabolism in Mitochondria</td>
<td>9/1/2004</td>
<td>8/31/2006</td>
<td>45,645</td>
<td>20,768</td>
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<td>Rauschel, F.M.</td>
<td>Enzymatic Detoxification of Organophosphate Nerve Agents</td>
<td>7/1/2003</td>
<td>6/30/2007</td>
<td>200,000</td>
<td>67,000</td>
<td>267,000</td>
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<td>Rauschel, F.M.</td>
<td>Graduate Training in Molecular Biophysics, (with: P. Cremer, V. DeRose, P. Fitzpatrick, M. Hall, A. Holzenburg, A. Johnson, F. Raushel, D. Russell)</td>
<td>7/1/2003</td>
<td>6/30/2008</td>
<td>6,010</td>
<td>358</td>
<td>6,368</td>
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<td>Rauschel, F.M.</td>
<td>Isotopic Probes of Enzyme Reaction Mechanisms</td>
<td>1/1/2002</td>
<td>12/31/2005</td>
<td>225,000</td>
<td>73,000</td>
<td>298,000</td>
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<td>Rauschel, F.M.</td>
<td>Mechanism and Control of Urea Biosynthesis</td>
<td>9/1/2001</td>
<td>8/31/2006</td>
<td>165,200</td>
<td>75,200</td>
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<td>Romo, D.</td>
<td>Novel Anticancer Fatty Acid Synthase Inhibitors</td>
<td>4/1/2004</td>
<td>3/31/2008</td>
<td>178,288</td>
<td>38,368</td>
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<td>Scott, A.</td>
<td>Porphyrin and Corrinoid Biosynthesis</td>
<td>2/1/1999</td>
<td>1/31/2004</td>
<td>21,429</td>
<td>9,527</td>
<td>30,956</td>
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<td>Scott, A.</td>
<td>(REN) Porphyrin and Corrinoid Biosynthesis</td>
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<td>Simanek, E.E.</td>
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*Subtotal: National Institutes of Health*  
4,648,211 1,345,304 5,993,515

**National Science Foundation**

| Department of Chemistry, . | Upgrade of the EPR Facility at Texas A&M University (V. Derose, P. Lindahl; M. Daresnbourg, K. Dunbar, P. Fitzpatrick, F. Gabbai), (with: . *Department of Chemistry) | 3/15/2001 | 2/29/2004 | 6,730 | 0 | 6,730 |
| Bergbreiter, D.E.          | New Syntheses of Hyperbranched Ultrathin Grafts                      | 1/1/2004    | 12/31/2006  | 69,867 | 25,133   | 95,000    |

SEC. 6. RESEARCH ACTIVITY 303
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<td>Supramolecular Arrays Based on Dimetal Building Units</td>
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<td>Natural Organometallic Catalytic Sites: H₂-Activating Metalloenzymes</td>
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<td>Dunbar, K.R.</td>
<td>Molecules, Large Clusters and Extended Arrays with Metal-Ligand Open-shell Units: Syntheses, Magneto-Structural Correlations and Applications to Materials Design</td>
<td>7/1/1999</td>
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<td>The Physical and Chemical Properties of Nanosized Metal Clusters on Oxide Surfaces</td>
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<td>Engineering of Nanospaces: Hybrid Membranes for Environmentally Important Separations</td>
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* Subtotal: National Science Foundation 2,265,592 697,943 2,963,535

* U.S. Civilian Research and Development Foundation


* Subtotal: U.S. Civilian Research and Development Foundation 921 0 921

* United States Air Force


* Subtotal: United States Air Force 308,367 54,650 363,017

* Subtotal: Federal Agencies 9,303,831 2,613,848 11,917,679

**INDUSTRIAL AGENCIES**

* Amersham Biosciences AB

Burgess, K.               | Compound Screening | 12/18/2001  | 12/17/2006  | 6,200   | 0        | 6,200  |

* Subtotal: Amersham Biosciences AB 6,200 0 6,200

* Antek Instruments, Inc.

Vigh, G.                  | Commercialization of a Novel Family of Nitrogen-Free Reagents for Biomedical Analysis (matching funds for ATP grant) | 1/1/2002    | 8/31/2004   | 119,130 | 0        | 119,130 |

* Subtotal: Antek Instruments, Inc. 119,130 0 119,130

* Dow Chemical Co.


* Subtotal: Dow Chemical Co. 13,333 0 13,333

* DuPont, Inc.

SEC. 6. RESEARCH ACTIVITY 307
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<td>Sasol North America</td>
<td>Understanding Alkyl Exchange Processes in Mixtures Containing ATE, a Fluorinated Boron Activator and A Zirconocene Pre-Catalyst</td>
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International Agencies

* Friederich's Ataxia Research Alliance

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<td>Wells, R.D.</td>
<td>DNA Triplexes in the Etiology of Friederich's Ataxia</td>
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* Saudi Basic Industries Corporation
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<td>Miller, S.A.</td>
<td>Design and Synthesis of Novel Isoselective Olefin Polymerization Catalysts</td>
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<td>12/31/2006</td>
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* Subtotal: Saudi Basic Industries Corporation 33,782 0 33,782

* Subtotal: INTERNATIONAL AGENCIES 88,199 0 88,199

PRIVATE AGENCIES

* Beckman Foundation

Cremer, P.S.  Designing Combinatorial Microfluidic Networks for Proteomics (Young Investigator Award) 9/1/2001 8/31/2004 53,260 0 53,260

Vigh, G.  High-Resoultion Protein Separations 5/1/2004 12/31/2005 74,522 0 74,522

* Subtotal: Beckman Foundation 127,782 0 127,782

* Camille and Henry Dreyfus Foundation

Cremer, P.S.  Using Temperature Gradients to Study Polymer and Protein Solubility 5/1/2003 4/30/2008 11,993 0 11,993

Gao, Y.  New Faculty Award 9/1/2004 8/31/2009 2,652 0 2,652

Romo, D.  Synthesis and Biological Studies of Natural Products Displaying Potent Physiological Effects 9/1/1999 8/31/2004 7,985 0 7,985

* Subtotal: Camille and Henry Dreyfus Foundation 22,630 0 22,630

* Civilian Research & Development Foundation (CRDF)


* Subtotal: Civilian Research & Development Foundation (CRDF) 6,398 0 6,398

* North Atlantic Treaty Organization

Laane, J.  Potential Energy Surfaces in Electronic Excited States 12/1/2001 6/1/2004 932 0 932

* Subtotal: North Atlantic Treaty Organization 932 0 932

* Petroleum Research Fund
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<td>Gabbaï, F.P.</td>
<td>Supramolecular Chemistry of Trimeric ortho-tetrafluoro-phenylene Mercury with Arenes and Related Other Unsaturated Substrates</td>
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<td>Miller, S.A.</td>
<td>Dimerization, Cyclization, and Polymerization Via Aldimine Coupling</td>
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- **Subtotal: Petroleum Research Fund**
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- **Research Corporation**
  | Cremer, P.S. | The Structure and Dynamics of Phospholipids at the Biomembrane/Oxide Interface | 12/31/1999 | 12/30/2004 | 6,977  | 0        | 6,977   |
  | Miller, S.A. | Activation of Carbon Dioxide: Polyester Formation via Coordination Polymerization of Carbon Dioxide and Olefins | 5/15/2002  | 5/14/2007  | 7,000  | 0        | 7,000   |
  | Watanabe, C.M. | Research Corporation Innovation Award | 1/1/2003  | 12/31/2008 | 5,831  | 0        | 5,831   |

- **Subtotal: Research Corporation**
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- **Scott and White Research Foundation**
  | Macfarlane, R.D. | Children's Studies in Cardiovascular Disease | 1/1/2004   | 12/31/2004 | 1,179  | 0        | 1,179   |

- **Subtotal: Scott and White Research Foundation**
  1,179        0        1,179

- **Summerlee Foundation**
  | Rowe, M.W. | Non-Destructive Radiocarbon Dating of Peyote Cactus Specimens from the Archaic Site in the | 1/1/2003   | 12/31/2004 | 5,000  | 0        | 5,000   |

- **Subtotal: Summerlee Foundation**
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- **The Robert A. Welch Foundation**
<p>| Burgess, K. | Accelerated Catalyst Discovery and Optimization | 6/1/2003  | 5/31/2006  | 50,000 | 0        | 50,000  |
| Clearfield, A. | Metal Phosphonates as Crystal Engineered Solids | 6/1/2001  | 5/31/2004  | 18,616 | 0        | 18,616  |
| Cotton, F. | Di- and Polynuclear Compounds | 6/1/2002  | 5/31/2005  | 62,000 | 0        | 62,000  |</p>
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<td>Bio-organometallic Chemistry: Binuclear Complex Models of the ACS/CODH Active Site</td>
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<td>DeRose, V.J.</td>
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<td>Nanomagnets Based on Molecules: Investigation of the Effect of Magnetic Anisotropy on the Properties of Large Moment Molecules</td>
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<td>Miller, S.A.</td>
<td>New Polyolefin Architectures from Next-Generation Transition Metal Polymerization Catalysts</td>
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<td>(REN) Multiconfigurational-Based Green's Function Approaches for Directly Calculating Inner Valence Principal and Valence Shake-up Ionization Potentials</td>
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<td>Yennello, S.J.</td>
<td>The Equation of State for a Two-Component Nuclear System</td>
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* Subtotal: The Robert A. Welch Foundation

1,680,423

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1,709,628
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<td>Gabbaï, F.P.</td>
<td>Heavy Atom-Induced Phosphorescence of Organic Materials for OLED Applications</td>
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**State Agencies**

- **Advanced Research Program/Advanced Technology Program**

- **Baylor College of Medicine**
  - Burgess, K.  
    Ultrafast SBS Method for Large-Scale Human Resequencing  
    10/1/2004 9/30/2007  
    13,695 5,588 19,283
  - Macfarlane, R.D.  
    Lipoprotein Profiling, Diabetes  
    1/1/2004 12/31/2004  
    900 0 900
  - **Subtotal:** Baylor College of Medicine  
    14,595 5,588 20,183

- **Johns-Hopkins University**
  - Macfarlane, R.D.  
    New Borns Inherited Risk Factors for Heart Disease  
    1/1/2004 12/31/2004  
    3,420 0 3,420
  - Romo, D.  
    Synthesis of Pateamine A and Derivatives  
    4/1/2003 3/31/2005  
    18,788 0 18,788
  - **Subtotal:** Johns-Hopkins University  
    22,208 0 22,208

- **Louisiana State University**
  - Lucchese, R.R.  
    Photoelectron- Vibration Coupling in Nonlinear 33,585  
    15,281 48,867
  - **Subtotal:** Louisiana State University  
    33,585 15,281 48,867

- **Texas A&M University**
  - Romo, D.  
    Texas Bridges to the Doctorate  
    9/1/2003 7/31/2005  
    12,329 987 13,315
  - **Subtotal:** Texas A&M University  
    12,329 987 13,315

- **Texas Advanced Research Program**
  - Hughbanks, T.R.  
    Rare-Earth Metal Clusters as Single-Molecule Magnets  
    1/1/2002 8/31/2004  
    47,949 0 47,949
  - Russell, D.H.  
    Development of Advanced Time-of-Flight (TOF) Mass Spectrometry  
    1/1/2002 8/31/2004  
    74,923 0 74,923
  - **Subtotal:** Texas Advanced Research Program  
    122,872 0 122,872

- **Texas Advanced Technology Program**
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<td>Burgess, K.</td>
<td>Combinatorial Syntheses of Peptidomimetics for Affinity Purifications of Antibodies</td>
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<td>Vigh, G.</td>
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* Subsubtotal: Texas Advanced Technology Program 181,711 0 181,711

* Texas Department of Agriculture

| Macfarlane, R.D. | Texas Pecans Health Benefit | 1/1/2004   | 12/31/2004 | 13,000 | 0        | 13,000 |

* Subsubtotal: Texas Department of Agriculture 13,000 0 13,000

* Texas Higher Education Coordinating Board

| Scott, A. | Genetically Engineered Synthesis of Anti-Cancer Drugs | 1/1/2004   | 12/31/2004 | 125,000 | 0        | 125,000 |

* Subsubtotal: Texas Higher Education Coordinating Board 125,000 0 125,000

* Subtotal: State Agencies 578,413 21,856 598,269

**University Agencies**

* Center for Big Bend Studies


* Subsubtotal: Center for Big Bend Studies 378 0 378

* Center for Environmental and Rural Health

| Watanabe, C.M. | Probing Marine Natural Product Biosynthetic Pathways | 6/1/2004   | 6/1/2005 | 14,589  | 0        | 14,589 |

* Subsubtotal: Center for Environmental and Rural Health 14,589 0 14,589

* College of Science

<p>| Bevan, J.W. | Matching Funds for EPA Grant | 8/1/2002   | 7/31/2004 | 5,324   | 0        | 5,324  |
| Laane, J.   | Matching Funds for Instrument Purchase | 3/1/2002 | 2/13/2004 | 1,445   | 0        | 1,445  |</p>
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<td>Schaak, R.E.</td>
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<td>Williamson, V.M.</td>
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<td>Cremer, P.S.</td>
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<td>DeRose, V.J.</td>
<td>Directed Evolution of Novel Enzymatic Activities, (with: V. DeRose, P. Fitzpatrick, M. Manson, F. Raushel, G. Sulikowski)</td>
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<td>Romo, D.</td>
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SEC. 6. RESEARCH ACTIVITY 315
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- **Subtotal: Life Science Task Force**  
  238,055 0 238,055

- **Telecommunications and Informatics Task Force**

  Cotton, F.  
  9/1/2002 8/31/2004 4,937 6,158 11,096

  Cotton, F.  
  Quantum Optics and Telecommunications  
  9/1/2002 8/31/2004 6,658 0 6,658

  Dunbar, K.R.  
  9/1/2002 8/31/2004 4,937 6,158 11,096

- **Subtotal: Telecommunications and Informatics Task Force**  
  16,532 12,317 28,849

- **Vice President for Research**

  Bevan, J.W.  
  Atmospheric Chemistry and the Environment  
  9/1/2003 8/31/2006 51,279 0 51,279

- **Subtotal: Vice President for Research**  
  51,279 0 51,279

- **Subtotal: University Agencies**  
  686,708 12,317 699,025

- **Total: All Grantees**  
  13,128,828 2,671,791 15,829,824
## 6.2 Summary of Individual Support, 2004

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<td>(V. Derose, P. Lindahl; M. Daresbourg, K. Dunbar, P. Fitzpatrick, F.</td>
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<td>Gabbai), (with: . *Department of Chemistry)</td>
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<td>Foundation New Syntheses of Hyperbranched UltraThin Grafts</td>
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* Subtotal Bevan, J.W. 225,847 39,288 265,135

* Brown, L.S.

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* Subtotal Brown, L.S. 29,154 0 29,154

* Burgess, K.

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<td>Fluorescent Probes for Multiplexed Intracellular Imaging</td>
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<td>Baylor College of Medicine</td>
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<td>Texas Advanced Technology</td>
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* Subtotal Burgess, K.  

Total: $943,175, 143,955, 1,087,131

SEC. 6. RESEARCH ACTIVITY 319
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<td>8/1/2002</td>
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**Granting Agency**
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328,200 27,259 355,458

*Gao, Y.*

Camille and Henry Dreyfus Foundation New Faculty Award

9/1/2004 8/31/2009 2,652 0 2,652

*Subtotal Gao, Y.*

2,652 0 2,652

*Goodman, D.*

Department of Energy Toward an Understanding of Catalysis by Supported Metal Nanoclusters


National Science Foundation The Physical and Chemical Properties of Nanosized Metal Clusters on Oxide Surfaces

4/1/2003 3/31/2004 5,156 0 5,156

Civilian Research & Development Foundation (CRDF) Catalysis by In Situ-Generated Oxidants: A Surface Science Study of the Nature of the Active Species and the Structure of the Relevant Surface Sites

6/18/2002 6/17/2004 3,199 0 3,199


Texas Advanced Technology Program CO-Free Hydrogen for Fuel Cells via Stepwise Reforming of Hydrocarbons

1/1/2002 8/31/2004 56,963 0 56,963

*Subtotal Goodman, D.*

222,394 59,456 281,850

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| National Institutes of Health   | Iron Metabolism in Mitochondria                                       | 9/1/2004 | 8/31/2006 | 45,645 | 20,768   | 66,413  |
| The Robert A. Welch Foundation  | Biochemistry and Biophysics of YFH1p from Saccharomyces Cervisiae     | 6/1/2004 | 5/31/2007 |        |          | 29,205  |
| The Robert A. Welch Foundation  | Crystallization of CO Dehydrogenase and Related Metalloenzymes       | 6/1/2001 | 5/31/2004 | 20,685  | 0        | 20,685  |
| * Subtotal Lindahl, P.A.        |                                                                       | 187,913 | 63,692  |        |          | 280,809 |

| **Lucchese, R.R.**              |                                                                       |         |         |        |          |         |

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- **Lunsford, J.H.**


- **Subtotal Lunsford, J.H.**

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- **Macfarlane, R.D.**

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**Russell, D.M.**

| National Institutes of Health         | Graduate Training in Molecular Biophysics, (with: P. Cremer, V. DeRose, P. Fitzpatrick, M. Hall, A. Holzenburg, A. Johnson, F. Raushel, D. Russell) | 7/1/2003  | 6/30/2008 | 6,010   | 358      | 6,368   |
| National Science Foundation           | Development of Advanced TOF-Mass Spectrometry                        | 8/1/2001  | 7/31/2004 | 93,466  | 42,059   | 135,525 |
| The Robert A. Welch Foundation        | Studies of the Structure of Gas-Phase Peptide Ions                   | 6/1/2001  | 5/31/2004 | 20,685  | 0        | 20,685  |
| **Subtotal Russell, D.M.**            |                                                                        |           |           | 340,662 | 114,570  | 455,232 |

**Schaak, R.E.**

<p>| American Chemical Society             | Synthesis and Thermodynamic Studies of Atomically Ordered Nanocrystals | 9/1/2004  | 8/31/2006 | 5,809   | 0        | 5,809   |
| College of Science                    | Template-Directed Assembly of Structured Colloidal Crystals           | 6/1/2003  | 8/31/2006 | 23,062  | 0        | 23,062  |</p>
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<tr>
<td>Granting Agency</td>
<td>Title</td>
<td>Start</td>
<td>End</td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
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<tr>
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<tr>
<td>The Robert A. Welch Foundation</td>
<td>Total Synthesis of Bioactive Natural and Unnatural Products</td>
<td>6/1/2001</td>
<td>5/31/2004</td>
<td>22,753</td>
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<td>22,753</td>
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</table>

**Subtotal Sulikowski, G.A.** 81,449 7,500 88,949

| Antek Instruments, Inc.         | Commercialization of a Novel Family of Nitrogen-Free Reagents for Biomedical Analysis (matching funds for ATP grant) | 1/1/2002    | 8/31/2004   | 119,130  | 0        | 119,130 |
| Gradipore Ltd.                 | Preparative-Scale Electrophoretic Separations                          | 1/1/2004    | 12/31/2004  | 225,000  | 0        | 225,000 |
| Beckman Foundation             | High-Resoultion Protein Separations                                    | 5/1/2004    | 12/31/2005  | 74,522   | 0        | 74,522  |
| Texas Advanced Technology      | Commercialization of a Novel Family of Nitrogen-Free Reagents for Biomedical Analysis | 1/1/2002    | 8/31/2004   | 49,749   | 0        | 49,749  |

**Subtotal Vigh, G.** 530,901 0 530,901

| Research Corporation Innovation Award | Research Corporation Innovation Award | 1/1/2003    | 12/31/2008  | 5,831    | 0        | 5,831   |
| The Robert A. Welch Foundation    | Investigation of the Biological Roles of 1,2,4-Trisubstituted and 1,4-Disubstituted Cyclohexadienes | 9/1/2004    | 8/31/2007   | 16,590   | 0        | 16,590  |
| Center for Environmental and Rural Health | Probing Marine Natural Product Biosynthetic Pathways | 6/1/2004    | 6/1/2005    | 14,589   | 0        | 14,589  |
| College of Science               | Natural Product Center Funds                                           | 7/1/2004    | 7/1/2006    | 17,047   | 0        | 17,047  |
| College of Science               | New Faculty Start-Up Funds                                            | 9/1/2002    | 8/31/2004   | 149,795  | 0        | 149,795 |

**Subtotal Watanabe, C.M.** 203,851 0 203,851

| Watson, R.L.                    |                                                                      |             |             |          |          |         |

SEC. 6. RESEARCH ACTIVITY 335
<table>
<thead>
<tr>
<th>Granting Agency</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
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<tbody>
<tr>
<td>The Robert A. Welch Foundation</td>
<td>Excitation of Atoms and Molecules in Collisions with Fast, Highly-Charged Ions</td>
<td>6/1/2001</td>
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<td>(REN) Excitation of Atoms and Molecules in Collisions with Fast, Highly-Charged Ions</td>
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<td>5/31/2007</td>
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<td>* Subtotal Watson, R.L.</td>
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<tr>
<td>National Institutes of Health</td>
<td>Mechanisms of Genetic Instabilities of Triplet Repeats</td>
<td>6/1/2001</td>
<td>5/31/2006</td>
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<td>Friederich’s Ataxia Research</td>
<td>DNA Triplexes in the Etiology of Friederich’s Ataxia</td>
<td>2/1/2001</td>
<td>1/31/2004</td>
<td>2,439</td>
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<tr>
<td>Friederich’s Ataxia Research</td>
<td>(REN) DNA Triplexes in the Etiology of Friederich’s Ataxia</td>
<td>2/1/2004</td>
<td>1/31/2007</td>
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<td>Friederich’s Ataxia Research</td>
<td>Kinetics and Thermodynamics of GAA-TCC Repeat Sequences</td>
<td>6/1/2003</td>
<td>5/31/2006</td>
<td>37,000</td>
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<td>* Subtotal Wells, R.D.</td>
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<td>Information Technology in Science (ITS) Center</td>
<td>Energy, Equilibrium, Conservation, and Conversion in Materials Science</td>
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<td>8/1/2004</td>
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<td>* Subtotal Williamson, V.M.</td>
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<td>Yeager, D.L.</td>
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<td>The Robert A. Welch Foundation</td>
<td>(REN) Multiconfigurational-Based Green’s Function Approaches for Directly Calculating Inner Valence Principal and Valence Shake-up Ionization Potentials</td>
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<td>5/31/2006</td>
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<td>* Subtotal Yeager, D.L.</td>
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<td>Yennello, S.J.</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>Indirect</td>
<td>Total</td>
</tr>
<tr>
<td>----------------------</td>
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<td>---------</td>
<td>---------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>The Robert A. Welch Foundation</td>
<td>The Equation of State for a Two-Component Nuclear System</td>
<td>6/1/2002</td>
<td>5/31/2005</td>
<td>50,000</td>
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<td>50,000</td>
</tr>
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</table>

* Subtotal Yennello, S.J. 404,233 21,700 425,933

*** Total: All Faculty 13,128,828 2,671,791 15,829,624
Annual Report, 2004

THE DEPARTMENT OF MATHEMATICS
TEXAS A&M UNIVERSITY

College Station, Texas
## Contents

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   3.2 Undergraduate Degrees Awarded ............................... 350
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6. Research Activity ........................................................ 499
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   6.2 By Faculty Member .............................................. 512
## 1. Statistical Abstract

### I. Personnel

<table>
<thead>
<tr>
<th>Category</th>
<th>2003</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td><strong>a. Tenure-Track Faculty</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td>39</td>
<td>42</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>9</td>
<td>13</td>
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<tr>
<td>Associate Professor</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Distinguished Professor</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><strong>b. Non-Tenure-Track Faculty</strong></td>
<td></td>
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</tr>
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<td>Visiting Professor</td>
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<tr>
<td>Visiting Assistant Professor</td>
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<td>11</td>
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<tr>
<td>Visiting Associate Professor</td>
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<tr>
<td>Lecturer</td>
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<tr>
<td>Senior Lecturer</td>
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<td>8</td>
</tr>
<tr>
<td>c. Postdoctoral Fellows</td>
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</tr>
<tr>
<td>d. Graduate Students</td>
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<td>146</td>
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<tr>
<td>e. Undergraduate Majors</td>
<td>317</td>
<td>296</td>
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<td>f. Support Staff</td>
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### II. Instructional Activities

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<th>Category</th>
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<tbody>
<tr>
<td><strong>a. Graduate Semester Credit Hours</strong></td>
<td>3,396</td>
<td>3,718</td>
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<tr>
<td><strong>b. Undergraduate Semester Credit Hours</strong></td>
<td>65,431</td>
<td>66,427</td>
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<tr>
<td>c. PhD Degrees</td>
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<td><strong>d. Masters Degrees</strong></td>
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<tr>
<td><strong>e. Undergraduate Degrees</strong></td>
<td>65</td>
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### III. Research Activities

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<th>Category</th>
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<td><strong>a. Research Publications</strong></td>
<td>141</td>
<td>193</td>
</tr>
<tr>
<td><strong>b. Research Presentations</strong></td>
<td>242</td>
<td>330</td>
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<tr>
<td>c. Federal</td>
<td>3,100,338</td>
<td>3,969,397</td>
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<td>d. State</td>
<td>4,155</td>
<td>404,303</td>
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<td>e. University</td>
<td>141,145</td>
<td>41,038</td>
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<td>f. Private/Nonprofit</td>
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<td>g. Industrial</td>
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<td><strong>Total</strong></td>
<td><strong>3,342,604</strong></td>
<td><strong>4,462,204</strong></td>
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2. Award Highlights, 2004

By Faculty

▷ This section contains all honors and awards, as reported by individual faculty members, during the calendar year 2004.

By Students

▷ This section contains all honors and awards, as reported by the department, during the calendar year 2004.
### 2.1 Honors & Awards Received by Faculty, 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Allen</td>
<td>Selection for the Academic Keys, Who’s Who in Sciences Higher Education</td>
</tr>
<tr>
<td>A. Belmonte, Jr.</td>
<td>Distinguished Achievement College-Level Award in Teaching, Association of Former Students</td>
</tr>
<tr>
<td>R. Ewing</td>
<td>Outstanding Innovative Research Award, CAST-TX</td>
</tr>
<tr>
<td>S. Fulling</td>
<td>Foreign Member, Royal Society of Sciences at Uppsala</td>
</tr>
<tr>
<td>J. Reddy</td>
<td>Best Paper Award, Dow Chemical, ANATECH 2004</td>
</tr>
<tr>
<td></td>
<td>Distinguished Research Award, American Society of Composites</td>
</tr>
<tr>
<td>J. Zhou</td>
<td>Feng Kang Professor of 2004, Feng Kang Foundation of China</td>
</tr>
</tbody>
</table>
## 2.2 Honors & Awards Received by Students, 2004

### Graduate

- **Bridge to the Doctorate Fellowship**  
  Jennifer Owens

- **GE Fellowship**  
  Amy Collins  
  Marta Kobiela

- **Graduate Diversity Fellowship**  
  Jan Cameron  
  Rufino Marcelino
  
  Mayumi Nabb

- **Graduate Merit Fellowship**  
  Robert Reed

- **Koss Fellowship**  
  Xuechao Du  
  Derek Magill
  
  Donald Myers  
  Guozhong Zhu

- **L.F. Gusman Prize in Mathematics**  
  Yanqi Wang

- **Mater’s Excellence Scholarship**  
  Rachel Derber  
  Candance Dibiano
  
  Stephanie Green

- **NSF VIGRE - Match Fellowship**  
  Woonjung Choi  
  Radu Dascaliuc
  
  Luan Hoang  
  Nikolas Ivanov
  
  Lavanya Kannan  
  Tao Mei
  
  Dimitar Trenev  
  Gabriel Tucci
  
  Bentuo Zheng

- **NSF VIGRE Fellowship**  
  Kevin Abbott  
  Daniel Freeman
  
  Michael Fulkerson  
  Edward Fuselier
  
  Jenny Gilmore  
  Troy Henderson
  
  James Hitchcock  
  James Kimball
  
  Dimitrije Kostic  
  Luke Oeding
  
  James Ruffo  
  Casey Stella
  
  Justin Turner  
  Alan Wiggins

- **Outstanding TA Award, Houston A&M Mother’s Club**  
  Maria Baiamonte  
  Jeremy Crow
  
  Jenny Gilmore  
  Michael Johnson

- **Regents Fellowship**  
  Anthony Castaldo  
  Chris Cowan
  
  Matthew Gamel  
  Joshua Jones
Undergraduate

- Beckham Award, College of Science
  Ben Aurispa

- Fellowship - Graduate Work at Texas A&M University
  Krista Rister

- NSF Fellowship - Graduate Work at Stanford
  Jennifer Novak
3. Student Highlights, 2004

This section contains all degrees awarded, as reported by the department, during the calendar year 2004.
# 3.1 Graduate Degrees Awarded, 2004

## Spring

<table>
<thead>
<tr>
<th>MS</th>
<th>Ph. D.</th>
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<tbody>
<tr>
<td>Chakravarthi Sulur Anbalagan</td>
<td>The Existence of Metrics of Nonpositive Curvature on the Brady-Krammer Complexes for Finite-type Artin Groups</td>
</tr>
<tr>
<td>Jeb Everett Belcher</td>
<td>Advisor(s): S. Geller</td>
</tr>
<tr>
<td>Shannon Lynn Goehner</td>
<td>Victor Eralingga Ginting</td>
</tr>
<tr>
<td>Michael Thomas Johnson II</td>
<td>Computational Upscaled Modeling of Heterogeneous Porous Media Flow Utilizing Finite Volume Method</td>
</tr>
<tr>
<td>Archana Krishnagiri</td>
<td>Advisor(s): R. Lazarov</td>
</tr>
<tr>
<td>Larry S. Musolino</td>
<td>Ali-Amir Husain</td>
</tr>
<tr>
<td>Lisa Lyn Sparrgrove</td>
<td>On the Cohomology of Joins of Operator Algebras</td>
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<tr>
<td></td>
<td>Advisor(s): C. Pearcy</td>
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<tr>
<td></td>
<td>Dinara Khabilovna Khalmanova</td>
</tr>
<tr>
<td></td>
<td>A Mathematical Model of the Productivity Index of a Well</td>
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<td>Advisor(s): J. Walton</td>
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## Summer

<table>
<thead>
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<th>MS</th>
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<tbody>
<tr>
<td>Leslie Jill Amabile</td>
<td>Zhaosheng Feng</td>
</tr>
<tr>
<td>Talana Elise Hamilton</td>
<td>Some Results on the 1D Linear Wave Equation with van der Pol Type Nonlinear Boundary Conditions and the Kortewegde Vries-Burgers Equation</td>
</tr>
<tr>
<td>Pamela Seed Kimbrough</td>
<td>Advisor(s): G. Chen</td>
</tr>
<tr>
<td>Mohammad Abdus Satter</td>
<td>Tzanio Valentinov Kolev</td>
</tr>
<tr>
<td>Paula Kajs Whitman</td>
<td>Least-squares Methods for Computational Electromagnetics</td>
</tr>
<tr>
<td></td>
<td>Advisor(s): J. Bramble</td>
</tr>
<tr>
<td></td>
<td>Yanqiu Wang</td>
</tr>
<tr>
<td></td>
<td>Preconditioning for the Mixed Formulation of Linear Plane Elasticity</td>
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<tr>
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<td>Advisor(s): J. Pasciak</td>
</tr>
</tbody>
</table>
Xudong Yao  
Minimax Methods for Finding Multiple Saddle Critical Points in Banach Spaces and Their Applications  
Advisor(s): J. Zhou

Fall

▷ MS
Erik Matthew Baumgarten  
Matthias Manfred Buehlmaier
Heather A. Caster  
Richard I. Frederick
Shelley Kristen Merritt  
Aubry Lynne Vasquez

▷ Ph. D.
John Maurice-Car Ryan  
Global Existence of Reaction-Diffusion Equations over Multiple Domains  
Advisor(s): J. Walton
## 3.2 Undergraduate Degrees Awarded, 2004

### Spring

<table>
<thead>
<tr>
<th>BA</th>
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</thead>
<tbody>
<tr>
<td>Kelly Elizabeth Brashares</td>
<td>Tonya Kathleen Cox</td>
</tr>
<tr>
<td>Stephanie Jane Cox Boyd</td>
<td>Christie Anne Daly</td>
</tr>
<tr>
<td>Kathryn Melinda Fisher</td>
<td>Steven T. Hoelscher</td>
</tr>
<tr>
<td>Allison Marie King</td>
<td>Paul Henry Latour</td>
</tr>
<tr>
<td>Katye Lynn McClendon</td>
<td>Stepen Jeffery Miller Weir</td>
</tr>
<tr>
<td>Jeremy Paul Mollenkopf</td>
<td>Susan Ashley Pierce</td>
</tr>
<tr>
<td>Lauren Nicole Wilke</td>
<td></td>
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<tr>
<td>Christopher Patrick Adams</td>
<td>Jacquelyn Ann Angle</td>
</tr>
<tr>
<td>Kirk Thomas Bozeman</td>
<td>Kristi Marie Burr</td>
</tr>
<tr>
<td>Candace Ann DiBiano</td>
<td>Stephanie Rae Green</td>
</tr>
<tr>
<td>Joshua Wade Janeck</td>
<td>Benjamin Harrison Jones</td>
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<tr>
<td>Jennifer Lynn Kelly</td>
<td>Marta Anna Kobielu</td>
</tr>
<tr>
<td>Stefani Lynn Kokel</td>
<td>Talytha Mae Lapuyade</td>
</tr>
<tr>
<td>Jennifer Ann Larson</td>
<td>Homer Jess LeMar III</td>
</tr>
<tr>
<td>Brady McCary</td>
<td>Angela Michelle Nistetter</td>
</tr>
<tr>
<td>Jennifer Sue Novak</td>
<td>John Jared Plaisted</td>
</tr>
<tr>
<td>April DeAnne Russell</td>
<td>John Tom Stewart IV</td>
</tr>
<tr>
<td>Christopher Paul Wagner</td>
<td>Rachel Ann Walker</td>
</tr>
<tr>
<td>Michaela Malinda Walters</td>
<td>Phillip Daniel Watkins</td>
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<td>Timothy Brian Woods</td>
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### Summer

<table>
<thead>
<tr>
<th>BA</th>
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<tbody>
<tr>
<td>Matthew Reid Cumbie</td>
<td>Aubrey Erin Hall</td>
</tr>
<tr>
<td>Jill Elizabeth Heffner</td>
<td>Ashley Erin Jerke</td>
</tr>
<tr>
<td>Elizabeth Ann Love</td>
<td>Laura Ruth Montalbano</td>
</tr>
<tr>
<td>Robert Elwin Rogers II</td>
<td>Lisa Rae Smith</td>
</tr>
<tr>
<td>Kelly Leann Wilson</td>
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<tr>
<td>Sagar Arun Bhatt</td>
<td>Micheal John Bryne</td>
</tr>
<tr>
<td>Holly Lynn Enloe</td>
<td>Heather Lynette Fogle</td>
</tr>
<tr>
<td>Ryan Buchanan Lane</td>
<td>Ganesh Viswanathan</td>
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### Fall

<table>
<thead>
<tr>
<th>BA</th>
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<tbody>
<tr>
<td>Amie Lerae Cockrell</td>
<td>Melissa Jo Maddox</td>
</tr>
<tr>
<td>Amy Leigh Maxwell</td>
<td>Melissa Dawn Morrison</td>
</tr>
<tr>
<td>Sharla Kay Parker</td>
<td>April Michelle Rancier</td>
</tr>
<tr>
<td>Tommy Reece Roberts</td>
<td>Sybil Elaine Rudasill</td>
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<tr>
<td>Sarah Lynn Young</td>
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<td>BS</td>
<td>BS</td>
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<td>-------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Julia Boxwell Ard</td>
<td>Tara Nicole Bolton</td>
</tr>
<tr>
<td>Tao Chen</td>
<td>Kelly Lynne Cole</td>
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<td>Laura Lynn Cordova</td>
<td>Travis Alan Derr</td>
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<td>Stephan Rolf Dolan</td>
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<td>Erin Ronnell Meier</td>
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<td>Ryan Scott Westbrook</td>
<td>Bradford James White</td>
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<td>Elizabeth Grace Williams</td>
<td>Keith Allan Wilson</td>
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### 4. Colloquium and Seminar Speakers, 2004

Algebra and Combinatorics

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>1/23/2004</td>
<td>Rosa Orellana</td>
<td>Dartmouth</td>
<td>Partition Algebras of type B</td>
</tr>
<tr>
<td>1/30/2004</td>
<td>Daniele Mortari</td>
<td>Texas A&amp;M University</td>
<td>Secondary Paths in Flower Constellations</td>
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<tr>
<td>2/6/2004</td>
<td>Sam Hsiao</td>
<td>University of Michigan</td>
<td>Orienting distributive lattices</td>
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<tr>
<td>2/13/2004</td>
<td>Leah Gold</td>
<td>Texas A&amp;M University</td>
<td>Cayley-Bacharach and Coding Theory</td>
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<td>2/27/2004</td>
<td>Joseph Landsberg</td>
<td>Georgia Tech</td>
<td>Representation theory and projective geometry</td>
</tr>
<tr>
<td>3/12/2004</td>
<td>Jenny Gilmore</td>
<td>Texas A&amp;M University</td>
<td>Patterns and Integer Valued Polynomials</td>
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<tr>
<td>4/16/2004</td>
<td>Mike Falk</td>
<td>Northern Arizona</td>
<td>TBA</td>
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<tr>
<td>4/22/2004</td>
<td>Anne Shepler</td>
<td>University of North Texas</td>
<td>Invariant Theory Mod p: Matrix Groups Acting on Polynomials</td>
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<tr>
<td>4/30/2004</td>
<td>Andras Zsak</td>
<td>Texas A&amp;M University</td>
<td>Half-filling families of finite sets</td>
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<tr>
<td>9/10/2004</td>
<td>Illya Hicks</td>
<td>Department of Industrial Engineering, Texas A&amp;M University</td>
<td>The Branchwidth of Graphs and Cycle Matroids</td>
</tr>
<tr>
<td>9/17/2004</td>
<td>Catherine Yan</td>
<td>Texas A&amp;M University</td>
<td>TBA</td>
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<tr>
<td>9/24/2004</td>
<td>Xinyu Sun</td>
<td>Texas A&amp;M University</td>
<td>WZ-algorithm and Colored Jones Polynomial</td>
</tr>
</tbody>
</table>
10/1/2004  Alf van der Poorten  
*Center for Number Theory Research, Sydney*  
Paperfolding, automata, and rational functions

10/8/2004  Julia Pevtsova  
*University of Oregon*  
Geometry of finite group schemes

10/15/2004  Amitai Regev  
*Weizmann Institute of Science, Israel*  
$S_{\infty}$ representations and combinatorial identities

10/22/2004  Jianer Chen  
*Department of Computer Science, Texas A&M University*  
Genus Characterizes the Complexity of Certain Graph Problems: Some Tight Results

10/29/2004  Nathan Reading  
*University of Michigan*  
Noncrossing partitions and the Coxeter plane

11/5/2004  Sergiy Butenko  
*Department of Industrial Engineering, Texas A&M University*  
On Clustering Problems in Networks

11/12/2004  Robert Ellis  
*Texas A&M University*  
A 2-player game for adaptive covering codes

11/19/2004  Martine Girard  
*University of Sydney*  
Weierstrass points and the groups they generate

11/19/2004  David Kohel  
*University of Sydney*  
Weierstrass points and the groups they generate

12/3/2004  Michel Waldschmidt  
*Paris VI*  
Multiple zeta values
Algebraic Geometry

9/24/2004  E. Soprunova
           University of Massachusetts, Amherst
           Lower bounds for some sparse polynomial systems

10/1/2004  Kevin Purbhoo
           Fields Institute, Toronto
           The generalized Horn recursion

10/8/2004  Paulo Lima-Filho
           Texas A&M University
           The Bredon cohomology ring of real quadrics

10/15/2004 J. Maurice Rojas
           Texas A&M University
           A Complexity Threshold for Real Fewnomials

10/22/2004 Hal Schenck
           Texas A&M University
           Syzygies of toric varieties

10/29/2004 Tara Holm
           Berkeley
           Surjectivity techniques in symplectic geometry

11/5/2004  Jim Ruffo
           Texas A&M University
           Experimentation and Conjectures in the Real Schubert Calculus for Flag Manifolds

11/12/2004 Luis Garcia
           MSRI, Texas A&M University
           Solving the Likelihood Equations of Small Phylogenetic Trees

12/3/2004  Frank Sottile
           Texas A&M University
           Equivariant Cohomology of the Quot Scheme
3/4/2004  **J. Stöckler**

Polynomial identities on the simplex, Laplace operators, and the construction of tight spline frames

3/22/2004  **Quoc Thong Le Gia**

Distance to Sobolev spaces from spaces generated by shifts of positive definite kernels on spheres

4/5/2004  **C.K. Chui**

Mathematics in high-tech industries (Frontiers Lecture)

4/7/2004  **C.K. Chui**

Subdivision schemes for surface design, editing, and rendering (Frontiers Lecture)

4/8/2004  **C.K. Chui**

From PDE models to filter design for image processing (Frontiers Lecture)

4/29/2004  **K. Oskolkov**

Talbot’s effect for Schrödinger equation with nonsmooth potentials (Chebyshev Lecture)

10/25/2004  **Ferenc Mricz**

*Bolyai Institute, Szeged*

Statistical convergence of Fourier series

10/27/2004  **Ferenc Mricz**

*Bolyai Institute, Szeged*

Approximation by the partial sums of Fourier series on the one-and-two-dimensional torus

11/1/2004  **G. Battle**

*Texas A&M University*

L²-orthonormal Osiris wavelets

11/11/2004  **K. Hesse**

*Sydney*

Optimal Cubature on the Sphere

11/22/2004  **T. Erdlyi**

*Texas A&M University*

Large sieve inequalities via subharmonic methods and the Mahler measure of Fekete polynomials

12/8/2004  **J. Ward**

*Texas A&M University*

Sobolev error estimates for radial-basis function interpolation
Colloquium: Polarons in solids and molecules: delocalization, stretching and twisting
### Graduate Student Organization

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<tr>
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<tbody>
<tr>
<td>3/25/2004</td>
<td>Dimitrije Kostic</td>
<td>How to use and misuse the local lemma</td>
</tr>
<tr>
<td>4/15/2004</td>
<td>Gaik Ambartsoumian</td>
<td>Thermoacoustic tomography and related inverse problems of mathematical physics</td>
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<tr>
<td>4/22/2004</td>
<td>Dinara Khalmanova</td>
<td>Mathematical Model of a Productivity Index of a Well</td>
</tr>
<tr>
<td>4/29/2004</td>
<td>Matt Papanikolas</td>
<td>An Introduction to Elliptic Curves</td>
</tr>
<tr>
<td>9/9/2004</td>
<td>Dimitrije Kostic</td>
<td>An Introduction to Parking Functions</td>
</tr>
<tr>
<td>9/16/2004</td>
<td>Jenny Gilmore</td>
<td>Integer Valued Polynomials and Patterns</td>
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<tr>
<td>9/23/2004</td>
<td>Frank Sottile</td>
<td>Convexity for lines in $\mathbb{R}^d$</td>
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<td>9/30/2004</td>
<td>Alf van der Poorten</td>
<td>Folded continued fractions</td>
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<tr>
<td>10/28/2004</td>
<td>Mehmet Celik</td>
<td>Some differences between one complex variable theory and several complex variables theory</td>
</tr>
<tr>
<td>11/4/2004</td>
<td>Sarah Witherspoon</td>
<td>Quantum groups and deformations of algebras</td>
</tr>
</tbody>
</table>
Groups and Dynamics

2/11/2004  Kai-Uwe Bux  
Cornell University  
Growth in iterated monodromy groups

2/18/2004  Tatiana Smirnova-Nagnibeda  
University of Geneva and KTH Stockholm  
Percolation and amenability of Cayley graphs

2/25/2004  Nicolas Monod  
University of Chicago  
Superrigidity and geometric splitting

3/3/2004  Alexander Bufetov  
Princeton University  
Convergence of spherical averages for actions of free groups

3/10/2004  Zoran Sunik  
Texas A&M University  
Poly-free constructions for right-angled Artin groups

3/22/2004  Efim Zelmanov  
University of California at San Diego  
Frontiers talks

3/23/2004  Efim Zelmanov  
University of California at San Diego  
Frontiers talks

3/24/2004  Efim Zelmanov  
University of California at San Diego  
Frontiers talks

3/31/2004  Vadim Kaimanovich  
University of Rennes I  
Double ergodicity of the Poisson boundary and applications

4/14/2004  Alexander Lubotzky  
Hebrew University of Jerusalem  
From Ramanujan graphs to Ramanujan complexes

4/21/2004  Said Sidki  
University of Brasilia  
The group of automata of polynomial growth

4/28/2004  Bogdan Petrenko  
University of Illinois at Urbana-Champaign  
The sum and the product of two primitive elements of maximal subfields of a finite field

9/8/2004  Gilles Pisier  
Texas A&M University  
Characterization of amenable C*-algebras by their similarity degree
9/15/2004  **Tullio Ceccherini-Silberstein**  
*Università del Sannio, Benevento, Italy*  
Finite Gel'fand pairs: (new) examples and applications

9/22/2004  **Alexander Fel'shtyn**  
*Universität Siegen, Germany*  
Dynamical zeta functions and Nielsen-Reidemeister theory

10/6/2004  **Tullio Ceccherini-Silberstein**  
*Università del Sannio, Benevento, Italy*  
Amenability and paradoxical decompositions: Tarski’s alternative theorem

10/13/2004  **Indira Chatterji**  
*Cornell University*  
Some groups acting on CAT(0) cube complexes

10/20/2004  **Nikita Karpenko**  
*Université d’Artois, Lens, France and Institute of Advanced Study at Princeton*  
Some conjectures on quadratic forms proved by Steenrod operations

10/27/2004  **Radoslav Dimitrič**  
*Texas A&M University at Galveston*  
The idea of slenderness

11/3/2004  **Sarah Witherspoon**  
*Texas A&M University*  
Reflection groups and graded Hecke algebras

11/6/2004  **Ievgen Bondarenko**  
*Texas A&M University*  
Schreier graphs of iterated monodromy groups of sub-hyperbolic quadratic polynomials

11/6/2004  **Tullio Ceccherini-Silberstein**  
*Università del Sannio, Benevento, Italy*  
Cellular automata, subshifts and amenable groups

11/6/2004  **Yevgen Muntyan**  
*Texas A&M University*  
The Bellaterra automaton group

11/6/2004  **Dmytro Savchuk**  
*Texas A&M University*  
Some graphs of Schreier type related to the Thompson group

11/6/2004  **Zoran Sunik**  
*Texas A&M University*  
Growth of Grigorchuk groups

11/6/2004  **Filippo Tolli**  
*Università di Roma Tre*  
Spectral analysis of finite Markov chains with spherical symmetries

11/10/2004  **Filippo Tolli**  
*Università di Roma Tre, Italy*  
Asymptotic behavior of convolution powers on semisimple groups
11/17/2004  Alexander Fel’shtyn  
*Universität Siegen, Germany*
Reidemeister torsion and dynamical zeta functions

12/1/2004  Henry Schenck  
*Texas A&M University*
Fundamental group of hyperplane arrangement complements

12/8/2004  Tullio Ceccherini-Silberstein  
*Università del Sannio, Benevento, Italy*
Automata, linear languages and their growth

12/8/2004  Gabriel Dos Reis  
*Texas A&M University*
Application of loop groups to constant mean curvature surfaces

12/8/2004  Alexander Fel’shtyn  
*Universität Siegen, Germany*
Reidemeister number of automorphisms of Gromov hyperbolic groups and Baumslag-Solitar groups

12/8/2004  Rostislav Grigorchuk  
*Texas A&M University*
The Ihara zeta function for infinite groups and graphs

12/8/2004  Natasha Macura  
*Trinity University*
Quasi-isometry classification of the mapping tori of automorphisms of finitely generated free groups

12/8/2004  Bogdan Petrenko  
*Texas A&M University*
On pairs of matrices generating matrix rings
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<tr>
<th>Date</th>
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<th>Institution</th>
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<tr>
<td>1/30/2004</td>
<td>Nigel Kalton</td>
<td>University of Missouri at Columbia</td>
<td>Decoupling in quasi-Banach spaces</td>
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<td>2/13/2004</td>
<td>Roger Smith</td>
<td>Texas A&amp;M University</td>
<td>The Pukanzsky invariant in group von Neumann algebras</td>
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<td>2/20/2004</td>
<td>Ilia Binder</td>
<td>University of Illinois at Urbana-Champaign</td>
<td>Harmonic measure: polynomial Julia sets and sharp bounds.</td>
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<td>2/27/2004</td>
<td>Nicolas Monod</td>
<td>University of Chicago</td>
<td>Some applications of bounded cohomology</td>
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<td>3/5/2004</td>
<td>Carl Pearcy</td>
<td>Texas A&amp;M University</td>
<td>A technique for producing hyperinvariant subspaces</td>
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<td>3/12/2004</td>
<td>Andras Zsak</td>
<td>Texas A&amp;M University</td>
<td>Partial Unconditionality in Banach Spaces</td>
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<td>4/16/2004</td>
<td>Ken Dykema</td>
<td>Texas A&amp;M University</td>
<td>Hyperinvariant subspaces for some B-circular operators.</td>
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<td>Gilles Pisier</td>
<td>Texas A&amp;M University</td>
<td>Remarks on B(H) otimes B(H)</td>
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<td>9/17/2004</td>
<td>Razvan Anisca</td>
<td>Texas A&amp;M University</td>
<td>Unconditional bases and decompositions in subspaces of $\ell_2(X)$</td>
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<td>9/24/2004</td>
<td>David Blecher</td>
<td>University of Houston</td>
<td>Dual operator algebras: what they are</td>
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<td>10/1/2004</td>
<td>Gilles Pisier</td>
<td>Texas A&amp;M University</td>
<td>A characterization of nuclear C* algebras (including the proof)</td>
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<td>Date</td>
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<td>Institution</td>
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<td>10/8/2004</td>
<td>Carl Pearcy</td>
<td>Texas A&amp;M University</td>
<td>Hyperinvariant subspace lattices</td>
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<td>10/22/2004</td>
<td>Leonid Pastur</td>
<td>University of Paris</td>
<td>Matrix models and orthogonal polynomials</td>
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<td>10/29/2004</td>
<td>Xiang Fang</td>
<td>University of Alabama</td>
<td>On the Fredholm index in several variables</td>
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<td>Hsiang-Ping Huang</td>
<td>University of Utah</td>
<td>Irreducible hyperfinite II_1 subfactors</td>
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<td>11/19/2004</td>
<td>Nirina Randrianarivony</td>
<td>Texas A&amp;M University</td>
<td>(\ell_p) ((p &gt; 2)) does not coarsely embed into a Hilbert space</td>
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<td>12/3/2004</td>
<td>Guoliang Yu</td>
<td>Vanderbilt University</td>
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<td>Akif Ibragimov</td>
<td>Texas A&amp;M University</td>
<td>On the Behavior of the Solution to the Neumann and Mixed Boundary Problem in Unbounded Domain</td>
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<td>Yehuda Pinchover</td>
<td>Technion, Israel</td>
<td>Large Time Behavior of the Heat Kernel</td>
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<td>2/19/2004</td>
<td>Leonid Friedlander</td>
<td>University of Arizona</td>
<td>On the Clamped Buckling Eigenvalues</td>
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<td>2/20/2004</td>
<td>Ilia Binder</td>
<td>University of Illinois</td>
<td>Harmonic Measure: Polynomial Julia Sets and Sharp Bounds</td>
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<td>2/23/2004</td>
<td>Lev Kaplan</td>
<td>Tulane University, Physics Department</td>
<td>Fine-Scale Quantum Ergodicity: Dynamical Effects vs. Random Matrix Theory</td>
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<td>3/25/2004</td>
<td>Gregory Berkolaiko</td>
<td>Texas A&amp;M University</td>
<td>On the Diagonal Approximation to the Form Factor of the Unitary Group</td>
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<td>4/1/2004</td>
<td>Peter Kuchment</td>
<td>Texas A&amp;M University</td>
<td>On Liouville-Type Theorems for Periodic Elliptic Equations</td>
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<td>4/8/2004</td>
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<td>Texas A&amp;M University</td>
<td>Asymptotic Growth of the Cauchy Transform</td>
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<td>4/14/2004</td>
<td>Sergey Novikov</td>
<td>University of Maryland and Landau Institute for Theoretical Physics</td>
<td>Discrete Complex Analysis and Discrete Geometry</td>
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<td>4/19/2004</td>
<td>Alexander Kiselev</td>
<td>University of Wisconsin</td>
<td>Scattering and Singular Spectrum for Schrödinger Operators with Decaying Potentials</td>
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<td>4/29/2004</td>
<td>Vladimir Gurarii</td>
<td>Swinburne University of Technology, Melbourne, Australia</td>
<td>A Riemann-Hilbert Problem for Non-Fuchsian Systems</td>
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</table>
9/9/2004  **Jon Harrison**  
*Texas A&M University*  
Quantum spectral properties of graphs with spin

9/16/2004  **Andrew Comech**  
*Texas A&M University*  
Stability of standing waves

9/23/2004  **Gregory Berkolaiko**  
*Texas A&M University*  
Quantum ergodicity of star graphs

10/14/2004  **Matt att Baker**  
*Georgia Tech*  
Analysis on metrized graphs

10/21/2004  **Stephen Fulling**  
*Texas A&M University*  
Quantum-classical duality for dummies

10/28/2004  **Alexei Poltoratski**  
*Texas A&M University*  
Change of spectrum under a rank one perturbation

11/4/2004  **Stephen Fulling**  
*Texas A&M University*  
Semiclassical Approximation Workshop planning meeting

11/11/2004  **Guy Battle**  
*Texas A&M University*  
Bob and Carol, Ted and Alice

11/18/2004  **Peter Kuchment**  
*Texas A&M University*  
Three theorems on the spectra of quantum and combinatorial graphs

12/2/2004  **Rob Ellis**  
*Texas A&M University*  
Discrete Green’s functions for regular graphs
Number Theory

1/22/2004  Ryan Daileda  
University of California, Los Angeles  
Zero density of L-functions and extreme class numbers

1/29/2004  Gautam Chinta  
Brown University  
Recent results in multiple Dirichlet series

2/5/2004  Jeffrey Vaaler  
University of Texas  
An ABC inequality of heights of numbers

2/26/2004  Steven Sperber  
University of Minnesota & Princeton University  
On some singular exponential sums

Temple University  
On vector valued modular forms

4/1/2004  Paula Cohen  
Texas A&M University  
Hyperbolic distribution problems and indefinite quadratic forms

4/8/2004  Sharon Frechette  
College of the Holy Cross  
Gaussian hypergeometric functions and traces of Hecke operators

4/22/2004  Olav Richter  
University of North Texas  
Rankin-Cohen brackets for modular forms, Jacobi forms, and Siegel modular forms

4/29/2004  David Penniston  
Furman University  
The arithmetic of p-regular partition functions

9/2/2004  Fernando Rodriguez-Villegas  
University of Texas  
Algebraic hypergeometric functions

9/9/2004  Marc Huttner  
Université de Lille 1  
The Riemann-Hilbert problem and diophantine approximations of polylogarithmic functions

9/23/2004  Lenny Fukshansky  
Texas A&M University  
On effective Witt decomposition and Cartan-Dieudonné theorem

9/30/2004  Alf van der Poorten  
Centre for Number Theory Research, Sydney  
Elliptic sequences and continued fractions
10/7/2004  Pavel Guerzhoy  
Temple University  
The Borcherds-Zagier isomorphism and a p-adic version of the Kohnen-Shimura map

10/14/2004  Matt Baker  
Georgia Institute of Technology  
Adelic equidistribution theorems for dynamical systems

10/21/2004  Christopher Rasmussen  
Rice University  
Galois representations on fundamental groups

10/28/2004  Doug Hensley  
Texas A&M University  
Simultaneous diophantine approximation

11/4/2004  Matt Boylan  
University of Illinois at Urbana-Champaign  
Half-integral weight modular forms with few non-vanishing coefficients

11/11/2004  Bogdan Petrenko  
Texas A&M University  
On the distribution of distances between the points of affine curves over finite fields

12/2/2004  Michel Waldschmidt  
Université de Paris VI  
Duality in diophantine approximation
# Numerical Analysis

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<td>1/28/2004</td>
<td>Jean-Luc Guermond</td>
<td>University Paris 6, France</td>
<td>A finite element technique for solving first-order PDE’s in $L^p$</td>
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<td>1/29/2004</td>
<td>Jim Sochacki</td>
<td>James Madison University</td>
<td>Modifications of the Picard, Newton and Pade Methods for Initial Value Problems</td>
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<td>2/18/2004</td>
<td>Donald Estep</td>
<td>Department of Mathematics, Colorado State University</td>
<td>Generalized Green’s Functions and the Effective Domain of Influence</td>
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<td>3/24/2004</td>
<td>S. Repin</td>
<td>V.A. Steklov Institute of Mathematics in St.-Petersburg, Russia</td>
<td>Functional type a posteriori error estimates for elliptic type boundary-value problems</td>
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<td>3/31/2004</td>
<td>Vidar Thomee</td>
<td>Chalmers University of Technology</td>
<td>A parallel method for some evolution problems based on Laplace transformation and quadrature</td>
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<td>Vivette Girault</td>
<td>Chalmers University of Technology</td>
<td>Maximum-norm estimates for finite-element discretizations of the Stokes problem</td>
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<td>4/22/2004</td>
<td>Gabriel Wittum</td>
<td>Simulation in Technology, Computer Science Institute, University of Heidelberg</td>
<td>Modeling and Numerical Simulation of Biological Systems</td>
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<tr>
<td>9/13/2004</td>
<td>Margot Gerritsen</td>
<td>Sanford University</td>
<td>Why are streamline methods attractive for simulation of gas injection processes?</td>
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<tr>
<td>9/15/2004</td>
<td>Xiu Ye</td>
<td>University of Arkansas at Little Rock</td>
<td>Two new methods for the Stokes equations</td>
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<tr>
<td>9/21/2004</td>
<td>Yalchin Efendiev</td>
<td>Texas A&amp;M University</td>
<td>Multiscale modeling and computation of flow through porous media.</td>
</tr>
</tbody>
</table>
9/29/2004  Dongwoo Sheen  
*Seoul National University*  
Some Recent Results on Nonconforming Finite Elements

10/6/2004  Rajen K. Sinha  
*Indian Institute of Technology Guwahati*  
Unfitted Finite Element Method for Elliptic and Parabolic Interface Problems

10/8/2004  Dobromir Dimitrov  
*University of Texas at Arlington*  
Positive and Elementary Stable Nonstandard Numerical Methods with Applications to Predator-Prey Models

10/13/2004  Taejong Kim  
*Texas A&M University*  
Mesh independent convergence of the modified inexact Newton method for a second order nonlinear problem

10/27/2004  Jean Ragusa  
*Texas A&M University*  
Overview of deterministic methods in neutron transport theory and future challenges

11/3/2004  Serge Prudhomme  
*ICES, University of Texas Austin*  
Control of Modeling Error for Problems in Molecular Statics

11/10/2004  Jean-Luc Guermond  
*Texas A&M University*  
Subgrid stabilization and application to the Navier–Stokes equations.

11/17/2004  Victor M. Calo  
*ICES, University of Texas at Austin*  
Multiscale Methods in Turbulence

12/1/2004  Gabriel Wittum  
*University of Heidelberg*  
Towards Simulation of Neuronal Signal Processing

12/2/2004  Zhiming Chen  
*Chinese Academy of Sciences*  
Upscaling of well singularities in the flow transport through heterogeneous porous media

12/8/2004  Raul Tempone  
*University of Texas Austin*  
Weak approximation of stochastic differential equations with jumps
Several Complex Variables

2/13/2004  Dariush Ehsani  
             *Texas A&M University*  
             Analytic discs and Stein neighborhood bases

2/20/2004  Dariush Ehsani  
             *Texas A&M University*  
             Analytic discs and Stein neighborhood bases, part 2

2/27/2004  Dariush Ehsani  
             *Texas A&M University*  
             Analytic discs and Stein neighborhood bases, part 3

3/31/2004  Roman Dwilewicz  
             *University of Missouri, Rolla*  
             An analytic approach to toric varieties

10/1/2004  Peter Kuchment  
             *Texas A&M University*  
             Liouville property of abelian coverings of compact complex manifolds

11/12/2004  Sonmez Sahutoglu  
             *Texas A&M University*  
             Compactness of dbar Neumann problem on domains with one degenerate eigenvalue

11/19/2004  Erlend Fornaess-Wold  
             *University of Michigan/University of Oslo*  
             Fatou-Bieberbach Domains

12/3/2004  Sonmez Sahutoglu  
             *Texas A&M University*  
             Compactness of dbar Neumann problem on domains with one degenerate eigenvalue, II
5. Faculty, 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marcelo Aguiar</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>G. Donald Allen</td>
<td>Professor</td>
</tr>
<tr>
<td>Tatevik Ambartsoumian</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Margaret Arnold</td>
<td></td>
</tr>
<tr>
<td>Amy L. Austin</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Heather Axelson</td>
<td>Lecturer</td>
</tr>
<tr>
<td>David L. Barrow</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Guy A. Battle, III</td>
<td>Professor</td>
</tr>
<tr>
<td>Arthur P. Belmonte, Jr.</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Gregory Berkolaiko</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>G. Robert Blakley</td>
<td>Professor</td>
</tr>
<tr>
<td>Harold P. Boas</td>
<td>Professor</td>
</tr>
<tr>
<td>Albert Boggess</td>
<td>Professor</td>
</tr>
<tr>
<td>Kathryn L. Bollinger</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Itshak Borosh</td>
<td>Professor</td>
</tr>
<tr>
<td>James H. Bramble</td>
<td>Distinguished Professor</td>
</tr>
<tr>
<td>Huai-Dong Cao</td>
<td>Professor</td>
</tr>
<tr>
<td>Lynnette A. Cardenas</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Goong Chen</td>
<td>Professor</td>
</tr>
<tr>
<td>Li Chen</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Chia-Rong Chen</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Paula Cohen</td>
<td>Professor</td>
</tr>
<tr>
<td>Andrew Comech</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Lisa Cox</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Prabir Daripa</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Richard D. DeBlasiie</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Ronald G. Douglas</td>
<td>Distinguished Professor</td>
</tr>
<tr>
<td>Marcia L. Drost</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Kenneth J. Dykema</td>
<td>Professor</td>
</tr>
<tr>
<td>Yalchin R. Efendiev</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Janice L. Epstein</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Tamas Erdelyi</td>
<td>Professor</td>
</tr>
<tr>
<td>Richard E. Ewing</td>
<td>Distinguished Professor</td>
</tr>
<tr>
<td>Heather Fogle</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Ciprian I. Foias</td>
<td>Professor</td>
</tr>
<tr>
<td>Stephen A. Fulling</td>
<td>Professor</td>
</tr>
<tr>
<td>Alison Garza</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Susan C. Geller</td>
<td>Professor</td>
</tr>
<tr>
<td>Rostislav Grigorchuk</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Jean-Luc Guermond</td>
<td>Professor</td>
</tr>
<tr>
<td>Robert A. Gustafson</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Darald J. Hartfiel</td>
<td>Professor</td>
</tr>
<tr>
<td>Douglas A. Hensley</td>
<td>Professor</td>
</tr>
<tr>
<td>Arthur M. Hobbs</td>
<td>Professor</td>
</tr>
<tr>
<td>Peter B. Howard</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>William B. Johnson</td>
<td>Distinguished Professor</td>
</tr>
<tr>
<td>Joseph E. Kahlig</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
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</tr>
<tr>
<td>Joseph D. Ward</td>
<td>Professor</td>
</tr>
<tr>
<td>Jennifer G. Whitfield</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Sarah Witherspoon</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Catherine Huafei Yan</td>
<td>Professor</td>
</tr>
<tr>
<td>Philip B. Yasskin</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Jianxin Zhou</td>
<td>Professor</td>
</tr>
<tr>
<td>Joel Zinn</td>
<td>Professor</td>
</tr>
</tbody>
</table>
5.1 Professional Activities, 2004

This section contains information, as reported by individual faculty members, encompassing each faculty member’s professional activities for the calendar year 2004. Whenever possible, information has been verified by additional sources.

Subsections of professional activities are defined as follows:

Honors and Awards
➤ All professional honors and awards, both internal and external.

Service Activities
➤ All professional service and leadership roles, including: departmental, college, university, state, national and international.

Teaching
➤ Classes taught during the Spring, Summer and Fall sessions of 2004.
➤ Any missing enrollment numbers were gathered from the Student Information Management System (SIMS) at Texas A&M University.

Research Projects
➤ All research projects, funded and unfunded.
➤ Whenever possible, all research-related employees of that faculty member are listed along with the citation. Key for employees: (P)=Postdoc, (G)=Graduate Student, (U)=Undergraduate Student.
➤ Renewals are marked by “(REN)” at the beginning of their title.
➤ Unfunded grants are marked by “(UNFUNDED)” at the end of the citation.
➤ Additional information (including PIs, CoPIs, and funding) on all funded grants are listed in Section 6.

Presentations
➤ All posters, invited and contributed lectures (plenary, conferences, colloquia, seminars, etc.).
➤ Whenever reported, posters, invited and contributed lectures are noted in parentheses following the citation.
➤ Citations are in chronological order.

Publications
➤ All printed materials published during 2004.
➤ Pre-press, in-press and submitted publications were not included.
➤ Citations were formatted in APA Style and are in alphabetical order by lead author.
• SERVICE DURING 2004

International
▷ Organizer, XVI Coloquio Latinoamericano de Álgebra, Colonia, Uruguay. Special Session on "Hopf Algebras and Combinatorics"

National
▷ Reviewed, NSA, NOW (Dutch National Science Foundation)

University
▷ Representative, Graduate Council

Department
▷ Advisor, Postgraduate-Scholar
▷ Member, Ph.D. Committees

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 302.503 — *Discrete Mathematics* (total enrollment: 25)
▷ MATH 302.505 — *Discrete Mathematics* (total enrollment: 25)

• RESEARCH PROJECTS DURING 2004
▷ Combinational Hopf Algebras, *National Science Foundation*

• PRESENTATIONS DURING 2004
▷ AMS meeting #1004, Western Kentucky University, March, 2004. (Invited)
▷ Combinatorics Seminar, University of Michigan, Ann Arbor, MI, March, 2004. (Individual)
▷ Combinatorics Seminar, University of Wisconsin, Madison, WI, April, 2004. (Individual)
▷ Lie Algebra Seminar, University of Wisconsin, Madison, WI, April, 2004. (Individual)
▷ Meeting on Combinatorial Hopf algebras, Banff International Research Station, Canada, August, 2004. (Invited)
▷ Texas A&M University, Math Department Colloquium, College Station, TX, September, 2004. (Individual)
▷ Rencontre Mathématique au CIRM, Algèbre non commutative artinienne, représentations et cohomoloies, Luminy, France, September, 2004. (Invited)
▷ Séminaire de Physique Mathématique, Institute Girard Desargues, Université Lyon I, France, September, 2004. (Individual)
• PUBLICATIONS DURING 2004
G. DONALD ALLEN
PROFESSOR (979) 845-7950
dallen@math.tamu.edu

• HONORS DURING 2004
  National
  ▶ Selection for the Academic Keys, Who’s Who in Sciences Higher Education

• SERVICE DURING 2004
  International
  ▶ Member, Executive Steering Committee, International Conference on Technology in Collegiate Mathematics
  National
  ▶ Associate Editor, College Mathematics Journal
  ▶ Consultant, Aerospace Academy for Engineering and Teacher Education, Education-Industry- Government Collaboration
  ▶ Consultant, LSU, SACS (Southern Association of Colleges and Schools) pre accreditation consultation team
  ▶ Consultant, Wiley Q&A work for Boyce-DiPrima, Ordinary Differential Equations
  ▶ Editor, The Math/Science Online Newsletter
  ▶ Editorial Board, AACE/SITE Journal
  ▶ Member, Mathematical Association of America, Society for Industrial and Applied Mathematics, Southwest Educational Research Association, Merlot-Multimedia Educational Resource for Learning and Online Teaching
  ▶ Referee: Journals, The AMATYC Review
  University
  ▶ Consultant, TAMUS/Teacher Education Agency on professional development materials
  ▶ Fellow, Texas A&M University Academy of Educator Development
  ▶ Member, Regent’s Initiative, Academy for Educator Development
  ▶ Member, Distance Education Coordinators in the Office of Distance Education
  ▶ Member, Distance Education Review Committee
  ▶ Member, Office of Distance Education, Faculty Advisory Council
  Department
  ▶ Chair, Scholarship Committee
  ▶ Chair, Undergraduate Studies Committee
  ▶ Member, Graduate Studies Committee
  ▶ Member, Undergraduate Recruiting Committee

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2004 MATHEMATICS ANNUAL REPORT
• Member, Academy for Educator Development
• Member, Committee on Academic Freedom, Responsibility, and Tenure
• Member, Computational Kinetics Theory Group

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 629.600 — History of Mathematics (total enrollment: 1)
▷ MATH 629.600 — History of Mathematics (total enrollment: 15)
▷ MATH 646.700 — A Survey of Mathematical Problems II (total enrollment: 29)
▷ MATH 685.701 — Directed Studies (total enrollment: 1)
▷ MATH 696.700 — Mathematical Communication and Technology (total enrollment: 17)

Summer
▷ MATH 685.701 — Directed Studies (total enrollment: 1)
▷ MATH 689.700 — Special Topics in (total enrollment: 29)

Fall
▷ MATH 485.501 — Directed Studies (total enrollment: 3)
▷ MATH 640.700 — Linear Algebra for Applications (total enrollment: 18)

• RESEARCH PROJECTS DURING 2004

▷ Star Schools Project, Department of Education
▷ Group Perceptions of Pre-Service and In-Service Teachers, Regents’ Initiative for Excellence in Education
▷ Group Perceptions of Pre-Service and In-Service Teachers, College/University Faculty and Administrators on Math/Science Teacher Preparation, Regents’ Initiative for Excellence in Education
▷ Quality Assessment Program- Making Assessment a Part of the Curriculum, Texas A&M University
▷ Quality Enhancement Program, Making Assessment Part of the Curriculum, Texas A&M University
▷ Assuring Excellence in Pre-Calculus Instruction, Texas Higher Education Teacher Quality Grant
▷ Pre-Calculus, Texas Higher Education Teacher Quality Grant
▷ Pre-calculus- Practices of Good Teaching Through Content, Technology, and Interaction, Texas Higher Education Teacher Quality Grant
▷ Maplets for Calculus, UNFUNDED

• PRESENTATIONS DURING 2004

▷ “Pre-Service Teacher Perceptions of Mathematics and Science,” Southwest Educational Research Association, Dallas, TX, February, 2004.( Contributed)
▷ “Where should distance education at Texas A&M be?,” Office of Distance Education and TAMU Libraries (Panelist), College Station, TX, February, 2004.( Contributed)
“Regent’s Initiative for Excellence in Education,” Educator Perceptions of Mathematics/Science Teacher Preparation Programs, Bush School, Texas A&M University, College Station, TX, May, 2004.( Contributed)

“Professional Development in Mathematics at Texas A&M University,” Math Star Coordinators Meeting, Los Angeles, CA, October, 2004.( Invited)

ICTCM (International Conference on Technology in Collegiate Mathematics) - All about Assessment Symposium, Chicago, IL, October, 2004.( Invited)

Tenth Annual October Pre service Mathematics Conference, Lakeway Inn and Resort, Austin, TX, October, 2004.( Invited)

“Texas A&M University Distance Education Day,” Distance Education Panel, College Station, TX, November, 2004.( Contributed)

“Math Star: Supporting Middle School Mathematics,” San Jacinto College North Annual Math Conference, Houston, TX, November, 2004.( Graduate, A. Ross)

“The history of early calculating devices, including the slide rule,” San Jacinto College North Annual Math Conference, Houston, TX, November, 2004.( Invited)

• PUBLICATIONS DURING 2004

Allen, GD. (2004) Flash Online Workshop, a collection of Flash applications on mathematical topics [software/online].

Allen, GD. (2004) Math goes to Hollywood, showing how mathematics in Hollywood feature films can be used to teach mathematics concepts, mathematical techniques, and mathematical problems solving [software/online].


• SERVICE DURING 2004

University
▷ Member, Faculty Senate

College
▷ Judge, 2004 DOE Regional Science Bowl
▷ Judge, Regional Science Fair

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 152.504-506 — Engineering Mathematics II (total enrollment: 85)
▷ MATH 152.825-827 — Engineering Mathematics II (total enrollment: 44)

Summer
▷ MATH 251. — Engineering Mathematics III (total enrollment: 81)

Fall
▷ MATH 151.504-506 — Engineering Mathematics I (total enrollment: 77)
▷ MATH 151.524-526 — Engineering Mathematics I (total enrollment: 73)
• SERVICE DURING 2004

National
▷ Editorial Board, *Journal of Applied Mathematics*
▷ Editorial Board, *Applied and Computational Harmonic Analysis*

University
▷ Member, University Research Committee
▷ Member, University Bylaws Committee
▷ Member, Faculty Senate

College
▷ Member, College of Science Caucus Leader

Department
▷ Coordinator, Math 151 Course

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 151.504-506 — *Engineering Mathematics I* (total enrollment: 83)
▷ MATH 414.501 — *Fourier Series and Wavelets* (total enrollment: 16)

Summer
▷ MATH 602.200 — *Methods and Applications of Partial Differential Equations* (total enrollment: 24)

Fall
▷ MATH 602.600 — *Methods and Applications of Partial Differential Equations* (total enrollment: 37)

• RESEARCH PROJECTS DURING 2004
▷ Osiris Wavelets and Quantum Entanglement, *National Science Foundation*
• SERVICE DURING 2004
  National
  ▶ Referee: Journals, *J. Phys. A*
  Department
  ▶ Organizer, Mathematical Physics Seminar

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ MATH 308.501 — *Differential Equations* (total enrollment: 44)
  ▶ MATH 308.502 — *Differential Equations* (total enrollment: 51)
  Fall
  ▶ MATH 308.504 — *Differential Equations* (total enrollment: 51)

• PRESENTATIONS DURING 2004
  ▶ University of Strathclyde, Glasgow, UK, June, 2004. (Individual)
  ▶ University of Ulm, Germany, June, 2004. (Individual)
  ▶ University of Heidelberg, Germany, July, 2004. (Individual)
  ▶ University of Goettingen, Germany, August, 2004. (Individual)
  ▶ University of Nagoya, Japan, December, 2004. (Individual)

• PUBLICATIONS DURING 2004
• **TEACHING ASSIGNMENTS DURING 2004**
  
  **Spring**
  ▶ MATH 470.500 — *Communications and Cryptography* (total enrollment: 22)
  
  **Fall**
  ▶ MATH 470. — *Communications and Cryptography* (total enrollment: 20)

• **PUBLICATIONS DURING 2004**
  
  
• SERVICE DURING 2004

International
▷ Referee: Research, Israel Science Foundation, National Science Foundation, and United States- Israel Binational Science Foundation

National
▷ Editorial Board, MAA Carus Monographs
▷ Reviewer, Mathematical Reviews, Zentralblatt MATH

College
▷ Member, Diversity Committee

Department
▷ Chair, Subcommittee P
▷ Member, Honors program committee
▷ Panelist, Interviews for Rhodes, Marshall, and Mitchell scholarships

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 618.600 — Theory of Functions of a Complex Variable II (total enrollment: 8)

Fall
▷ MATH 152.201-202(H) — Engineering Mathematics II (total enrollment: 23)
▷ MATH 409.502 — Advanced Calculus I (total enrollment: 24)

• RESEARCH PROJECTS DURING 2004
▷ Research In Several Complex Variables, National Science Foundation
▷ (REN) VIGRE: Department-Wide Infrastructure: Widening the Pipeline for Mathematical Sciences, National Science Foundation

• PRESENTATIONS DURING 2004
▷ University of Missouri, Rolla, MO, April, 2004.( Individual)
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Department Head, Mathematics, [2002]

• SERVICE DURING 2004

  National

  Regional
  ▶ Member, High School Mathematics Competition Committee

  University
  ▶ Member, Organizing Committee, Local Chapter of *Mathcounts*
  ▶ Member, Heldenfels Upgrade Committee
  ▶ Member, Engineering/Science/Mathematics Curriculum Committee
  ▶ Member, Head Evaluation Committee, Statistics

  College
  ▶ Member, College of Science SLEAF/SIEF/IEF Committee
  ▶ Member, College of Science Executive Committee

• RESEARCH PROJECTS DURING 2004
  ▶ REU Site: Analytical and Statistical Methods in the Mathematical Sciences, *National Science Foundation*
  ▶ (REN) VIGRE: Department-Wide Infrastructure: Widening the Pipeline for Mathematical Sciences, *National Science Foundation*

• PRESENTATIONS DURING 2004
  ▶ Panel Presentation/Discussion on VIGRE and Infrastructure Funding, Washington DC, November, 2004. (Individual)

• PUBLICATIONS DURING 2004

*No report received from faculty member.*
• SERVICE DURING 2004
  
  **International**
  ▶ Member, International Panel to review a coordinated research grant for the Austrian Science Fund

  **National**
  ▶ Collaborating Editor, Monthly Problems Section
  ▶ Referee: Journals, 35 problems for the Monthly
  ▶ Referee: Journals, *Journal of Math Analysis and Applications*

  **University**
  ▶ Member, Master Committee
  ▶ Member, Ph.D. Committee

  **Department**
  ▶ Member, Departmental Teaching Committee
  ▶ Member, Departmental Library Committee

• TEACHING ASSIGNMENTS DURING 2004
  
  **Spring**
  ▶ MATH 302.504 — **Discrete Mathematics** (total enrollment: 11)
  ▶ MATH 423.500 — **Linear Algebra II** (total enrollment: 21)

  **Fall**
  ▶ MATH 151.807-809 — **Engineering Mathematics I** (total enrollment: 85)
  ▶ MATH 151.813-815 — **Engineering Mathematics I** (total enrollment: 96)
• SERVICE DURING 2004

International
▷ Scientific Committee, The International Conferences on Domain Decomposition

National
▷ Editorial Board, Communications in Applied Analysis
▷ Editorial Committee, Panamerican Mathematical Journal
▷ Editorial Committee, Advances in Computational Mathematics
▷ Editorial Committee, Numerical Functional Analysis and Optimization
▷ Editorial Committee, RAIRO

State
▷ Co-Organizer, The Texas Finite Element "Rodeo"

Department
▷ Co-Organizer, Numerical Analysis Weekly Seminars
▷ Member, Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 664.601 — Seminar in Applied Mathematics (total enrollment: 8)
▷ MATH 691.611 — Research (total enrollment: 2)

Summer
▷ MATH 691.302 — Research (total enrollment: 1)

Fall
▷ MATH 685.606 — Directed Studies (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

▷ A New Approximation Technique for Maxwell’s Equations, National Science Foundation
▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

• PUBLICATIONS DURING 2004

GOONG CHEN

PROFESSOR (979) 845-7336
MATH gchen@math.tamu.edu

• SERVICE DURING 2004

International
▷ Session Chair, 2nd Asia-Pacific Workshop on Quantum Information Science, National University of Singapore

National
▷ Editorial Board, Int. J. Quantum Information
▷ Editorial Board, Electronic J. Diff. Eq.
▷ Editorial Board, Electronic J. Diff. Eq.
▷ Editorial Board, Int. J. Quantum Information
▷ Editor-in-Chief, Chapman & Hall/CRC Press Applied Mathematics and Nonlinear Sciences Series
▷ Editor-in-Chief, Chapman & Hall/CRC Press Applied Mathematics and Nonlinear Sciences Series
▷ Referee: Journals, Several journals, Evaluation and nomination letters for several universities

Department
▷ Department Representative, Institute for Quantum Studies
▷ Department Representative, Institute for Quantum Studies
▷ Member, Subcommittee P
▷ Member, Math 311 Course Review Committee
▷ Member, Subcommittee P

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 251.504 — Engineering Mathematics III (total enrollment: 46)
▷ MATH 689.601 — Special Topics in (total enrollment: 6)
▷ MATH 691.605 — Research (total enrollment: 3)

Summer
▷ MATH 485.205 — Directed Studies (total enrollment: 1)
▷ MATH 601.102 — Methods of Applied Mathematics I (total enrollment: 11)
▷ MATH 691.112 — Research (total enrollment: 1)
Fall

▷ MATH 251.507 — Engineering Mathematics III (total enrollment: 69)
▷ MATH 601.603 — Methods of Applied Mathematics I (total enrollment: 41)
▷ MATH 691.608 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
  ▷ Spin-Based Lattice-Gas Quantum Optics in Solids Using Optical Addressing, Air Force Office of Scientific Research
  ▷ Resilient Quantum Computing, Telecommunications and Informatics Task Force

• PUBLICATIONS DURING 2004

No report received from faculty member.
• SERVICE DURING 2004

International
  ▶ Editor, International Journal of Number Theory

National
  ▶ Referee, National Science Foundation, NSA
  ▶ Referee: Journals, AMS Lecture Note series, Various Conference Proceedings

University
  ▶ Co-Organizer, Texas A&M University Number Theory Seminar

Department
  ▶ Member, Department Search Committee, Distinguished Chair
  ▶ Member, Department Promotion Committee
  ▶ Member, Department Postdoc Committee
  ▶ Member, Department Graduate Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 662.603 — Seminar in Algebra (total enrollment: 9)

Summer
  ▶ MATH 691.103 — Research (total enrollment: 1)
  ▶ MATH 691.202 — Research (total enrollment: 1)

Fall
  ▶ MATH 304.502 — Linear Algebra (total enrollment: 40)
  ▶ MATH 304.503 — Linear Algebra (total enrollment: 34)
  ▶ MATH 627.600 — Theory of Numbers (total enrollment: 6)
  ▶ MATH 691.606 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  ▶ Transcendence and Geometry on Shimura Varieties in the Commutative and Non-commutative Case, National Science Foundation

• PRESENTATIONS DURING 2004
  ▶ North Texas University, Denton, TX, January, 2004. (Individual)
  ▶ University of Notre Dame, Location, February, 2004. (Individual)
University of Notre Dame, Location, February, 2004. (Individual)

Texas A&M University, College Station, TX, April, 2004. (Individual)


Vanderbilt University, Nashville, TN, May, 2004. (Individual)

University of Minnesota, Minnesota, MN, November, 2004. (Individual)


Tel-Aviv University, Israel, December, 2004. (Individual)

**PUBLICATIONS DURING 2004**

• SERVICE DURING 2004
  National
  ▶ Referee: Journals, *Transactions of the AMS*

• RESEARCH PROJECTS DURING 2004
  ▶ Harmonic Analysis and Nonlinear Hamiltonian Equations, *National Science Foundation*

• PRESENTATIONS DURING 2004
  ▶ Texas A&M University, College Station, TX, September, 2004. (Individual)
• SERVICE DURING 2004

National
▷ Book Reviewer, *Introduction MATLAB and Numerical Preliminaries*
▷ Chair, Special Session on *Numerical Methods*, SIAM04 Annual Conference
▷ Chair, Special Session on *Fluid Flows*, SIAM04 Annual Conference
▷ Reviewer, National Science Foundation

University
▷ Application Reviewer, Texas A&M University, Dean of Faculties
▷ Member, Faculty Senate Personnel and Welfare Committee
▷ Member, Faculty Senate Planning Committee
▷ Member, Faculty Senate Academic Affairs Committee
▷ Member, Faculty Senate Faculty Development Leave Committee
▷ Member, Faculty Senate Budget Information Committee
▷ Member, Faculty Senate

Department
▷ Graduate Council Representative, Advisory Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 311. — *Topics in Applied Mathematics I* (total enrollment: 46)

Summer
▷ MATH 601.101 — *Methods of Applied Mathematics I* (total enrollment: 24)

Fall
▷ MATH 311.504 — *Topics in Applied Mathematics I* (total enrollment: 14)
▷ MATH 672.600 — *Hydrodynamic Stability* (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004

▷ EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, *National Science Foundation*
▷ Numerical Methods and Algorithms in Complex Geometry for Complex Problems, *National Science Foundation*
▷ Computational Study of Stability Problems in Multi-Layer Hele-Shaw and Porous Media Flows, *UNFUNDED*
Theoretical Study of Some Stability Problems in Multi-Layer Hele-Shaw Flows, \textit{UNFUNDED}

- **PRESENTATIONS DURING 2004**
  - “Some Recent Results in Porous Media Flows,” Applied Math Seminar, Math Department, Texas A&M University, College Station, TX, May, 2004. (Invited)

- **PUBLICATIONS DURING 2004**
• SERVICE DURING 2004

National
▷ Referee: Journals, Transactions of the American Mathematical Society, Probability Theory and Related Fields, Potential Analysis
▷ Reviewer, Boyce and DiPrina ODE book for Wiley

Regional
▷ Member, High School Math Contest

University
▷ Member, University Disciplinary Appeals Panel
▷ Member, Faculty Senate University Bookstore Advisory Committee
▷ Member, University Academic Freedom, Responsibility and Tenure Committee

Department
▷ Member, Departmental Teaching Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 625.600 — Applied Stochastic Differential Equations (total enrollment: 8)

Summer
▷ MATH 304.301 — Linear Algebra (total enrollment: 19)
▷ MATH 304.302 — Linear Algebra (total enrollment: 17)
▷ MATH 685.102 — Directed Studies (total enrollment: 1)

Fall
▷ MATH 411.500 — Mathematical Probability (total enrollment: 28)
▷ MATH 619.600 — Applied Probability (total enrollment: 18)

• PUBLICATIONS DURING 2004

RONALD G. DOUGLAS

DISTINGUISHED PROFESSOR
MATH
rdouglas@math.tamu.edu

• SERVICE DURING 2004

  International
  ▶ Member, Pure and Applied Mathematics Grant Selection Committee

  National
  ▶ Consultant, Educational Advancement Foundation
  ▶ Editor, CRC Research Notes in Mathematics
  ▶ Editorial Board, Journal of Operator Theory
  ▶ Editorial Board, Integral Equations and Operator Theory
  ▶ Fellow, American Association for the Advancement of Science
  ▶ Fellow, John Simon Guggenheim Memorial Foundation
  ▶ Member, National Science Foundation Mathematical Sciences Research Institute Panel
  ▶ Referee: Journals, Various Research Journals
  ▶ Referee: Research, Bilateral Israeli/United States Foundation, Canadian National Research Council, and National Science Foundation

  Department
  ▶ Member, Department Distinguished Position Recruitment Committee
  ▶ Member, Department Committee P

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ MATH 447.500 — Topics in Analysis (total enrollment: 11)

• RESEARCH PROJECTS DURING 2004

  ▶ US-India Cooperative Research: Geometric Invariants for Quotient Modules, National Science Foundation

• PRESENTATIONS DURING 2004

  ▶ Colloquium in Mathematics Department, University of California at San Diego, La Jolla, CA, February, 2004.( Individual)
  ▶ NSF Workshop on Assessment, Washington, DC, April, 2004.( Invited)
  ▶ AMS Meeting, Special Session on Complex Analysis and Operator Theory, Houston, TX, May, 2004.( Invited)
  ▶ GPOTS, College Station, TX, May, 2004.( Individual)
Colloquium in Mathematics Department, Trinity College, Dublin, Ireland, August, 2004. (Individual)

Seminar in Mathematics Department, University of Toronto, Toronto, Ontario, November, 2004. (Individual)
• SERVICE DURING 2004

International
▷ Referee: Research, Canada’s NSERC, National Science Foundation, and U.S. Civilian Research and Development Foundation

National
▷ Book Reviewer, Cambridge University Press
▷ Member, Organization Committee, 24th Annual Great Plains Operator Theory Symposium
▷ Reviewer, Book for Springer-Verlag

University
▷ Member, Organization Committee, Concentration Week in Free Probability and Noncommutative Lp Spaces, Texas A&M University

Department
▷ Chair, Subcommittee P&T
▷ Organizer, Departmental Linear Analysis Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 608.600 — Real Variables II (total enrollment: 7)
▷ MATH 685.611 — Directed Studies (total enrollment: 1)
▷ MATH 691.610 — Research (total enrollment: 1)

Summer
▷ MATH 685.205 — Directed Studies (total enrollment: 1)
▷ MATH 689.100 — Special Topics in (total enrollment: 8)
▷ MATH 691.209 — Research (total enrollment: 1)

Fall
▷ MATH 691.651 — Research (total enrollment: 1)
• RESEARCH PROJECTS DURING 2004
  ▶ Invariant Subspaces and Free Probability in the Context of Von Neumann Algebras, National Science Foundation

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004
  National

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▷ MATH 442.501 — Mathematical Modeling (total enrollment: 11)
  ▷ MATH 485.501 — Directed Studies (total enrollment: 1)
  ▷ MATH 685.612 — Directed Studies (total enrollment: 1)
  ▷ MATH 691.608 — Research (total enrollment: 3)
  Summer
  ▷ MATH 684.353 — Professional Internship (total enrollment: 1)
  ▷ MATH 685.103 — Directed Studies (total enrollment: 1)
  ▷ MATH 691.104 — Research (total enrollment: 1)
  ▷ MATH 691.211 — Research (total enrollment: 2)
  Fall
  ▷ MATH 412.502 — Theory of Partial Differential Equations (total enrollment: 32)
  ▷ MATH 609.602 — Numerical Analysis (total enrollment: 14)
  ▷ MATH 691.614 — Research (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004
  ▷ CMG Research on Multiscale Spatial Models for Petroleum Mapping Using Static and Dynamic Data, National Science Foundation
  ▷ Collaborative Research: ITR/AP- Predictive Contaminant Tracking Using Dynamic Data Driven Application Simulation (DDDAS) Techniques, National Science Foundation
  ▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

• PUBLICATIONS DURING 2004


*No report received from faculty member.*
• SERVICE DURING 2004

International
▷ Associate Member, Mathematical Institute of the Hungarian Academy of Science
▷ Referee: Journals, Various Proceedings of International Conferences

National
▷ Editor, Mathematical Inequalities and Applications
▷ Editor, Journal of Approximation Theory
▷ Member, Janos Bolyai Mathematical Society
▷ Member, American Association of America
▷ Member, American Mathematical Society

College
▷ Member, Faculty Advisory Council

Department
▷ Associate Member, Center for Experimental and Constructive Mathematics at Simon Fraser University

• TEACHING ASSIGNMENTS DURING 2004

Fall
▷ MATH 151.512-514 — Engineering Mathematics I (total enrollment: 71)

• PRESENTATIONS DURING 2004

▷ Georgia Tech, Atlanta, GA, April, 2004. (Individual)
▷ Georgia Tech, Atlanta, GA, April, 2004. (Individual)
▷ Vanderbilt University, Nashville, TN, April, 2004. (Individual)
▷ The Ohio State University, Columbus, OH, May, 2004. (Individual)
▷ The Ohio State University, Columbus, OH, May, 2004. (Individual)
▷ University of Copenhagen, Copenhagen, Denmark, May, 2004. (Individual)
▷ University of Copenhagen, Copenhagen, Denmark, May, 2004. (Individual)
• PUBLICATIONS DURING 2004


• CHAIRS
  ▶ Distinguished Research Chair (TEES) [1992]
  ▶ Mobil Technology Company Endowed Chair in Computational Science [1999]

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Vice President for Research, Vice President for Research, [2000]

• HONORS DURING 2004

  State
  ▶ Outstanding Innovative Research Award, CAST-TX

• SERVICE DURING 2004

  International
  ▶ Member, International Advisory Board, Institute for Mathematics of Life Sciences, Texas Tech
  ▶ Member, International Association for Mathematics and Computers in Simulation
  ▶ Member, International Association for Computational Mechanics
  ▶ Member, International Federation of Nonlinear Analysis
  ▶ Member, General Council, International Association for Computational Mechanical

  National
  ▶ Board of Directors, National Space Biomedical Research Institute
  ▶ Board of Directors, Oak Ridge Associated Universities
  ▶ Board of Directors, Software Commercialization and Innovation Center
  ▶ Editorial Board, Numerical Methods for Partial Differential Equations
  ▶ Editorial Board, Communications in Applied Analysis
  ▶ Editorial Board, Computer Methods in Applied Mechanics and Engineering
  ▶ Editorial Board, Computing and Visualization in Science
  ▶ Editorial Board, In-Situ
  ▶ Editorial Board, Nonlinear World
  ▶ Editorial Board, Mathematical Modeling and Computational Experiment
  ▶ Fellow, American Association for the Advancement of Science
  ▶ Member, American Chemical Society
  ▶ Member, American Geophysical Union
  ▶ Member, American Mathematical Society
  ▶ Member, Council, Harte Research Institute
Member, Council, Oak Ridge Associated Universities
Member, Innovation Environment and Infrastructure Working Group, National Innovation Initiative Council on Competitiveness
Member, United States Association for Computational Mechanics
Member, Institute of Electrical and Electronics Engineers Inc.
Member, Mathematics Association of America
Referee: Journals, *Communications in Applied Analysis, International Journal for Rapid Publications in Mathematics*

**State**
- Board of Directors, Texas Society for Biomedical Research
- Board of Directors, Houston Technology Center
- Board of Directors, Texas Healthcare and Biosciences Institute
- Member, Texas Product Development and Small Business Incubator Board
- Member, Texas Council on Environmental Technology
- Member, Steering Committee, Texas Telecommunications Engineering Consortium, State of Texas
- President, Texas GigaPOP

**Regional**
- Board of Directors, Southeastern Universities Research Association
- Board of Directors, Associated Western Universities

**University**
- Executive Liaison, Texas GigaPOP, Internet2
- Member, Board of Trustees, Texas A&M University Research Foundation
- Member, Scientific Board, Industrial Mathematics Institute (IMI), University of South Carolina

**Department**
- Member, Society of Petroleum Engineers of AIME
- Member, Society for Industrial and Applied Mathematics
- Member, Society of Engineering Science
- Steering Committee, Center for Animal Biotechnology and Genomics, TAES
- Vice President, Research

**RESEARCH PROJECTS DURING 2004**
- Center for the Application of Information Technology in the Teaching and Learning of Science, *National Science Foundation*
- China U.S. Cooperative Research Exchange: A Pilot for Increasing US China Cooperation in Science Education Integrating Science Education, and IT in a Cross Cultural Setting, National Science Foundation

- Collaborative Research: ITR/AP- Predictive Contaminant Tracking Using Dynamic Data Driven Application Simulation (DDDAS) Techniques, National Science Foundation

- Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

- Noyce Scholarship (Supplement to ITS Center Grant), National Science Foundation

**PRESENTATIONS DURING 2004**


- Fraunhofer Institute, Kaiserslautern, Germany, February, 2004. (Individual)

- Institute for Wasserbau, University of Stuttgart, Stuttgart, Germany, February, 2004. (Individual)


- Qatar Education City Advisory Council, Doha, Qatar, March, 2004. (Individual)

- Texas Research Executives Conference, Brownsville, TX, April, 2004. (Individual)

- Center for New Ventures and Entrepreneurship, College Station, TX, May, 2004. (Individual)


- Xian Jiao-tung University, Xian, China, August, 2004. (Individual)


**PUBLICATIONS DURING 2004**


• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 663.602 — Seminar in Analysis (total enrollment: 5)
▷ MATH 691.618 — Research (total enrollment: 3)

Summer
▷ MATH 685.202 — Directed Studies (total enrollment: 2)
▷ MATH 691.109 — Research (total enrollment: 2)

Fall
▷ MATH 685.602 — Directed Studies (total enrollment: 1)
▷ MATH 691.603 — Research (total enrollment: 2)

• PRESENTATIONS DURING 2004

▷ AMS Spring Western Sectional Meeting, Los Angeles, CA, April, 2004.( Graduate, L. Hoang)
▷ AMS Spring Western Sectional Meeting, Session on Recent Advances in the Mathematical Analysis of Geophysical and Hydrodynamical Models III, Los Angeles, CA, April, 2004.( Graduate, R. Dascaliuc)
▷ Session on Advances of PDEs in Fluid Dynamics, AIMS’ Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona, CA, June, 2004.( Graduate, R. Dascaliuc)
▷ SIAM Conference on Analysis of Partial Differential Equations, Houston, TX, December, 2004.( Graduate, L. Hoang)

• PUBLICATIONS DURING 2004

• **HONORS DURING 2004**

  **International**
  - Foreign Member, Royal Society of Sciences at Uppsala

• **SERVICE DURING 2004**

  **National**
  - Reviewer, Rinton Press, CRC Press, Austrian Science Fund

  **University**
  - Chair, Phi Beta Kappa, TAMU Chapter, Committee on members in course
  - Organizing Committee, Mitchell Symposium on Observational Cosmology
  - Research Standards Officer, Texas A&M University

  **Department**
  - Member, Teaching evaluation committee
  - Recruiting, Frontiers Mathematical Research
  - Seminar Coordinator, Mathematical physics and harmonic analysis

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  - MATH 311.200(H) — *Topics in Applied Mathematics I* (total enrollment: 20)

  **Fall**
  - MATH 302.504 — *Discrete Mathematics* (total enrollment: 27)

• **PRESENTATIONS DURING 2004**

  - “A Dirichlet-to-Robin transform for semiclassical spectral theory,” Texas A&M University, Mathematical Physics and Harmonic Analysis Seminar, College Station, TX, January, 2004. (Individual)

  - “Delta functions and closed orbits: Some cautionary tales,” 27th Texas Partial Differential Equations Conference, Texas A&M University, College Station, TX, April, 2004. (Contributed)

  - “Quantum-classical duality for dummies,” Texas A&M University, Mathematical Physics and Harmonic Analysis Seminar, College Station, TX, October, 2004. (Individual)
*PUBLICATIONS DURING 2004*

• SERVICE DURING 2004

National
▷ Member, Association of Women in Mathematics mentor at January AMS/MAA meetings
▷ Member, MAA Committee on the Profession
▷ Mentor, Math Fest
▷ Panelist, Course Design Administrivia and how to Deal with it, Project Next, MathFest
▷ Referee: Journals, *Bioinformatics*
▷ Speaker, Women In Mathematics

Regional
▷ Member/Mediator, Board of Directors, Brazos Valley Dispute Resolution Center
▷ Teacher, ADADEC (Academic Decathelon)

University
▷ Faculty Sponsor, AWM Student Chapter
▷ Mediator, Student Conflict Resolution Center
▷ Mentor, Women’s Faculty Network

Department
▷ Chaperone, Undergraduates to the Nebraska Conference for Undergraduate Women in Mathematics
▷ Director, Honors Programs in Mathematics
▷ Graduate Advisor, Department of Mathematics
▷ Member, Departmental Undergraduate Committee
▷ Mentor, Students in MS in Mathematics, Teaching Option
▷ Mentor, Junior Faculty in Veterinary Anatomy and Public Heath Department

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 646.600 — *A Survey of Mathematical Problems II* (total enrollment: 5)
▷ MATH 685.702 — *Directed Studies* (total enrollment: 1)
▷ MATH 691.619 — *Research* (total enrollment: 1)

Summer
▷ MATH 629.100 — *History of Mathematics* (total enrollment: 4)
▷ MATH 629.700 — *History of Mathematics* (total enrollment: 22)
▷ MATH 685.703 — *Directed Studies* (total enrollment: 1)
Fall
▷ MATH 629.700 — History of Mathematics (total enrollment: 17)
▷ MATH 653.600 — Algebra I (total enrollment: 10)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Editor, Mathematici Studii
▷ Editor, Geometriae Dedicata
▷ Editorial Advisory Board, Algebra and Discrete Mathematics
▷ Referee: Research, Science and Engineering Research Canada (NSERC)
▷ Referee: Research, National Science Foundation and Switzerland National Science Foundation
▷ Reviewed, Featured Review and Book Review

Department
▷ Head, Groups and Dynamics Seminar
▷ Member, Postdoc Committee
▷ Member, Special VAK Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 654.600 — Algebra II (total enrollment: 8)

Summer
▷ MATH 691.301 — Research (total enrollment: 2)

Fall
▷ MATH 662.602 — Seminar in Algebra (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004

▷ Algebraic, Geometric, and Asymptotic Properties of Branch Groups, National Science Foundation

• PRESENTATIONS DURING 2004

▷ “On the friendly competitor of Thompson groups,” 40 Years of Thompson Groups, Palo Alto, CA, January, 2004.( Invited)
▷ “A minimality property of certain branch groups,” G³ Geometric Groups Theory on the Gulf Coast, Mobile, AL, February, 2004.( Invited)

“Spectra of groups and dynamical systems,” Penn. State University, Location, April, 2004. (Individual)

“Groups of branch type and finitely presented groups,” Topological Fest., Cornell, May, 2004. (Invited)


“Branch groups and Kolmogorov complexity,” 250th Anniversary of Moscow University, Jerusalem, Israel, June, 2004. (Invited)


“Algebraic and spectral properties of groups generated by finite automata,” Virginia Polytechnic Institute, Location, October, 2004. (Individual)


“Presentations of automata groups and subgroups in direct products,” AMS Meeting, Nashville, TN, October, 2004. (Individual)

“Algebraic, algorithmic, and spectral properties of automata groups,” CMS Meeting, Montreal, Canada, December, 2004. (Individual)

**PUBLICATIONS DURING 2004**


• SERVICE DURING 2004

International
➢ Referee: Research, Fond National Suisse de la Recherche, Ministry of Foreign Affairs

National
➢ Referee: Research, National Science Foundation

Department
➢ Member, Post-Doc Hiring Committee

• TEACHING ASSIGNMENTS DURING 2004

Fall
➢ MATH 609. — Numerical Analysis (total enrollment: )

• PRESENTATIONS DURING 2004

➢ Seminar of Numerical Analysis, Texas A&M University, College Station, TX, January, 2004.( Individual)
➢ Seminar of Numerical Analysis, Purdue University, Purdue, IN, January, 2004.( Individual)
➢ Seminar of Numerical Analysis, Texas A&M University, College Station, TX, November, 2004.( Individual)

• PUBLICATIONS DURING 2004

• **SERVICE DURING 2004**

  **National**
  ▶ Associate Editor, Journal of Math Analysis and Applications

  **Regional**
  ▶ Coach, Middle School Math Counts Team

  **Department**
  ▶ Instructor, SEE Math Camp

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ MATH 367.500 — *Basic Concepts of Geometry* (total enrollment: 26)

  **Summer**
  ▶ MATH 367.100 — *Basic Concepts of Geometry* (total enrollment: 29)

  **Fall**
  ▶ MATH 366.501 — *Structure of Mathematics II* (total enrollment: 38)
  ▶ MATH 367.500 — *Basic Concepts of Geometry* (total enrollment: 46)
• SERVICE DURING 2004

National
▷ Referee: Journals, *Electronic Journal of Linear Algebra and Linear Algebra and Applications*

University
▷ Reviewer, Princeton University Press

Department
▷ Member, Math 311 Committee
▷ Mentor, Department of Mathematics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 222.502 — *Linear Algebra* (total enrollment: 29)
▷ MATH 433.500 — *Applied Algebra* (total enrollment: 31)

Summer
▷ MATH 433.100 — *Applied Algebra* (total enrollment: 30)

Fall
▷ MATH 220.503 — *Fundamentals of Discrete Mathematics* (total enrollment: 28)
▷ MATH 368.500 — *Introduction to Abstract Mathematical Structures* (total enrollment: 46)

*Retired January 2005.*
• SERVICE DURING 2004

National
▷ Editor, American Mathematical Monthly
▷ Member, Advisory panel, AIME questions

Department
▷ Organizer, Freshman-Sophomore Contest

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 302.501 — Discrete Mathematics (total enrollment: 24)
▷ MATH 302.502 — Discrete Mathematics (total enrollment: 11)

Fall
▷ MATH 302.503 — Discrete Mathematics (total enrollment: 21)
▷ MATH 490.500 — The Putnam Challenge (total enrollment: 10)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Book Reviewer, *Discrete Mathematics, 5th Edition*
▷ Member, Phi Beta Kappa Chapter Formation Committee
▷ Referee: Journals, *Discrete Mathematics and Journal of Combinatorial Theory Series B*
▷ Treasurer, Phi Beta Kappa Chapter

State
▷ Vice President, Texas State Conference of AAUP

Regional
▷ Grader, High School Mathematics Tournament

University
▷ Coordinator, System Faculty Council
▷ Member, Library Plagiarism Committee
▷ Member, Faculty Senate Executive Committee
▷ Member, Faculty Senate Academic Affairs Committee
▷ Member, President’s Academic Integrity Task Force
▷ Member, Faculty Senate
▷ Member, ATMentors
▷ Organizer, System Faculty Council

Department
▷ Chair, Math 302 textbook committee
▷ Chair, Subcommittee on Legislative Affairs
▷ Liaison, Team Blinn
▷ Member, Committee for creating Graph Theory Qualifier Course and Exam
▷ Member, Budget Information Committee
▷ Referee: Research, Math Reviews Agency

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 220.501 — *Fundamentals of Discrete Mathematics* (total enrollment: 29)
▷ MATH 613.600 — *Graph Theory* (total enrollment: 22)
▷ MATH 691.620 — *Research* (total enrollment: 1)
Summer
▷ MATH 304.200 — Linear Algebra (total enrollment: 32)
▷ MATH 691.110 — Research (total enrollment: 1)
▷ MATH 691.207 — Research (total enrollment: 1)

Fall
▷ MATH 220.501 — Fundamentals of Discrete Mathematics (total enrollment: 20)

• PRESENTATIONS DURING 2004
▷ Combinatexas, Texas A&M University, College Station, TX, April, 2004. (Individual)
▷ Oakland University, Rochester, MI, August, 2004. (Individual)
▷ University of Louisville, Louisville, KY, August, 2004. (Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

   National
   ▶ Referee: Journals, *Interface and Free Boundaries*

• TEACHING ASSIGNMENTS DURING 2004

   Spring
   ▶ MATH 647.600 — *Mathematical Modelling* (total enrollment: 12)

   Fall
   ▶ MATH 670.600 — *Applied Mathematics I* (total enrollment: 11)

• RESEARCH PROJECTS DURING 2004

   ▶ Pointwise and Semigroup Methods in Viscous Conservation Laws and Completely Integrable Systems, *National Science Foundation*

• PRESENTATIONS DURING 2004

   ▶ AIMS Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Location, June, 2004.( Individual)
   ▶ Georgia Tech, Location, September, 2004. ( Individual)
   ▶ SIAM Conference on Analysis of Partial Differential Equations, Houston, TX, December, 2004. ( Individual)

• PUBLICATIONS DURING 2004

WILLIAM B. JOHNSON

DISTINGUISHED PROFESSOR
MATH

(979) 845-2722
johnson@math.tamu.edu

• CHAIRS
  ▶ Arthur George and Mary Emolene Owen Chair in Mathematics [1984]

• SERVICE DURING 2004

National
  ▶ Chair, Organizing Committee, SUMIRFAS
  ▶ Member, Editorial Board for Mathematische Annalen
  ▶ Member, Editorial Board for Positivity

Department
  ▶ Chair, Endowed professorship hiring committee
  ▶ Director, Workshop in Linear Analysis and Probability
  ▶ Member, Postdoc hiring committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 663.601 — Seminar in Analysis (total enrollment: 5)
  ▶ MATH 691.615 — Research (total enrollment: 1)

Summer
  ▶ MATH 663.203 — Seminar in Analysis (total enrollment: 6)

Fall
  ▶ MATH 685.604 — Directed Studies (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004
  ▶ (REN) Geometry of Banach Spaces and Operator Spaces, National Science Foundation
  ▶ (REN) VIGRE: Department-Wide Infrastructure: Widening the Pipeline for Mathematical Sciences, National Science Foundation
  ▶ (REN) Workshop in Linear Analysis and Probability, National Science Foundation
  ▶ Nonlinear Banach space theory, geometry, uniform structure and probability, US-Israel Binational Science Foundation

• PRESENTATIONS DURING 2004
  ▶ AMS special session on recent trends in infinite-dimensional Banach space theory, Athens, OH, March, 2004. (Invited)
  ▶ Colloquium, University of Illinois, Urbana, IL, May, 2004. (Individual)
Workshop on convex geometric analysis, Banff International Research Station, Banff, Canada, July, 2004. (Invited)

Workshop on Spectral theory in Banach spaces and harmonic analysis, Oberwolfach, Germany, July, 2004. (Invited)

2nd International course of mathematical analysis in Andalucia, Granada, Spain, September, 2004. (Invited)

V Conference of Banach Spaces, Caceres, Spain, September, 2004. (Invited)

Colloquium, University of Karlsruhe, Karlsruhe, Germany, November, 2004. (Individual)

• PUBLICATIONS DURING 2004

DAVID KERR

ASSISTANT PROFESSOR
MATH

› No report received from faculty member.
• SERVICE DURING 2004

  National
  ▷ Referee: Journals, *Mathematical Biosciences*

  Department
  ▷ Developer, MacDviX, a TeX dvi previewer for OS X
  ▷ Developer, MacGhost View, Postscript previewer for OS X
  ▷ Developer, Java Function Class

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▷ MATH 172.200(H) — *Calculus* (total enrollment: 15)

  Summer
  ▷ MATH 417.100 — *Numerical Analysis I* (total enrollment: 19)

  Fall
  ▷ MATH 171.503 — *Analytic Geometry and Calculus* (total enrollment: 32)
  ▷ MATH 417.500 — *Numerical Analysis I* (total enrollment: 28)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
  ▶ Guest Editor, Special Issue: *Waves in Random Media* devoted to quantum graphs and their applications
  ▶ Member, AMS Committee on Education
  ▶ Referee: Journals, *IEEE Trans. Medical Imaging, J. Approx. Theory*
  ▶ Referee: Research, National Science Foundation and BSF

University
  ▶ Lecturer, Quantitative biology class
  ▶ Lecturer, Summer Honors Program

Department
  ▶ Chair, Math Awareness Committee
  ▶ Co-Organizer, Mathematical Physics and Spectral Theory
  ▶ Member, Distinguished Prof. Hiring Committee
  ▶ Member, Postdoc Hiring Committee
  ▶ Member, Executive Committee, Department of Mathematics
  ▶ Organizer, Math Awareness Open House
  ▶ Teacher, Summer Educational Enrichment in Math Program for Middle School Students, Texas A&M University, July

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 612.600 — Partial Differential Equations (total enrollment: 13)
  ▶ MATH 691.616 — Research (total enrollment: 2)

Summer
  ▶ MATH 684.351 — Professional Internship (total enrollment: 1)
  ▶ MATH 685.105 — Directed Studies (total enrollment: 1)
  ▶ MATH 685.208 — Directed Studies (total enrollment: 2)
  ▶ MATH 691.106 — Research (total enrollment: 1)
Fall
- MATH 308.200(H) — **Differential Equations** (total enrollment: 21)
- MATH 664.600 — **Seminar in Applied Mathematics** (total enrollment: 9)
- MATH 691.613 — **Research** (total enrollment: 2)

- **RESEARCH PROJECTS DURING 2004**
  - EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, *National Science Foundation*
  - Quantum Graphs and their Applications, *National Science Foundation*
  - US-Tunisia Cooperative Research: Inverse and Optimal Design Problems, *National Science Foundation*
  - Various Inverse Problems in Partial Differential Equations and Methods for their Solutions, *National Science Foundation*
  - On representation of solutions of periodic elliptic equations and Liouville theorems, *US-Israel Binational Science Foundation*

- **PRESENTATIONS DURING 2004**
  - “Floquet theory for PDEs,” Inverse Problems special year, University of Helsinki, Finland, May, 2004. (Invited)
  - “Liouville theorems on abelian coverings of compact manifolds,” Math. Dept., Bar Ilan University, Tel Aviv, Israel, May, 2004. (Invited)
  - “Quantum graphs,” Inverse Problems special year, University of Helsinki, Finland, May, 2004. (Invited)
  - “Thermoacoustic tomography, circular Randon transform, and the wave equation,” Technion - Israel Institute of Technology, Haifa, Israel, May, 2004. (Individual)
  - “Liouville theorems for periodic operators on abelian covers of compact manifolds,” Fourier Institute, Grenoble, France, September, 2004. (Invited)


“Liouville theorems for abelian covers of compact manifolds,” Several complex variables seminar, Texas A&M University, College Station, TX, October, 2004. (Individual)

**PUBLICATIONS DURING 2004**


• SERVICE DURING 2004

  National
  ▶ Organizer, Geometry Seminar and Working Seminar on Weyman’s book ”Cohomology”
  ▶ Referee: Research, National Science Foundation, CRDF
  ▶ Reviewed, research monograms for Springer (3x), undergraduate textbooks (Wiley, Prentice)

• PRESENTATIONS DURING 2004
  ▶ Texas A&M University, Colloquium and geometry seminar, College Station, TX, February, 2004.( Individual)
  ▶ Georgia Southern Colloquium, Location, February, 2004.( Individual)
  ▶ UIUC, Colloquium, Location, March, 2004.( Individual)
  ▶ Univ. Fourier, Algebraic Geometry Seminar, Grenoble, May, 2004.( Individual)
  ▶ Harvard/MIT algebraic geometry seminar, Location, September, 2004.( Individual)
  ▶ Harvard Basic Notions Seminar, Location, October, 2004.( Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

International

▷ Co-Organizer, "Wavelets, Frames and Operator Theory" mini-workshop
▷ Referee: Research, Canadian NSERC Grants, National Science Foundation, National Security Agency, and US-Israel Grants

National

▷ Associate Editor, Proceedings American Mathematical Society
▷ Co-Organizer, FRG Workshops
▷ Financial Coordinator, Annual Great Plains Operator Theory Symposia
▷ Member, NSF Operator Algebras/Operator Theory Review Panel
▷ Referee: Research, Internet Science Found. Long-Term Research Grants Program, NSA, and National Research Council COBASE

Department

▷ Chair, Organizing Committee, GPOTS
▷ Chair, Wavelets, Frames, and Operator Theory
▷ Director, REU/VIGRE program on "Wavelet Theory and Matrix Analysis"
▷ Director, Wavelets and Operator Algebras Seminar
▷ Graduate Advisor, Department of Mathematics

• TEACHING ASSIGNMENTS DURING 2004

Spring

▷ MATH 489.200(H) — Special Topics in (total enrollment: 9)
▷ MATH 685.610 — Directed Studies (total enrollment: 1)
▷ MATH 691.607 — Research (total enrollment: 1)

Summer

▷ MATH 485.201 — Directed Studies (total enrollment: 5)
▷ MATH 663.100 — Seminar in Analysis (total enrollment: 11)
▷ MATH 685.206 — Directed Studies (total enrollment: 2)
MATH 691.204 — Research (total enrollment: 1)

Fall
- MATH 222.501 — Linear Algebra (total enrollment: 25)
- MATH 409.501 — Advanced Calculus I (total enrollment: 26)
- MATH 691.615 — Research (total enrollment: 1)

- **RESEARCH PROJECTS DURING 2004**
  - Collaborative Research: Focused Research on Wavelets, Frames, Operator Theory, National Science Foundation
  - Great Plains Operator Theory Symposium (GPOTS-2004), National Science Foundation
  - REU Site: Analytical and Statistical Methods in the Mathematical Sciences, National Science Foundation

- **PRESENTATIONS DURING 2004**
  - Louisiana State University, Baton Rouge, LA, April, 2004. (Individual)
  - American Mathematical Society, Special Session on Frames and Applications, Houston, TX, May, 2004. (Individual)
  - Workshop on the Functional and Harmonic Analysis of Wavelets and Frames, National University of Singapore, Location, August, 2004. (Individual)
  - American Mathematical Society, Special Session on Frames and Wavelets, Vanderbilt University, Location, October, 2004. (Individual)

- **PUBLICATIONS DURING 2004**
• SERVICE DURING 2004

National
▶ Editor, Computational Methods in Applied Mathematics
▶ Editorial Board, *International Journal on Finite Volumes*
▶ Editorial Board, *SIAM J. Numerical Analysis*
▶ Referee: Research, National Science Foundation-DMS
▶ Referee: Research, DOE

College
▶ Member, Research Enhancement Committee

Department
▶ Associate Member, WG 2.5 Numerical Software, IFIP (International Federation for Information Processing)
▶ Graduate Advisor, Department of Mathematics
▶ Member, Executive Committee, Department of Mathematics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▶ MATH 639.600 — *Iterative Techniques* (total enrollment: 17)
▶ MATH 691.621 — *Research* (total enrollment: 1)

Summer
▶ MATH 684.352 — *Professional Internship* (total enrollment: 1)
▶ MATH 685.304 — *Directed Studies* (total enrollment: 1)

Fall
▶ MATH 251.501 — *Engineering Mathematics III* (total enrollment: 71)
▶ MATH 251.506 — *Engineering Mathematics III* (total enrollment: 72)
▶ MATH 691.611 — *Research* (total enrollment: 2)
• RESEARCH PROJECTS DURING 2004
  ▶ Development and Research of Deterministic and Stochastic Mathematical Models for Control and Management of Pollution Level Fluvial Waters and their Realization by Application Package, Civilian Research & Development Foundation (CRDF)
  ▶ Development and Research of Deterministic and Stochastic Mathematical Models for Control and Management of Pollution Levels of Fluvial Waters and Their Realization by Application Package, Civilian Research & Development Foundation (CRDF)
  ▶ Collaborative Research: ITR/AP- Predictive Contaminant Tracking Using Dynamic Data Driven Application Simulation (DDDAS) Techniques, National Science Foundation
  ▶ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

• PRESENTATIONS DURING 2004
  ▶ I.N. Vekua Institute of Applied Mathematics, Tbilisi University, Location, GA, March, 2004.( Individual)
  ▶ “A finite volume method for nonlinear elliptic problems,” IMA “Hot Topics” Workshop on Compatible Spatial Discretizations for PDEs, University of Minnesota, Minneapolis, MN, May, 2004.(Poster Individual)
  ▶ Department of Mathematics, Penn State University, Location, May, 2004.( Individual)
  ▶ “Discontinuous Gelerkin method for first order equations,” Workshop on Numerical Methods for PDEs, University of Kaiserslautern, Germany, June, 2004.( Individual)
  ▶ “Discontinuous Gelerkin method for second order equations as a stabilization of mixed formulation,” Workshop on Numerical Methods for PDEs, University of Kaiserslautern, Germany, June, 2004.( Individual)
  ▶ “Error analysis and error control of FEM for convection-diffusion problems,” 5th Annual Conference of the Los Alamos Computer Science Institute, Workshop of Mimetic schemes, Santa Fe, NM, October, 2004.( Individual)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004
  
  University
  ▶ Member, Provost’s Academic Convocation Committee
  
  Department
  ▶ Member, Departmental Undergraduate Committee
  ▶ Member, Teaching Committee, Department of Mathematics

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▶ MATH 308.504 — Differential Equations (total enrollment: 52)
  ▶ MATH 628.600 — Mathematics of Finance (total enrollment: 7)
  
  Fall
  ▶ MATH 221.501 — Several Variable Calculus (total enrollment: 43)
  ▶ MATH 311.503 — Topics in Applied Mathematics I (total enrollment: 39)
• SERVICE DURING 2004

National
▷ Referee: Research, National Science Foundation

Department
▷ Member, Departmental Undergraduate Studies Committee
▷ Member, Ph.D. Committees
▷ Member, Master’s examination committees

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 691.609 — Research (total enrollment: 3)

Summer
▷ MATH 685.204 — Directed Studies (total enrollment: 1)
▷ MATH 691.305 — Research (total enrollment: 1)

Fall
▷ MATH 643.600 — Algebraic Topology I (total enrollment: 9)
▷ MATH 691.605 — Research (total enrollment: 4)

• RESEARCH PROJECTS DURING 2004
▷ EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, *National Science Foundation*

• PRESENTATIONS DURING 2004
▷ ITP (Instituto Superior Tecnico, Universidade Politecnica de Lisboa), Lisbon, Portugal, March, 2004. (Individual)
▷ Louisianna State University, Baton Rouge, LA, April, 2004. (Individual)
▷ 6th Joint Meeting of AMS and Mexican Mathematical Society, Special Session on Algebraic Geometry, Houston, TX, May, 2004. (Individual)
▷ II Latin-American Congress of Mathematicians, Cancun, Mexico, June, 2004. (Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

  National
  ▶ Referee: Journals, Inverse Problems

  Regional
  ▶ Member, Exam Committee High School Math Conference

  College
  ▶ Member, Minority Recruiting
  ▶ Participant, Mitchell Symposium Hands-On Science Show

  Department
  ▶ Co-Organizer, 27th Annual Texas Partial Differential Equations Conference
  ▶ Graduate Advisor, Department of Mathematics
  ▶ Member, Departmental Undergraduate Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ MATH 308.200(H) — Differential Equations (total enrollment: 23)
  ▶ MATH 425.500 — The Mathematics of Contingent Claims (total enrollment: 41)
  ▶ MATH 685.602 — Directed Studies (total enrollment: 2)

  Fall
  ▶ MATH 253.504-506 — Engineering Mathematics III (total enrollment: 59)
  ▶ MATH 325.500 — The Mathematics of Interest (total enrollment: 43)
  ▶ MATH 485.500 — Directed Studies (total enrollment: 1)
FRANCIS J. NARCOWICH

PROFESSOR (979) 845-7369
MATH fnarc@math.tamu.edu

• SERVICE DURING 2004

National
   ▶ Referee: Research, National Science Foundation

University
   ▶ Director, Texas A&M University Center for Approximation Theory

Department
   ▶ Member, Departmental Graduate Committee
   ▶ Member, Departmental Executive Committee
   ▶ Member, Subcommittee on Promotion

• TEACHING ASSIGNMENTS DURING 2004

Spring
   ▶ MATH 414.502 — Fourier Series and Wavelets (total enrollment: 11)
   ▶ MATH 414.700 — Fourier Series and Wavelets (total enrollment: 11)

Summer
   ▶ MATH 311.102 — Topics in Applied Mathematics I (total enrollment: 27)
   ▶ MATH 691.303 — Research (total enrollment: 1)

Fall
   ▶ MATH 311.502 — Topics in Applied Mathematics I (total enrollment: 42)

• RESEARCH PROJECTS DURING 2004

   ▶ New Directions in Scattered Data Analysis via Radial and Related Basis Functions, National Science Foundation
   ▶ New Directions in Scattered Data Analysis via Radial and Related Basis Functions with Applications, National Science Foundation

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Referee: Journals, Proceedings of the American Mathematical Society, Transactions of the American Mathematical Society

University
▷ Co-Organizer, Texas A&M University Number Theory Seminar

Department
▷ Mentor, Post-Doctoral Mentoring

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 304.502 — Linear Algebra (total enrollment: 34)
▷ MATH 685.609 — Directed Studies (total enrollment: 1)

Fall
▷ MATH 415.500 — Modern Algebra I (total enrollment: 25)
▷ MATH 685.601 — Directed Studies (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
▷ Transcendental Numbers and Special Values of Analytical, Department of Defense
▷ Transcendental Numbers and Special Analytic Functions, National Science Foundation

• PRESENTATIONS DURING 2004
▷ “Shimura’s conjecture over function fields,” American Mathematical Society, Special Session on Arithmetical Algebraic Geometry, Phoenix, AZ, January, 2004.( Invited)
▷ “Hypergeometric functions over finite fields and traces of Hecke operators,” University of Texas, Number Theory Seminar, Austin, TX, February, 2004.( Individual)
▷ “Hypergeometric functions over finite fields and traces of Hecke operators,” Eighteenth Annual Workshop on Automorphic Forms and Related Topics, University of California, Santa Barbara, CA, March, 2004.( Contributed)


“Hypergeometric functions over finite fields and modular forms,” Rice University, Houston, TX, September, 2004. (Individual)

“Galois groups of Drinfeld modules and transcendence,” University of Maryland, Number Theory Seminar, College Park, MD, October, 2004. (Individual)

“Hypergeometric functions over finite fields and modular forms,” Texas Christian University, Fort Worth, TX, November, 2004. (Individual)


**PUBLICATIONS DURING 2004**


• SERVICE DURING 2004

National
▷ Associate Editor, Proceedings of the Copper Mountain Multigrid Meeting
▷ Associate Editor, Computational Methods in Applied Mathematics
▷ Associate Editor, The Mathematics of Computation
▷ Member, Scientific Committee, Copper Mountain Multigrid Meetings
▷ Referee: Journals, DD15 Conference
▷ Referee: Research, National Science Foundation

College
▷ Member, College of Science, Promotion and Tenure Advisory Committee

Department
▷ Member, Departmental Graduate Program Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 610.600 — Numerical Methods in Partial Differential Equations (total enrollment: 10)
▷ MATH 691.601 — Research (total enrollment: 3)

Summer
▷ MATH 685.101 — Directed Studies (total enrollment: 1)
▷ MATH 691.102 — Research (total enrollment: 2)
▷ MATH 691.210 — Research (total enrollment: 1)

Fall
▷ MATH 601.601 — Methods of Applied Mathematics I (total enrollment: 37)
▷ MATH 691.607 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Preconditioning of Finite Element Saddle Point Problems, Lawrence Livermore National Laboratory
▷ A New Approximation Technique for Maxwell’s Equations, National Science Foundation
▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
• PRESENTATIONS DURING 2004
  ▶ “Approximation of the eigenvalues of Maxwell’s systems using a least-squares technique,” Oberwolfach conference on computational electromagnetics, Oberwolfach, Germany, February, 2004. (Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Editorial Board, Kyungpook Math. Journal

University
▷ Advisory Board, Board of Trustees of the Development Foundation

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 601.601 — Methods of Applied Mathematics I (total enrollment: 30)
▷ MATH 601.602 — Methods of Applied Mathematics I (total enrollment: 32)
▷ MATH 691.614 — Research (total enrollment: 2)

Summer
▷ MATH 691.105 — Research (total enrollment: 3)
▷ MATH 691.205 — Research (total enrollment: 1)

Fall
▷ MATH 311.200(H) — Topics in Applied Mathematics I (total enrollment: 12)
▷ MATH 691.602 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004
▷ “On the hyperinvariant subspace problem,” Ewha Women’s University, Seoul, Korea, June, 2004. (Individual)

• PUBLICATIONS DURING 2004
• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 664.602 — Seminar in Applied Mathematics (total enrollment: 8)
• SERVICE DURING 2004

National
▷ Referee: Journals, Communications in Math Sciences

University
▷ Member, Graduate Faculty

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 417.501 — Numerical Analysis I (total enrollment: 27)

Fall
▷ MATH 308.506 — Differential Equations (total enrollment: 51)
▷ MATH 308.513 — Differential Equations (total enrollment: 50)

• RESEARCH PROJECTS DURING 2004
▷ Fellowship for the Twinning Program, National Academy of Sciences
▷ Analytical and Numerical Methods for Transport Equations, National Science Foundation

• PRESENTATIONS DURING 2004
▷ “Central-upwind schemes for hyperbolic conservation laws with nonconvex equations of state,” CAMP/Nonlinear PDSs Seminar, University of Chicago, Location, May, 2004. (Individual)
▷ “Central-upwind schemes for hyperbolic conservation laws,” Iterative Methods, Preconditioning and Numerical PDEs (IMET), Prague, Czech Republic, May, 2004. (Individual)

• PUBLICATIONS DURING 2004
▷ Dimitrov, D; Petrova, G. (2004) Extended cubature formula of Turan type (0,2) for the ball. Approximation Theory, A volume dedicated to Borislav Bojanov (pp. 64-72).
▷ Otero, J; Dontcheva, LA; Johnston, H; Worthing, RA; Kurganov, A; Petrova, G; Doering, CR. (2004) High-Rayleigh-number convection in a fluid-saturated porous layer Journal of

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▸ Associate Department Head, Mathematics, [2002]

• SERVICE DURING 2004
  University
  ▸ Member, Instructional Technology Council

  College
  ▸ Director, College of Science Information Technology Lab
  ▸ Member, College of Science Technology Mediated Instruction Committee
  ▸ Member, College of Science Computing Committee
  ▸ Member, College Advisory Committee on Information Technology
  ▸ Member, Qatar Planning Committee
  ▸ President, College Station ISD Orchestra Friends

  Department
  ▸ Associate Department Head (Operations), Department of Mathematics
  ▸ Member, Computer Committee
  ▸ Member, Department of Mathematics liaison with ABET (2004 Engineering Accreditation)
  ▸ Member, Mathematics and Science Education Advisory Council
  ▸ Member, Creation of SQL databases for departmental information
  ▸ Member, Masters of Science in Mathematics, with a Teaching Option Project Team
  ▸ Member, Departmental Honors Program
  ▸ Member, Departmental Executive Committee
  ▸ Member, Electronic Homework Project Team
  ▸ Member, Applied Calculus on the Web Project Team
  ▸ Member, Finite Math on the Web Project Team
  ▸ Member, Informatics and Communication Environments Lab
  ▸ Member, Lecturer Evaluations Committee
  ▸ Member, Committee of Instructional Enhancement Fees for Math 141 and 166
  ▸ Member, Moving Algebra Diagnostic for paper and pencil to online project team
  ▸ Member, Undergraduate Studies Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▸ MATH 614.600,700 — Dynamical Systems and Chaos (total enrollment: 23)
Summer

- MATH 696.200 — Mathematical Communication and Technology (total enrollment: 18)
- MATH 696.700 — Mathematical Communication and Technology (total enrollment: 16)

- **RESEARCH PROJECTS DURING 2004**
  - College of Science Information Technology Laboratory, *Computing and Information Services*
  - TAMU STEPS: Physics, Engineering, and Mathematics (PEM) Model, *National Science Foundation*
  - Masters of Mathematics Education Distance Education Degree Program, *Texas A&M University*
  - Pre-calculus- Practices of Good Teaching Through Content, Technology, and Interaction, *Texas Higher Education Teacher Quality Grant*

- **PRESENTATIONS DURING 2004**
  - “All About Assessment,” ICTCM Presession, Location, October, 2004. (Individual)
  - iLRN implementation at TAMU, College Station, TX, October, 2004. (Contributed)
  - Local Camtasia Workshop, College Station, TX, December, 2004. (Individual)

- **PUBLICATIONS DURING 2004**
  - Pilant, MS. (2004) *Masters in Mathematics Education, Distance Education [software/online]* Texas A&M University.
  - Pilant, MS. (2004) *Online Testing [software/online]*.
CHAIRS
▷ Arthur George and Mary Emolene Owen Chair in Mathematics [1985]

SERVICE DURING 2004

National
▷ Editorial Board, *J. Operator Theory*
▷ Editorial Board, Comptes Rendus de l’Academie des Sciences
▷ Editorial Board, *Journal de l’Institut Math. De Jussieu*
▷ Editorial Board, *Journal of Functional Analysis*
▷ Editorial Board, *GAFA Journal*
▷ Editorial Board, *Bulletin des Sciences Mathematiques*
▷ Member, Scientific Research Board of the American Institute of Math. Research Center

State
▷ Co-Organizer, Concentration Week on Free Probability and Non-commutative $L_p$ Spaces
▷ Editorial Board, *Houston J. math.*

University

Department
▷ Organizer, Summer School on “Operator Spaces, groups and C*-algebras”
▷ Organizer, Conference on Operator Spaces at CIRM

TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 691.613 — Research (total enrollment: 1)

Summer
▷ MATH 691.304 — Research (total enrollment: 1)

Fall
▷ MATH 663.601 — Seminar in Analysis (total enrollment: 6)
▷ MATH 691.612 — Research (total enrollment: 1)

RESEARCH PROJECTS DURING 2004
▷ (REN) Geometry of Banach Spaces and Operator Spaces, *National Science Foundation*
▷ (REN) Workshop in Linear Analysis and Probability, *National Science Foundation*
• PRESENTATIONS DURING 2004
  ▶ CIRM, Luminy, France, January, 2004. (Individual)
  ▶ Conference on Quantum Probability, Bedlewo, Poland, June, 2004. (Invited)
  ▶ “Non-commutative Gaussian random variables and operator space theory,” Series of 3 lectures, Event/Association, Bordeaux, September, 2004. (Invited)
  ▶ Event/Association, Calcutta, India, December, 2004. (Individual)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Referee: Research, National Science Foundation

Regional
▷ Member, College Station Rotary Club

College
▷ Member, College of Science Strategic Planning Committee
▷ Member, College Advisory Council

Department
▷ Member, Graduate Studies Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 637.600 — Topology II (total enrollment: 8)

Summer
▷ MATH 666.700 — Seminar in Geometry (total enrollment: 13)

Fall
▷ MATH 470. — Communications and Cryptography (total enrollment: 17)
▷ MATH 636.600 — Topology I (total enrollment: 9)

• RESEARCH PROJECTS DURING 2004

▷ Texas Geometry and Topology Conference, National Science Foundation
• **SERVICE DURING 2004**

**National**
- Referee: Journals, *Complex Variables*
- Referee: Journals, *Journal of Approximation Theory*
- Referee: Journals, *Journal of Mathematical Analysis and Applications*
- Referee: Journals, *Journal d’Analyse Mathematique*

**Department**
- Member, Tenure Committee
- Organizer, Mathematical Physics and Harmonic Analysis Seminar

• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- MATH 251.506 — *Engineering Mathematics III* (total enrollment: 60)
- MATH 407.500 — *Complex Variables* (total enrollment: 21)

**Summer**
- MATH 311.100 — *Topics in Applied Mathematics I* (total enrollment: 35)

**Fall**
- MATH 407.500 — *Complex Variables* (total enrollment: 15)

• **RESEARCH PROJECTS DURING 2004**

- Boundary Behavior of Analytical Functions, *National Science Foundation*

• **PRESENTATIONS DURING 2004**

- University of Illinois, Urbana-Champaign, February, 2004. (Individual)
- Complex Analysis and Operator Theory conference, University of Richmond, Richmond, VA, April, 2004. (Invited)
- 13th Annual Analysis Meeting, Euler Institute, St. Petersburg, Russia, August, 2004. (Individual)

• **PUBLICATIONS DURING 2004**

• SERVICE DURING 2004
  National
  ▶ Referee: Journals, Journal of Mathematik

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ MATH 417.502 — Numerical Analysis I (total enrollment: 28)
  ▶ MATH 442.500 — Mathematical Modeling (total enrollment: 11)
  Fall
  ▶ MATH 311.505 — Topics in Applied Mathematics I (total enrollment: 34)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
MAURICE H. RAHE

ASSOCIATE PROFESSOR  
MATH  
(979) 845-4119  
rahe@math.tamu.edu

• SERVICE DURING 2004

Regional
  ▶ Judge, Houston Regional Science and Engineering Fair

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 308.514 — Differential Equations (total enrollment: 51)
  ▶ MATH 308.515 — Differential Equations (total enrollment: 52)

Summer
  ▶ MATH 308.301 — Differential Equations (total enrollment: 49)
  ▶ MATH 308.302 — Differential Equations (total enrollment: 50)

Fall
  ▶ MATH 253.501-503 — Engineering Mathematics III (total enrollment: 53)
  ▶ MATH 308.510 — Differential Equations (total enrollment: 52)
• SERVICE DURING 2004

International
▷ Referee, International Symposium on Symbolic and Algebraic Computation

National

Department
▷ Examiner, Spanish Language for Ph.D. Language Examination
▷ Member, Textbook Committee for Math 302
▷ Point of Contact, Issues of Information Security

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 485.201(H) — Directed Studies (total enrollment: 1)

Summer
▷ MATH 485.100 — Directed Studies (total enrollment: 2)
▷ MATH 485.200 — Directed Studies (total enrollment: 2)
▷ MATH 662.101 — Seminar in Algebra (total enrollment: 8)
▷ MATH 685.207 — Directed Studies (total enrollment: 3)
▷ MATH 685.303 — Directed Studies (total enrollment: 1)

Fall
▷ MATH 302.502 — Discrete Mathematics (total enrollment: 27)
▷ MATH 302.505 — Discrete Mathematics (total enrollment: 29)
▷ MATH 685.603 — Directed Studies (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
▷ CAREER: Complexity, Reality, and Rationality in Large Non-linear Equation Solving, National Science Foundation, coworkers: M. Muzheve (G), S. Sethuraman (G)
▷ Robust Output Sensitive Algorithms for Subanalytic Geometry, National Science Foundation
▷ UBM: Real Solving and Protein Structures, National Science Foundation, coworkers: R. Bliss (U), J. Dieringer (U), B. Holmes (U), M. Manglicmot (U), J. Parsons (U), B. Worthen (U)
• PRESENTATIONS DURING 2004
  ▶ Conference on Asymptotic and Effective Results in Complex Geometry (in honor of Bernie Shiffman’s 60th Birthday), Johns Hopkins University, Baltimore, MD, March, 2004. (Invited)
  ▶ JAMI Seminar, Johns Hopkins University, Baltimore, MD, March, 2004. (Individual)
  ▶ Workshop on Algorithmic, Combinatorial, and Applicable Real Algebraic Geometry, MSRI, Berkeley, CA, April, 2004. (Invited)
  ▶ Special Session on Algebraic Geometry, Sixth International Joint Meeting of the AMS and the SMM, Houston, TX, May, 2004. (Invited)
  ▶ Texas A&M Math Minifair, College Station, TX, May, 2004. (Invited)
  ▶ Venture Capital Workshop, College of Science, Texas A&M University, College Station, TX, July, 2004. (Individual)
  ▶ Algebraic Geometry Seminar, Texas A&M University, College Station, TX, October, 2004. (Individual)
  ▶ Aerospace Engineering Seminar, Texas A&M University, College Station, TX, November, 2004. (Individual)
  ▶ BIRS Workshop on Resolution of Singularities, Factorization of Birational Mappings, and Toroidal Geometry, Banff, Alberta, Canada, December, 2004. (Invited)
  ▶ Bryan High School, Calculus Classes of Ms. Linda Sterns, Bryan, TX, December, 2004. (Individual)

• PUBLICATIONS DURING 2004
• RESEARCH PROJECTS DURING 2004
  ▶ Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*

• PUBLICATIONS DURING 2004

*On leave.*
• SERVICE DURING 2004

  National
  ▶ Member, NSF Panel
  ▶ Referee: Journals, *Discrete and Computational Geometry*, *Journal of Symbolic Computation*, *Mathematische Zeitschrift*, *Proceedings of the AMS*, and *Transactions of the AMS*
  ▶ Referee: Research, NSA

  Department
  ▶ Referee: Research, Math Reviews and National Science Foundation

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ MATH 685.607 — Directed Studies (total enrollment: 1)
  ▶ MATH 689.602 — Special Topics in (total enrollment: 8)

  Summer
  ▶ MATH 685.301 — Directed Studies (total enrollment: 4)

• RESEARCH PROJECTS DURING 2004

  ▶ Non-Standard Splines for Geometric Modeling, *Advanced Research Program/Advanced Technology Program*
  ▶ Collaborative Research: Symbolic Computations in Algebra and Topology, *National Science Foundation*
  ▶ Algebra and Combinatorics of Free Line Arrangements in P2, *National Security Agency*

• PRESENTATIONS DURING 2004

  ▶ University of Texas, Geometry-Topology Seminar, Austin, TX, April, 2004.( Individual)
  ▶ “Ideals of monomials and ideals of powers of linear forms,” Mathematische Forschungsinstitut, Meeting on Combinatorial Commutative Algebra, Oberwolfach, Germany, July, 2004.( Invited)
  ▶ “Commutative and homological methods for arrangements,” MSRI Program on Hyperplane Arrangements, Berkeley, CA, August, 2004.( Invited)
  ▶ Texas A&M University, College Station, TX, September, 2004.( Individual)
• PUBLICATIONS DURING 2004
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ➢ Director, Information Technology in Science Center for Teaching and Learning, [2000]

• SERVICE DURING 2004

  National
  ➢ Member, CAMT Executive Board, MAA representative
  ➢ Member, NSF National Visiting Committee for the CREST Project

  State
  ➢ Vice Chair, Conference for the Advancement of Mathematics Teaching Executive Board

  University
  ➢ Member, University Council on Teacher Education
  ➢ Member, Children, Youth, and Family Executive Committee
  ➢ Member, Center for Teaching Excellence Faculty Advisory Board

  College
  ➢ Judge, Regional Junior Science Bowl
  ➢ Judge, Regional Science Bowl
  ➢ Member, College of Education Selection Committee for Science Education position
  ➢ Member, College of Education Selection Committee for Mathematics Education Position

  Department
  ➢ Director, Information Technology in Science Center for Teaching and Learning

• RESEARCH PROJECTS DURING 2004
  ➢ Center for the Application of Information Technology in the Teaching and Learning of Science, National Science Foundation, coworkers: G. Acheson (P), G. Nickles (P), L. Adair (G), J. Belknap (G), D. Bozeman (G), L. Brooks (G), C. Ezrailson (G), C. Force (G), L. Forsyth (G), A. Harbaugh (G), S. Hilding-Kronforst (G), W. Holtcamp (G), T. Kadhri (G), K. Lowry (G), J. Milam (G), H. Miller (G)
  ➢ China U.S. Cooperative Research Exchange: A Pilot for Increasing US China Cooperation in Science Education Integrating Science Education, and IT in a Cross Cultural Setting, National Science Foundation
  ➢ Improving the Quality of and Access to Undergraduate Statistics Education, National Science Foundation
  ➢ Noyce Scholarship (Supplement to ITS Center Grant), National Science Foundation
• PRESENTATIONS DURING 2004

- “Student Mental Model Development and Inquiry Module Performance in Complex Earth and Environmental Systems,” Educational Research Exchange (ERE), Texas A&M University, College Station, TX, January, 2004. (Contributed)
- “The ITS Learning and Teaching Portal: Serving the complex needs of a summer institute,” Annual Society for Information Technology & Teacher Education Conference, Atlanta, GA, March, 2004. (Contributed)
- “Teachers Engaging in Authentic Eduction Research as They Engage Students in Authentic Science Research: A Collaboration Among Scientists, Education Researcher, and Practitioners,” American Geophysical Union’s Fall meeting, San Francisco, CA, December, 2004. (Contributed)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Chair, SAT II College Board Mathematics Committee
▷ Mathematics Question Writer and Reviewer, U.S. Department of Energy National Middle School Science Bowl
▷ Official, U.S. Department of Energy National Middle School Science Bowl
▷ Panelist, American Mathematics Competition
▷ Regional Examination Co-Coordinator, American High School Mathematics Examination
▷ Regional Examination Coordinator, American High School Mathematics Examination
▷ Representative, Advisory Committee to the Committee on the American Mathematics Competitions

State
▷ Board of Directors, Texas Academy of Science

College
▷ Committee Member and Judge, Texas Junior Science and Humanities Symposium
▷ Committee Member and Judge, Texas A&M Regional Science Fair
▷ Committee Member and Judge, Texas A&M University Regional Science Fair
▷ Committee Member and Official, Texas Science Olympiad
▷ Mathematics Question Writer and Reviewer, U.S. Department of Energy National Science Bowl
▷ Moderator and Official, U.S. Department of Energy National Science Bowl
▷ Regional Coordinator, Texas A&M University Regional Science Bowl
▷ Regional Coordinator, Texas A&M University Regional Junior Science Bowl
▷ State Director and Judge, Texas Junior Academy of Science

Department
▷ Advisor, Mathematics Teaching Field Advisor for Secondary Students
▷ Faculty Advisor, Future Aggie Mathematics Educators

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 376.500 — Intermediate Abstract Algebra (total enrollment: 12)
▷ MATH 403.500 — Mathematics and Technology (total enrollment: 47)

Summer
▷ MATH 366. — Structure of Mathematics II (total enrollment: 40)
Fall

- MATH 375. — Intermediate Real Analysis (total enrollment: 12)
- MATH 403. — Mathematics and Technology (total enrollment: 20)
- MATH 403. — Mathematics and Technology (total enrollment: 43)

- RESEARCH PROJECTS DURING 2004
  - Texas A&M University System NSF Collaborative for Excellence in Teacher Preparation, National Science Foundation

- PRESENTATIONS DURING 2004
  - “The New Football Coach’s Dilemma: Overtime,” Texas Section MAA Meeting, Corpus Christi, TX, April, 2004. (Individual)
  - “Problem-solving with the Geometer’s Sketchpad,” Conference for the Advancement of Mathematics Teaching (CAMT), San Antonio, TX, July, 2004. (Individual)

- PUBLICATIONS DURING 2004
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Graduate Advisor, Mathematics, [2001]

• SERVICE DURING 2004

  National
  ▶ Referee: Journals, Proceedings of the AMS
  ▶ Referee: Research, National Science Foundation

  Department
  ▶ Associate Editor, Glasgow Mathematical Journal
  ▶ Associate Head, Graduate Studies
  ▶ Chair, Graduate Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ MATH 691.606 — Research (total enrollment: 1)

  Fall
  ▶ MATH 446.500 — Principles of Analysis I (total enrollment: 14)

• RESEARCH PROJECTS DURING 2004
  ▶ Banach Spaces and Operators on Them, National Science Foundation
  ▶ (REN) VIGRE: Department-Wide Infrastructure: Widening the Pipeline for Mathematical Sciences, National Science Foundation

• PRESENTATIONS DURING 2004
  ▶ Joint Meeting of the Mexican and the American Mathematics Society, Houston, TX, May, 2004.( Individual)
  ▶ Trinity University, San Antonio, TX, October, 2004.( Individual)
  ▶ University of Alberta, Alberta, Canada, October, 2004.( Individual)
• SERVICE DURING 2004

Department
▷ Advisor, Graduate Students, Math Department
▷ Co-Coordinator, Mathe 151 Course
▷ Member, Undergraduate Studies Committee
▷ Member, Math Department Library Committee
▷ Member, Math Department Awards Committee
▷ Member, Math Department Speakers’ Committee
▷ Mentor, Math Department Undergraduate Students
▷ Organizer, Center for Approximation Theory Seminar Series

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 423.200(H) — Linear Algebra II (total enrollment: 11)
▷ MATH 685.605 — Directed Studies (total enrollment: 4)

Fall
▷ MATH 151.201-202(H) — Engineering Mathematics I (total enrollment: 36)
▷ MATH 663.602 — Seminar in Analysis (total enrollment: 7)

• PRESENTATIONS DURING 2004


• PUBLICATIONS DURING 2004

- **SERVICE DURING 2004**

  **National**
  - Evaluation Panel Member, External promotion and tenure cases
  - Referee: Journals, *J. Math. Soc. Japan*
  - Referee: Research, NSERC proposals

  **University**
  - Member, Organizing Committee for GPOTS at Texas A&M University

  **Department**
  - Chair, Frontiers Committee
  - Chair, Postdoc Committee

- **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  - MATH 656.600 — **Functional Analysis II** (total enrollment: 8)
  - MATH 695.600 — **Frontiers in Mathematical Research** (total enrollment: 5)

  **Summer**
  - MATH 308.100 — **Differential Equations** (total enrollment: 43)

  **Fall**
  - MATH 304.501 — **Linear Algebra** (total enrollment: 40)
  - MATH 607.600 — **Real Variables I** (total enrollment: 20)
  - MATH 695.600 — **Frontiers in Mathematical Research** (total enrollment: 6)

- **PRESENTATIONS DURING 2004**
  - “Gamma factors,” Vanderbilt University, Location, April, 2004.
• PUBLICATIONS DURING 2004


• SERVICE DURING 2004

University
  ▶ Member, University Disciplinary Appeals Panel

College
  ▶ Volunteer, Science Bowl

Department
  ▶ Chairman, Committee to Compose Problems for High School Mathematics Contest
  ▶ Member, Teaching Evaluation Committee
  ▶ Organizer, Power Team Questions
  ▶ Representative, State Employee Charitable Campaign (SECC)
  ▶ Volunteer, MathCOUNTS

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 416.500 — Modern Algebra II (total enrollment: 10)

Summer
  ▶ MATH 685.203 — Directed Studies (total enrollment: 1)
  ▶ MATH 685.302 — Directed Studies (total enrollment: 1)

Fall
  ▶ MATH 152.504-506 — Engineering Mathematics II (total enrollment: 86)
  ▶ MATH 221.502 — Several Variable Calculus (total enrollment: 37)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
No report received from faculty member.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Undergraduate Advisor, Mathematics, [1990]

• SERVICE DURING 2004
  Regional
  ▶ Director, AP Calculus Workshops
  ▶ Supervisor, Annual High School Mathematics Contest

  Department
  ▶ Advisor, Undergraduate Students
  ▶ Ambassador, Maple
  ▶ Chair, Scholarship Committee
  ▶ Member, Undergraduate Programs Committee
  ▶ Mentor, Freshmen Orientation
  ▶ Presenter, SHIP (Summer Honors Invitational Program)

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ MATH 220.502 — Fundamentals of Discrete Mathematics (total enrollment: 26)
  ▶ MATH 289.502 — Special Topics in (total enrollment: 12)
  ▶ MATH 304.501 — Linear Algebra (total enrollment: 33)
  ▶ MATH 485.500 — Directed Studies (total enrollment: 2)
  ▶ MATH 685.601 — Directed Studies (total enrollment: 1)

  Fall
  ▶ MATH 170.501 — Freshman Mathematics Laboratory (total enrollment: 25)
  ▶ MATH 170.502 — Freshman Mathematics Laboratory (total enrollment: 23)
  ▶ MATH 170.503 — Freshman Mathematics Laboratory (total enrollment: 1)
  ▶ MATH 170.504 — Freshman Mathematics Laboratory (total enrollment: 13)
  ▶ MATH 220.502 — Fundamentals of Discrete Mathematics (total enrollment: 24)
  ▶ MATH 289.503 — Special Topics in (total enrollment: 7)
  ▶ MATH 410.500 — Advanced Calculus II (total enrollment: 17)

• RESEARCH PROJECTS DURING 2004
  ▶ Writing for Assessment and Learning in the Natural and Mathematical Sciences, National Science Foundation
• PRESENTATIONS DURING 2004
  ▶ CAMT, Location, July, 2004. (Individual)
  ▶ “CPR and A&M’s w-course requirement,” Texas A&M University, Prairie View, TX, November, 2004. (Individual)
• SERVICE DURING 2004

International
▷ Reviewer, Research Grants Council, Hong Kong

National
▷ Book Reviewer, "Experiencing Geometry" Prentice Hall Publishing-ESM Division
▷ Reviewer, Air Force Office of Scientific Research
▷ Reviewer, NSF Division of Mathematical Sciences

University
▷ Associate Director, Institute for Scientific Computation

College
▷ Member, College of Science One Spirit, One Vision Capital Campaign Committee

Department
▷ Member, Executive Committee, Department of Mathematics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 662.601 — Seminar in Algebra (total enrollment: 9)
▷ MATH 685.606 — Directed Studies (total enrollment: 2)

Summer
▷ MATH 685.209 — Directed Studies (total enrollment: 1)

Fall
▷ MATH 251.505 — Engineering Mathematics III (total enrollment: 73)
▷ MATH 251.511 — Engineering Mathematics III (total enrollment: 56)
▷ MATH 622.600 — Differential Geometry of Curves (total enrollment: 17)

• RESEARCH PROJECTS DURING 2004

▷ Non-Standard Splines for Geometric Modeling, Advanced Research Program/Advanced Technology Program
▷ Aspects of Invariants for Object Recognition, Air Force Office of Scientific Research
▷ Geometric Methods for ATR: Shape Spaces, Metrics, Object/Image Relations and Shapelets, Air Force Office of Scientific Research
▷ EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, National Science Foundation
• PRESENTATIONS DURING 2004
  ▶ “Shape Spaces, Metrics, and Object/Image Relations,” University of Dayton, Dayton, OH, June, 2004.( Invited)
  ▶ Air Force Research Laboratory’s Technology Expo and Industry Day, Target Recognition Technology Division, Wright Patterson Air Force Base, Dayton, OH, November, 2004.( Invited)

• PUBLICATIONS DURING 2004
  ▶ Stiller, PF. ( January2004) “Vision metrics and object/image relations II: Discrimination metrics and object/image duality,” Electronic Imaging, Vision Geometry XII San Jose, CA.
• SERVICE DURING 2004

National
  ▶ Associate Editor, Journal of Mathematical Analysis and Applications
  ▶ Referee: Research, National Science Foundation

University
  ▶ Member, International Programs Subcommittee
  ▶ Member, Research Committee
  ▶ Member, Faculty Senate

Department
  ▶ Member, Graduate Program Committee
  ▶ Member, Subcommittee P
  ▶ Member, Undergraduate Scholarship Committee
  ▶ Organizer, Several Complex Variables Seminar
  ▶ Organizer, Program in Complex Analysis, Operator Theory, and Application to Mathematical Physics

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 222.501 — Linear Algebra (total enrollment: 17)
  ▶ MATH 467.500 — Modern Geometry (total enrollment: 31)
  ▶ MATH 685.604 — Directed Studies (total enrollment: 1)
  ▶ MATH 691.603 — Research (total enrollment: 2)

Summer
  ▶ MATH 308.200 — Differential Equations (total enrollment: 33)
  ▶ MATH 485.204 — Directed Studies (total enrollment: 1)
  ▶ MATH 691.107 — Research (total enrollment: 1)
  ▶ MATH 691.206 — Research (total enrollment: 1)
Fall

- MATH 617.600 — Theory of Functions of a Complex Variable I (total enrollment: 16)
- MATH 691.601 — Research (total enrollment: 3)

- Research Projects During 2004
  - Research in Several Complex Variables, National Science Foundation

- Presentations During 2004
  - Sixth International Joint Meeting of the American Mathematical Society and Sociedad Mathematica Mexicana, Special Session in Complex Analysis and Operator Theory, Houston, TX, May, 2004. (Individual)

- Publications During 2004
• SERVICE DURING 2004

National
▷ Editor, Joint Proceedings to American Mathematical Society Special Session on Asymptotic and Probabilistic Methods in Group Theory
▷ Member, Grading Committee for United States of America Mathematics Olympiad
▷ Member, MAA Advisory Panel on American Mathematical Competitions
▷ Member, MAA Committee on United States of America Mathematics Olympiad (USAMO)
▷ Organizer, American Mathematical Society Special Session on Asymptotic and Probabilistic Methods in Group Theory

Department
▷ Associate Director, Mathematics Olympiad Summer Program
▷ Organizer, Working Seminar in Group Theory
▷ Organizer, Fall Workshop 1: Asymptotic Group Invariants and their Applications
▷ Organizer, Fall Workshop 2: Asymptotic Group Invariants and their Applications
▷ Speaker, Groups and Dynamics Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 222.200(H) — Linear Algebra (total enrollment: 7)

Fall
▷ MATH 308.511 — Differential Equations (total enrollment: 52)
▷ MATH 467.500 — Modern Geometry (total enrollment: 25)

• PRESENTATIONS DURING 2004

▷ 40 Years of Thompson’s Group, American Institute of Mathematics, Palo Alton, CA, January, 2004.(Individual)
▷ Automorphic Forms, Groups and Expanders, Institute for Pure and Applied Mathematics, Los Angeles, CA, February, 2004.(Individual)
▷ Geometric Group Theory on the Gulf Coast, Mobile, AL, February, 2004.(Individual)
▷ University of Texas, Topology Seminar, Austin, TX, March, 2004.(Individual)
• PUBLICATIONS DURING 2004
STEVEN D. TALIAFERRO

ASSOCIATE PROFESSOR (979) 845-2404
MATH stalia@math.tamuk.edu

• SERVICE DURING 2004
  National
  ▶ Referee: Journals, *Communications in PDEs, Houston Journal of Mathematics, and Proceedings of the AMS*
  ▶ Referee: Journals, *Duke Mathematics Journal*

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ MATH 311.501 — *Topics in Applied Mathematics I* (total enrollment: 38)
  ▶ MATH 602.600 — *Methods and Applications of Partial Differential Equations* (total enrollment: 23)
  Fall
  ▶ MATH 611.600 — *Ordinary Differential Equations* (total enrollment: 5)

• PRESENTATIONS DURING 2004
  ▶ Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona, CA, June, 2004.( Invited)
THOMAS I. VOGEL

ASSOCIATE PROFESSOR
MATH
tvogel@math.tamu.edu

• SERVICE DURING 2004

  National
  ▶ Referee: Journals, *Discrete and Continuous Dynamical Systems*

  Department
  ▶ Department Ombudsman, Department of Mathematics
  ▶ Graduate Council Representative, INEN Ph.D. student
  ▶ Member, Faculty Senate
  ▶ Volunteer, MathCounts Contest
  ▶ Volunteer, Mitchell Symposium Hand-on Science Show

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ MATH 410.500 — *Advanced Calculus II* (total enrollment: 29)

  Fall
  ▶ MATH 171.502 — *Analytic Geometry and Calculus* (total enrollment: 32)

• PRESENTATIONS DURING 2004

  ▶ “Liquid Bridges between Spheres,” AIMS Fifth International Conference on Dynamical Systems and Differential Equations, Pomona, CA, June, 2004. (Individual)
• SERVICE DURING 2004

National
- External Advisor, Army Research Lab’s *Advanced Materials and Technologies for Weapons Detection and Blast Mitigation Project Center*
- Referee: Research, AFOSR, Department of Energy, International Science Foundation, NSERC of Canada, NRC, and National Science Foundation

University
- Member, University Graduate Council

Department
- Associate Director, Program in Engineering Science and Mathematics
- Chair, Subcommittee P for Promotions to Full Professor
- Member, Subcommittee P for Promotions to Full Professor
- Member, Faculty of Material Science and Engineering
- Member, Admissions and Advising Committee for the Interdisc. Graduate Program in Material Science and Engr.
- Member, Search Committee for Head of Aerospace Engineering
- Member, Departmental Undergraduate Honors Committee
- Organizer, Applied Mathematics Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
- MATH 669.600 — *Seminar in Math Biology* (total enrollment: 5)
- MATH 691.612 — *Research* (total enrollment: 2)

Summer
- MATH 485.202 — *Directed Studies* (total enrollment: 1)
- MATH 669.100 — *Seminar in Math Biology* (total enrollment: 6)
- MATH 691.108 — *Research* (total enrollment: 1)
• Research Projects During 2004
  › (REN) Dynamic Fracture in Brittle Materials, Air Force Office of Scientific Research
  › EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, National Science Foundation
  › Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, National Science Foundation
  › NER: Debonding and Fracture of Ultra-Thin Films, National Science Foundation
  › REU Site: Analytical and Statistical Methods in the Mathematical Sciences, National Science Foundation
  › (REN) VIGRE: Department-Wide Infrastructure: Widening the Pipeline for Mathematical Sciences, National Science Foundation

• Presentations During 2004
  › “Modeling Atherogenesis,” Texas-United Kingdom Collaborative Research Initiative: Cardiology Workshop, Houston, TX, April, 2004. (Individual)
  › Cardiovascular Research Institute, TAMU Medical School, Temple, TX, April, 2004. (Individual)
  › AFOSR Grantees Workshop, Wright-Patterson AFB, Location, June, 2004. (Individual)
  › University of Arizona, Location, September, 2004. (Individual)
• PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National
▷ Editorial Board, Approximation Theory and Applications
▷ Editorial Board, Advances of Computational Mathematics
▷ Editorial Board, Mathematics of Computation
▷ Editorial Board, Journal of Approximation Theory
▷ Referee: Research, National Science Foundation

Department
▷ Developer, Graduate qualifiers for 641-642
▷ Member, Graduate Committee
▷ Member, Committee T

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 251.505 — Engineering Mathematics III (total enrollment: 56)
▷ MATH 642.600 — Analysis for Applications II (total enrollment: 6)
▷ MATH 691.604 — Research (total enrollment: 1)

Summer
▷ MATH 311.101 — Topics in Applied Mathematics I (total enrollment: 27)

Fall
▷ MATH 658.600 — Applied Harmonic Analysis (total enrollment: 6)

• RESEARCH PROJECTS DURING 2004

▷ New Directions in Scattered Data Analysis via Radial and Related Basis Functions, National Science Foundation
▷ New Directions in Scattered Data Analysis via Radial and Related Basis Functions with Applications, National Science Foundation

• PRESENTATIONS DURING 2004


“Approximation Power of RBFs and Their Associated SBFs: a Connection,” Gottingen University, Gottingen, Germany, July, 2004. (Individual)

- PUBLICATIONS DURING 2004
SARAH WITHERSPOON
ASSISTANT PROFESSOR
MATH
• SERVICE DURING 2004
  National
    ▶ Referee: Journals, Journal of Algebra, Advances in Mathematics, Communications in Algebra, Proceedings of the AMS
    ▶ Referee: Research, NSA
    ▶ Reviewer, AMS Mathematical Review, Prentice-Hall
  • TEACHING ASSIGNMENTS DURING 2004
    Fall
    ▶ MATH 171.(H) — Analytic Geometry and Calculus (total enrollment: 8)
  • RESEARCH PROJECTS DURING 2004
    ▶ Representations and Cohomology of Algebras, National Science Foundation
  • PRESENTATIONS DURING 2004
    ▶ Algebra Seminar, University of Oregon, Eugene, OR, April, 2004. (Individual)
    ▶ American Mathematical Society, Special Session on Group Cohomology and Related Topics, Lawrenceville, NJ, April, 2004. (Individual)
    ▶ Lie Groups, Lie Algebras, and their Representations Workshop, University of California, Santa Cruz, CA, April, 2004. (Invited)
    ▶ American Mathematical Society, Special Session on Algebraic Representations and Deformations, Evanston, IL, October, 2004. (Individual)
    ▶ Lie Theory Seminar, University of Wisconsin, Madison, WI, October, 2004. (Individual)
    ▶ Groups and Dynamics Seminar, Texas A&M University, College Station, TX, November, 2004. (Individual)
    ▶ Red Raider Mini-Symposium on Invariant Theory in Perspective, Texas Tech University, Lubbock, TX, November, 2004. (Invited)
  • PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National
▷ Referee, National Science Foundation
▷ Referee: Journals, *Advances in Applied Mathematics, Mathematical Reviews*
▷ Reviewer, Textbook for Discrete Mathematics

State
▷ Organizer, CombinaTexas Conference

Department
▷ Host, Departmental Visitors: A. Schrijver
▷ Member, Department Tenure Subcommittee
▷ Organizer, Algebra and Combinatorics Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 691.602 — Research (total enrollment: 1)

Summer
▷ MATH 691.101 — Research (total enrollment: 1)
▷ MATH 691.208 — Research (total enrollment: 1)

Fall
▷ MATH 630.600 — Graduate Combinatorics (total enrollment: 10)

• RESEARCH PROJECTS DURING 2004

▷ An Exploration of New Approaches for Identifying and Mitigating Enterprise Risk, *General Motors Corp.*
▷ CombinaTexas: A Combinatorics Conference for the South-Central U.S., *National Science Foundation*
▷ EMSW21-RTG: An Integrated Research and Training Program in Mathematical Biology, *National Science Foundation*
▷ Interdisciplinary Grants in the Mathematical Sciences: Combinatorial Methods in Manufacturing, *National Science Foundation*
▷ Research on Enumerative and Probabilistic Combinatorics, *National Science Foundation*
• PRESENTATIONS DURING 2004
  ▶ American Mathematical Society, Special Session on Graph Theory and Combinatorics, Houston, TX, May, 2004.(Individual)
  ▶ Algebra and Combinatorics Seminar, Texas A&M University, College Station, TX, September, 2004.(Individual)
  ▶ Combinatorics Seminar, University of Wisconsin, Madison, WI, October, 2004.(Individual)
  ▶ Applied Mathematics Seminar, University of Texas, Arlington, TX, November, 2004.(Individual)

• PUBLICATIONS DURING 2004
PHILIP B. YASSKIN
ASSOCIATE PROFESSOR (979) 845-3734
MATH yasskin@math.tamu.edu

● SERVICE DURING 2004

National
▷ Coordinator, Maple Adoption Program
▷ Presenter, March to College Day, by National Society of Collegiate Scholars

University
▷ Faculty Advisor, Pi Mu Epsilon
▷ Presenter, “Hands-on” Science Exhibit

College
▷ Judge, Regional Science Bowl
▷ Volunteer, Texas A&M University Regional Junior Science Bowl

Department
▷ Director, Summer Educational Enrichment in Math
▷ Organizer, Mathe Awareness Month: Math Mini Fair
▷ Presenter, Summer Honors Invitational Program

● TEACHING ASSIGNMENTS DURING 2004

Spring
▷ MATH 171.502 — Analytic Geometry and Calculus (total enrollment: 27)
▷ MATH 253.504-506 — Engineering Mathematics III (total enrollment: 53)

Fall
▷ MATH 151. — Engineering Mathematics I (total enrollment: 66)
▷ MATH 151.501-503 — Engineering Mathematics I (total enrollment: 92)
▷ MATH 151.515-517 — Engineering Mathematics I (total enrollment: 89)

● RESEARCH PROJECTS DURING 2004

▷ TRACK1, GK-12: Fellows Integrate Science/Math In Rural Middle Schools, National Science Foundation
▷ Writing for Assessment and Learning in the Natural and Mathematical Sciences, National Science Foundation
▷ Children’s Museum of the Brazos Valley, UNFUNDED
▷ Extrusion of Polycrystalline Materials, UNFUNDED
▷ Maplets for Calculus, UNFUNDED, coworkers: A. Marauyama (U), A. Matteson (U)
▷ VecCalc, UNFUNDED

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• PRESENTATIONS DURING 2004
  ▶ “Show and Tell’ in Pre-Calculus and Calculus,” ICTCM Short Course, Tomball, TX, May, 2004.( Individual)
  ▶ “Rascal’s Triangle,” Event/Association, Location, September, 2004.( Individual)
  ▶ “Teaching with Maplets and Writing Them,” Trinity University, Location, November, 2004.( Invited)

• PUBLICATIONS DURING 2004
\begin{itemize}
  \item **HONORS DURING 2004**
  \begin{itemize}
    \item International
      \begin{itemize}
        \item Feng Kang Professor of 2004, Feng Kang Foundation of China
      \end{itemize}
  \end{itemize}
  \item **SERVICE DURING 2004**
  \begin{itemize}
    \item National
      \begin{itemize}
        \item Review Panel, National Science Foundation
      \end{itemize}
    \item State
      \begin{itemize}
        \item Organizer, 27th Texas PDE Conference
      \end{itemize}
    \item Regional
      \begin{itemize}
        \item Advisor, a local Chinese school
      \end{itemize}
    \item University
      \begin{itemize}
        \item Advisor, Texas A&M University Chinese Student and Scholar Association
      \end{itemize}
    \item Department
      \begin{itemize}
        \item Mentor, Incoming Chinese Students
      \end{itemize}
  \end{itemize}
  \item **TEACHING ASSIGNMENTS DURING 2004**
  \begin{itemize}
    \item Spring
      \begin{itemize}
        \item MATH 652.600 — Optimization II (total enrollment: 6)
        \item MATH 691.617 — Research (total enrollment: 2)
      \end{itemize}
    \item Summer
      \begin{itemize}
        \item MATH 691.111 — Research (total enrollment: 1)
        \item MATH 691.212 — Research (total enrollment: 1)
      \end{itemize}
    \item Fall
      \begin{itemize}
        \item MATH 311.501 — Topics in Applied Mathematics I (total enrollment: 39)
        \item MATH 641.600 — Analysis for Applications I (total enrollment: 6)
        \item MATH 691.604 — Research (total enrollment: 1)
      \end{itemize}
  \end{itemize}
  \item **RESEARCH PROJECTS DURING 2004**
  \begin{itemize}
    \item Computational Theory and Methods for Solving Multiple Saddle Point Problems, *National Science Foundation*
  \end{itemize}
\end{itemize}
• PRESENTATIONS DURING 2004
  ▶ “Computational theory and methods for solving multiple solution problems,” Shanghai University, Department of Math, Shanghai, China, May, 2004. (Invited)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
  ▶ Associate Editor, Annals of Probability
  ▶ Reviewer, National Science Foundation, NSA

Department
  ▶ Chair, Awards Committee
  ▶ Chair, Computer Committee
  ▶ Co-Organizer, Workshop in Linear Analysis and Probability
  ▶ Member, Committee to determine next meeting place for High Dimensional Probability Conference
  ▶ Member, Executive Committee
  ▶ Referee, Geometric and Functional Analysis Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ MATH 409.502 — Advanced Calculus I (total enrollment: 27)
  ▶ MATH 411.500 — Mathematical Probability (total enrollment: 34)
  ▶ MATH 685.613 — Directed Studies (total enrollment: 1)

Summer
  ▶ MATH 423.200 — Linear Algebra II (total enrollment: 31)
  ▶ MATH 685.201 — Directed Studies (total enrollment: 1)

Fall
  ▶ MATH 606.600(H) — Theory of Probability I (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004
  ▶ Nonlinear Banach space theory, geometry, uniform structure and probability, US-Israel Binational Science Foundation

• PRESENTATIONS DURING 2004
  ▶ “An empirical central limit theorem for pre-Gaussian classes of functions,” AMS meeting, Houston, TX, May, 2004.( Invited)
• PUBLICATIONS DURING 2004
6. Research Activity, 2004

This section contains information on all funded research activity for the calendar year 2004. Information was initially reported by faculty and verified whenever possible through the granting agency. Because of calculations and rounding there is a small margin of error.

Information reported by faculty:

- Title
- Granting Agency
- PI, Co-PIs, and co-workers (internal/external)
- Total Funding
- Indirect Costs
- Start & End Dates

Calendar year calculations:

- Total - Indirect = Direct
- # Days Total Grant = End Date - Start Date
- Daily Grant Award = Total Funding Reported / # Days Total Grant
- Grant Award for 2004 = # Days 2004 × Daily Grant Award
### 6.1 Summary of Research Support, 2004

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Title</th>
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**Industrial Agencies**

|                     | **Subtotal: General Motors Corp.**                                       |             |             |         |          | 9,803   |
|                     | **Subtotal: Industrial Agencies**                                         |             |             |         |          | 9,803   |

**Nonprofit Agencies**

<p>| US-Israel Binational Science Foundation | Nonlinear Banach space theory, geometry, uniform structure and probability, (with: W. Johnson, J. Zinn) | 1/1/2002    | 12/31/2004  | 5,000   | 0        | 5,000   |
| Kuchment, P.          | On representation of solutions of periodic elliptic equations and Liouville theorems | 9/1/2000    | 8/31/2004   | 6,123   | 0        | 6,123   |
| Zinn, J.              | Nonlinear Banach space theory, geometry, uniform structure and probability, (with: W. Johnson, J. Zinn) | 1/1/2002    | 12/31/2004  | 5,000   | 0        | 5,000   |</p>
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PRIVATE AGENCIES

* Civilian Research & Development Foundation (CRDF)

Lazarov, R.D.  Development and Research of Deterministic and Stochastic Mathematical Models for Control and Management of Pollution Levels of Fluvial Waters and their Realization by Application Package 10/1/2002 9/30/2006 1,433 0 1,433

Lazarov, R.D.  Development and Research of Deterministic and Stochastic Mathematical Models for Control and Management of Pollution Levels of Fluvial Waters and Their Realization by Application Package 10/1/2002 9/30/2004 7,706 0 7,706

* Subtotal: Civilian Research & Development Foundation (CRDF) 9,138 0 9,138

* National Academy of Sciences

Petrova, G.P.  Fellowship for the Twinning Program 3/10/2003 2/1/2005 8,415 0 8,415

* Subtotal: National Academy of Sciences 8,415 0 8,415

* SUBTOTAL: PRIVATE AGENCIES 17,553 0 17,553

STATE AGENCIES

* Advanced Research Program/Advanced Technology Program


* Subtotal: Advanced Research Program/Advanced Technology Program 49,966 0 49,966

* Computing and Information Services

Pilant, M.S.  College of Science Information Technology Laboratory 9/1/2004 12/31/2004 20,000 0 20,000

* Subtotal: Computing and Information Services 20,000 0 20,000

* Texas A&M University

SEC. 6. RESEARCH ACTIVITY 509
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<td>Allen, G.</td>
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* Subtotal: Texas A&M University 31,909 0 31,909

* Texas Higher Education Teacher Quality Grant

| Allen, G.    | Assuring Excellence in Pre-Calculus Instruction, (with: G. Allen, F. Speed) | 8/1/2004   | 1/31/2006  | 7,396  | 0        | 7,396  |

* Subtotal: Texas Higher Education Teacher Quality Grant 302,427 0 302,427

* Subtotal: State Agencies 404,303 0 404,303

University Agencies

* Regents' Initiative for Excellence in Education

| Allen, G.    | Group Perceptions of Pre-Service and In-Service Teachers               | 9/1/2003   | 5/31/2004  | 1,106  | 0        | 1,106  |
| Allen, G.    | Group Perceptions of Pre-Service and In-Service Teachers, College/University Faculty and Administrators on Math/Science Teacher Preparation | 9/1/2003   | 5/13/2004  | 1,043  | 0        | 1,043  |

* Subtotal: Regents' Initiative for Excellence in Education 2,149 0 2,149

* Telecommunications and Informatics Task Force

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SEC. 6.  
RESEARCH ACTIVITY  511
### 6.2 Summary of Individual Support, 2004

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**Total Budget for 2004**

- **Aguiar, M.**: 45,615
- **Allen, G.**: 190,598
- **Battle, III, G.A.**: 16,666
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SEC. 6. RESEARCH ACTIVITY 515
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* Grigoruchuk, R.

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* Howard, P.B.

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    - Collaborative Research: Focused Research on Wavelets, Frames, Operator Theory
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      - Total: 49,451
  - National Science Foundation
    - Great Plains Operator Theory Symposium (GPOTS- 2004)
      - Direct: 13,000, Indirect: 0
      - Total: 13,000
  - National Science Foundation
    - REU Site: Analytical and Statistical Methods in the Mathematical Sciences, (with: A. Boggess, D. Larson, J. Walton)
      - Direct: 36,667, Indirect: 4,000
      - Total: 40,667
- **Subtotal Larson, D.R.**
  - Direct: 87,234, Indirect: 15,883
  - Total: 103,118

- **Lazarov, D.D.**
  - Department of Energy
    - New Spacial Discetization Techniques for Neutral-Particle Transport Calculations
      - Direct: 7,001, Indirect: 0
      - Total: 7,001
  - Lawrence Livermore National Laboratory
    - Preconditioning of Finite Element Saddle Point Problems, (with: D. Lazarov, J. Pasciak)
      - Direct: 20,170, Indirect: 4,639
      - Total: 24,809
- **Subtotal Lazarov, D.D.**
  - Direct: 27,171, Indirect: 4,639
  - Total: 31,810

- **Lazarov, R.D.**
  - National Science Foundation
    - Collaborative Research: ITR/AP-Predictive Contaminant Tracking Using Dynamic Data Driven Application Simulation (DDDAS) Techniques, (with: Y. Efendiev, R. Ewing, R. Lazarov)
      - Direct: 12,376, Indirect: 5,631
      - Total: 18,007
  - National Science Foundation
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      - Total: 3,377

518  2004 MATHEMATICS ANNUAL REPORT
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24,891  5,631  30,522

* Lim-Filho, P.C.

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* Subtotal Lim-Filho, P.C.  
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* Narcowich, F.J.

| National Science Foundation | New Directions in Scattered Data Analysis via Radial and Related Basis Functions, (with: F. Narcowich, J. Ward) | 8/1/2002   | 7/31/2005 | 34,697   | 0        | 34,697 |
| National Science Foundation | New Directions in Scattered Data Analysis via Radial and Related Basis Functions with Applications, (with: F. Narcowich, J. Ward) | 8/1/2002   | 7/31/2005 | 11,663   | 23,034   | 34,697 |

* Subtotal Narcowich, F.J.  
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* Papanikolas, M.

| Department of Defense National Science Foundation | Transcendental Numbers and Special Values of Analytical Functions | 7/16/2003   | 7/15/2005 | 11,536   | 1,714    | 13,250 |
| Department of Defense National Science Foundation | Transcendental Numbers and Special Analytic Functions | 8/1/2003    | 7/31/2006 | 12,971   | 5,902    | 18,873 |

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<td>21,907</td>
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<td>19,758</td>
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<td>National Science</td>
<td>New Directions in Scattered Data Analysis via Radial and Related Basis Functions, (with: F. Narcowich, J. Ward)</td>
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<td>New Directions in Scattered Data Analysis via Radial and Related Basis Functions with Applications, (with: F. Narcowich, J. Ward)</td>
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<td>National Science</td>
<td>TRACK1, GK-12: Fellows Integrate Science/Math In Rural Middle Schools, (with: V. Cassone, P. Yasskin)</td>
<td>1/1/2004</td>
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<td>US-Israel Binational Science</td>
<td>Nonlinear Banach space theory, geometry, uniform structure and probability, (with: W. Johnson, J. Zinn)</td>
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<td>12/31/2004</td>
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<td><strong>Total: All Faculty</strong></td>
<td><strong>3,940,304</strong></td>
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Annual Report, 2004

THE DEPARTMENT OF PHYSICS
TEXAS A&M UNIVERSITY

College Station, Texas
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1. Statistical Abstract

<table>
<thead>
<tr>
<th>I. Personnel</th>
<th>2003</th>
<th>2004</th>
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<tbody>
<tr>
<td>a. Tenure-Track Faculty</td>
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<td>Professor</td>
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<td>Assistant Professor</td>
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<td>Associate Professor</td>
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<td>Distinguished Professor</td>
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<td>c. Postdoctoral Fellows</td>
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<td>d. Graduate Students</td>
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<tr>
<td>e. Undergraduate Majors</td>
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<td>f. Support Staff</td>
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<td>c. PhD Degrees</td>
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<td>d. Masters Degrees</td>
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<td>e. Undergraduate Degrees</td>
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<th>III. Research Activities</th>
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<td>b. Research Presentations</td>
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<td>f. Private</td>
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<td>g. Industrial</td>
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2. Honors & Awards, 2004

By Faculty

▷ This section contains all honors and awards, as reported by individual faculty members, during the calendar year 2004.

By Students

▷ This section contains all honors and awards, as reported by the department, during the calendar year 2004.
### 2.1 Honors & Awards Received by Faculty, 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Award</th>
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<tbody>
<tr>
<td>R. Allen</td>
<td>Distinguished Achievement Award - Teaching, Association of Former Students</td>
</tr>
<tr>
<td>W. Bassichis</td>
<td>Favorite Professor, Texas A&amp;M University, Qatar</td>
</tr>
<tr>
<td></td>
<td>Thamann University Professorship in Undergraduate Teaching Excellence, Texas A&amp;M University</td>
</tr>
<tr>
<td>R. Clark</td>
<td>Melba Newell Phillips Award, American Association of Physics Teachers</td>
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<tr>
<td>C. Ko</td>
<td>Distinguished Achievement Award - Research, Association of Former Students</td>
</tr>
<tr>
<td>V. Pokrovsky</td>
<td>2005 Lars Onsager Prize, American Physical Society</td>
</tr>
<tr>
<td>R. Rapp</td>
<td>CAREER Award, National Science Foundation</td>
</tr>
<tr>
<td>V. Sautenkov</td>
<td>N.G. Basov Award, Russian Academy of Science</td>
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<tr>
<td>M. Scully</td>
<td>2005 Arthur L. Schawlow Prize in Laser Science, American Physical Society</td>
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<tr>
<td>W. Teizer</td>
<td>Montague-Center for Teaching Excellence Scholar, Center for Teaching Excellence</td>
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<tr>
<td>D. Toback</td>
<td>Distinguished Achievement Award - Teaching, Association of Former Students</td>
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</table>
2.2 Honors & Awards Received by Students, 2004

Graduate

► Award for Outstanding Research Paper, Texas Section of the American Physical Society
  Adam Aurisano
  Andrea M. Burzo
  Elena Kuznetsova

► First Prize for Research Presentation in Perspective Conference, Fermilab
  Slava Krutelyov

► Student Research Week, First Place in Physical Science Poster Session GPP@, Texas A&M University
  Juntao Chang

► The Ethel Ashworth-Tsutsui Memorial Award for Research, Women in Science and Engineering
  Elena Kuznetsova

Undergraduate

► Award for Outstanding Research Paper, Texas Section of the American Physical Society
  Benjamin King

► Goldwater Scholarship
  Zorawar Wadiasingh
3. Students, 2004

This section contains all degrees awarded, as reported by the department, during the calendar year 2004.
### 3.1 Graduate Degrees Awarded, 2004

#### Spring

<table>
<thead>
<tr>
<th>Degree</th>
<th>Name</th>
<th>Title</th>
<th>Advisor(s)</th>
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<tbody>
<tr>
<td>Ph. D.</td>
<td>Mohammad Amin Kayali</td>
<td>Spontaneous Vortex Phase and Pinning in Ferromagnetic-Superconducting Systems</td>
<td>V. Pokrovsky</td>
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<tr>
<td></td>
<td>Roman L’Vovich Kolesov</td>
<td>Optical Control of Nuclear Resonant Adsorption: Theory and Experiment</td>
<td>O. Kocharovskaya</td>
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<td></td>
<td>Nikolai Sinitsyn</td>
<td>Generalizations of the landau-Zener Theory in the Physics of Nanoscale Systems</td>
<td>V. Pokrovsky</td>
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#### Summer

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<th>Degree</th>
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<tr>
<td>MS</td>
<td>Hui Chen</td>
<td>Lei Wang</td>
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<tr>
<td>Ph. D.</td>
<td>Jun Fu</td>
<td>FHBS Calculation of Ionized Electron Angular and Energy Distribution following the $p+H$ Collisions at 20 keV</td>
<td>J. Reading</td>
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<td>Bo Hu</td>
<td>SUSY Phenomenology</td>
<td>R. Arnowitt</td>
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#### Fall

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<th>Degree</th>
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<tr>
<td>Ph. D.</td>
<td>Wei Liu</td>
<td>Charmonium Absorption and Charmed Hadron Production in Hadronic Reactions</td>
<td>C. Ko</td>
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### 3.2 Undergraduate Degrees Awarded, 2004

**Spring**

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<th>BA</th>
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<tr>
<td>Daniel Christopher Davis</td>
<td>Michael Jonathan Hatridge</td>
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<tr>
<td>Jose Tiberio Moran-Lopez</td>
<td>Vanessa Kirsten Spencer</td>
</tr>
<tr>
<td>James Gregory Stegin</td>
<td>John Tom Stewart IV</td>
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<td>James George Woodall</td>
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**Fall**

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<th>BS</th>
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<td>Karie Elizabeth Barter</td>
<td>Robert Lee Blessitt</td>
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<td>Casey Patrick Deen</td>
<td>Blair Allen Winegar</td>
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## 4. Colloquium and Seminar Speakers, 2004

### Atomic and Quantum Optics

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<tr>
<th>Date</th>
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<th>Topic</th>
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<tr>
<td>2/3/2004</td>
<td>Joseph Giordmaine</td>
<td>Chemistry Department, Princeton University</td>
<td>The History and Reality of Phase Matching in Nonlinear Optics</td>
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<td>2/13/2004</td>
<td>Savely G. Karshenboim</td>
<td>Mendeleev Institute for Meterology, St. Petersburg, Max Planck Institute for Quantum Laboratory</td>
<td>Searches for the Variation of the Fundamental Constants</td>
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<tr>
<td>2/24/2004</td>
<td>Alexei Sokolov</td>
<td>Physics Department, Texas A&amp;M University</td>
<td>Maximal coherence at work: sub-cycle optical pulse shaping by molecular modulation</td>
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<td>2/24/2004</td>
<td>Zongxiong Ye</td>
<td>Drexel University, Philadelphia</td>
<td>Laser cooling in a Fabry-Perot cavity</td>
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<tr>
<td>3/2/2004</td>
<td>Raymond Ooi</td>
<td>Post-Doctoral Research Associate, Department of Physics, Texas A&amp;M University</td>
<td>Femtosecond CARS Spectroscopy via Transform Techniques</td>
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<td>3/9/2004</td>
<td>David Johnson</td>
<td>Physics Department, University of Texas at Austin</td>
<td>Micromaser Theory and Comparison with Experiment</td>
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<td>3/17/2004</td>
<td>Jaan Laane</td>
<td>Chemistry Department, Texas A&amp;M University</td>
<td>Spectroscopic Determination of Potential Energy Functions and Molecular Structures in Electronic Excited States</td>
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<td>3/23/2004</td>
<td>V.A. Sautenkov</td>
<td>Department of Physics, Texas A&amp;M University</td>
<td>Optically Induced Magneto-Chiral Anisotropy in Rubidium Vapor</td>
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<td>4/1/2004</td>
<td>Kevin Lehmann</td>
<td>Department of Chemistry, Princeton University</td>
<td>Cavity Ring-Down Spectroscopy</td>
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<tr>
<td>4/6/2004</td>
<td>Dmitri E. Nikonov</td>
<td>Intel Corporation</td>
<td>Overview of Spintronics and its Place in the Semiconductor Industry Roadmap</td>
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*Department of Chemistry, Princeton University*  
Molecular Ratchets, Screws, and Iron Maidens

4/7/2004  Jnos A. Bergou  
*Hunter College of the City University of New York*  
Discrimination of quantum states: A quantum information paradigm

4/7/2004  Dmitri E. Nikonov  
*Intel Corporation*  
Is there life in the industry for physicists?

4/13/2004  Lothar Frommhold  
*Physics Department, University of Texas at Austin*  
Supramolecular Spectra

4/13/2004  Achilles D. Speliotopoulos  
*Department of Physics, University of California at Berkeley*  
Measurements of Spacetime Curvature: Towards MIGO, the Matter-wave Interferometric Gravitational-wave Observatory

4/20/2004  Aleksander Rebane  
*Department of Physics, Montana State University*  
Femtosecond resonance enhanced CARS for background-free detection of organic molecules

4/27/2004  Shahriar S. Afshar  
*Harvard University*  
Violation of Bohr’s principle of complementarity in an optical “which-way” experiment

4/29/2004  Robert F. Curl  
*Rice Quantum Institute, Departments of Chemistry and Electrical and Computer*  
Trace Gas Monitoring Using Infrared Laser Spectroscopy

5/4/2004  Dana Anderson  
*Department of Physics, University of Colorado at Boulder*  
Integrative atom optics

*Office of Naval Research*  
The History of Probability Theory: Pitfalls and Paradoxes

9/14/2004  Torsten Siebert  
*Institut für Physikalische Chemie, Universitt Würzburg, Germany*  
Four-Wave Mixing Techniques Applied to the Selective Preparation and Interrogation of Molecular Dynamics

10/7/2004  Alexander Wolf  
*University of Ulm, Germany*  
Entanglement of Formation versus Negative Domains of Wigner Functions

10/8/2004  Stefan Probst  
*Abteilung für Quantenphysik, University of Ulm, Germany*  
Iterative entanglement purification for finite resources
10/26/2004  **Irina Novikova**  
*Harvard University*  
From clock to switch: fun stuff to do with atomic coherence

10/27/2004  **Mikhail Gubin**  
*P.N. Lebedev Physical Institute, Moscow*  
Methane Optical Clock and Femtosecond Frequency Combs

11/12/2004  **William R. Wharton**  
*Physics Department, Wheaton College*  
The Importance of Causality in Quantum Mechanics

12/14/2004  **Charles Munnerlyn**  
*Munnerlyn Associates, Inc.*  
Nonlinear Ablation of Corneal Tissue
<table>
<thead>
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<th>Institution</th>
<th>Topic</th>
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<td>1/22/2004</td>
<td>David Hyland</td>
<td>TAMU Vice Chancellor and Associate Dean, College of Engineering</td>
<td>Entry Pupil Processing: Ramifications for Imaging System Architecture</td>
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<td>1/29/2004</td>
<td>Claire Gmachl</td>
<td>Princeton University</td>
<td>Quantum Cascade Lasers</td>
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<td>2/5/2004</td>
<td>Susan S. Golden</td>
<td>Distinguished Professor, Department of Biology, Texas A&amp;M University</td>
<td>How does Nature design a clock</td>
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<td>2/12/2004</td>
<td>Savely G. Karshenboim</td>
<td>Mendeleev Institute, St. Petersburg/Max Planck Institute Q. Optics, Garching, Germany</td>
<td>Precision physics in simple atoms: QED and fundamental constants</td>
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<td>Eiichiro Komatsu</td>
<td>Department of Astronomy, University of Texas, Austin</td>
<td>The Physics of Cosmic Microwave Background Radiation</td>
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<td>2/26/2004</td>
<td>Igor Lyuksyutov</td>
<td>Research Scientist and Visiting Professor, Department of Physics, Texas A&amp;M University</td>
<td>Levitating Femtodroplets, Nanoparticles and Gold</td>
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<td>3/16/2004</td>
<td>Thomas Udern</td>
<td>Max Planck Institute Q. Optics, Garching, Germany</td>
<td>Femtosecond Metrology</td>
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<td>3/25/2004</td>
<td>Berndt Mueller</td>
<td>Duke University</td>
<td>Messages from a different world: Probing quark deconfinement with RHIC</td>
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<td>3/31/2004</td>
<td>Michael Zudov</td>
<td>University of Utah</td>
<td>Resistance Oscillations and “Zero-Resistance” States in Microwave-Pumped 2D Electron Systems</td>
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<td>4/1/2004</td>
<td>Vladislav Yakovlev</td>
<td>University of Wisconsin Milwaukee</td>
<td>Nonlinear optical interactions on a nanoscale</td>
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4/8/2004  Wolfgang Schleich  
*Abteilung fur Quantenphysik, University of Ulm, Germany*
Wave packet dynamics, quantum carpets, and factorization of numbers

4/15/2004  Wenhao Wu  
*University of Rochester*
The Superconductor-Insulator Transition in Two-Dimensions

4/19/2004  Radu Silviu Roiban  
*University of California at Santa Barbara*
String Theory and Strong Interactions

4/22/2004  Roberto Ramos  
*University of Maryland*
Spectroscopic Evidence for Macroscopic Entangled States in Two Coupled Josephson Junction Qubits

4/29/2004  Steve Girvin  
*Yale University*
Quantum Bits and Cavity QED with Electrical Circuits

5/26/2004  Paul Chu  
*President, Hong Kong University Science and Technology*
A Complex Field-Induced Re-Entrant Novel Phase Diagram and a Ferroelectric-Magnetic Order Coupling in HoMnO₃

9/9/2004  Sam Bader  
*Leader, Magnetic Films Group, Argonne National Laboratory*
Opportunities in Nanomagnetism

9/22/2004  Emmanuel Rashba  
*Massachusetts Institute of Technology*
Spintronics: Concepts, Goals, Realities

9/23/2004  Vitaly Kocharovsky  
*Associate Professor, Department of Physics, Texas A&M University*
New Type of Semiconductor Lasers (Nonlinear Mixing Lasers) and Review of Other Recent Results (on ultrahigh-energy cosmic rays, ?-ray bursts, gravity-matter creation, nonequilibrium BEC, Unruh radiation in cavity QED) (and see abstract)

9/29/2004  Rudi Podgornik  
*NIH/University of Ljubljana*
The Physics of DNA

10/7/2004  Eric Linder  
*Lawrence Berkeley Laboratory*
Exploring the History and Fate of the Universe (601 Rudder Tower)

10/14/2004  David Toback  
*Texas A&M University*
Searching for New Particles at the Fermilab Tevatron
10/21/2004 Nicholas B. Suntzeff  
*Cerro Tololo Inter-American Observatory, Chile*  
Cosmology with Thermonuclear Supernovae

10/25/2004 Ashutosh Kotwal  
*Duke University*  
Search for the Doubly-Charged Higgs Boson at Fermilab

10/28/2004 Jonathan Dowling  
*Louisiana State University*  
Schrödinger’s Rainbow: The Renaissance in Quantum Optical Interferometry

10/29/2004 Peter Wittich  
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Measuring top quark properties as a window into particle physics

11/1/2004 Andrei Mikhailov  
*California Institute of Technology*  
Classical strings in AdS/CFT correspondence

11/3/2004 Donna Sheng  
*California State University*  
The transport properties and quantum phase transitions in bilayer quantum Hall system

11/4/2004 Anatoly V. Andreev  
*Moscow State University*  
Nuclear Processes in Laser Plasma

11/5/2004 Flera Rizatdinova  
*Kansas State University*  
High energy physics from bottom to top

11/8/2004 Hanguo Wang  
*University of California, Los Angeles*  
ZEPLIN - A direct WIMP Dark Matter Search Program

11/11/2004 Sergio Ulloa  
*Ohio University*  
Polarons in solids and molecules: delocalization, stretching and twisting

11/12/2004 Eric Hawker  
*Western Illinois University*  
GeV Scale Neutrino Physics

11/15/2004 Melanie Becker  
*University of Maryland*  
Flux Compactifications of M-Theory, Cosmology and the Standard Model of Elementary Particles

11/17/2004 Carsten Timm  
*Free University Berlin, Germany*  
Transport in magnetic systems
11/19/2004 **Morgan Wascko**  
*Louisiana State University*  
MiniBooNE and the Physics of Neutrino Oscillations

11/22/2004 **Jeff Berryhill**  
*University of California, Santa Barbara*  
The Physics of Flavor: Half a Billion $b$ Quarks at BaBar

11/23/2004 **Sergey Frolov**  
Multi-Spin Strings, Spin Chains and AdS/CFT duality

12/1/2004 **Zohar Nussinov**  
*Los Alamos National Laboratory*  
Glassy Behavior in Geometrically Frustrated Systems

12/6/2004 **Leon Mualem**  
*University of Minnesota*  
Long Baseline Neutrino Oscillations

12/9/2004 **Artem Abanov**  
*Los Alamos National Laboratory*  

12/16/2004 **Thomas Udern**  
*MPI for Quantum Optics, Garching, Germany*  
Hydrogen Spectroscopy and the Limits on the Drift of Fundamental Constants
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<td>Mesoscopic applications of the Landau-Zener theory</td>
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<td>Sovan Phok</td>
<td>University of Savoie</td>
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<td>Maxim Tsoi</td>
<td>University of Texas</td>
<td>Spin transfer phenomena in magnetic nanostructures</td>
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<td>Alexei Kitaev</td>
<td>Caltech</td>
<td>Anyons in a spin model on the honeycomb lattice</td>
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<td>3/17/2004</td>
<td>Several People from Texas A&amp;M University</td>
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<td>Intel</td>
<td>Overview of spintronics and its place in the semiconductor roadmap</td>
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<td>Spin Transistors Based on Electronically Controlled Ferromagnetism</td>
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4/14/2004  Marlan Sully  
*Texas A&M University*  
Quantum controversy: From Maxwell’s Demon and Quantum Eraser to Back Hole Radiation

4/21/2004  Sergio Ulloa  
*Ohio University*  
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4/28/2004  Huey Huang  
*Rice University*  
How Do Proteins Make Holes in Membranes?

4/29/2004  Steven Girvin  
*Yale University*  
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9/1/2004  R. Duine  
*University of Texas*  
Dynamics and pinning of vortices in a rotating BEC

9/7/2004  Petra Sauer  
*Texas A&M University*  
DNA based photonic crystals

9/8/2004  Alvise de Col  
*ETH Zurich*  
Dissociation of vortex stacks into fractional-flux vortices

9/9/2004  Sam Bader  
*Argon National Laboratory*  
Colloquium: Opportunities in nanomagnetism

9/15/2004  Peter Norlander  
*Rice University*  
Plasmons in metallodielectric nanostructures

9/22/2004  Emanual Rasbha  
*Massachusetts Institute of Technology*  
Colloquium: Spintronics: concepts, goals, realities.

9/23/2004  Caroline Ross  
*Massachusetts Institute of Technology*  
Properties of Magnetic Nanostructures

9/29/2004  Rudi Podgornik  
*National Institutes of Health*  
Colloquium: The Physics of DNA

10/6/2004  Joe Ross  
*Texas A&M University*  
Atomic Tunneling in Clathrates and Related Materials

10/13/2004  John Ditusa  
*Louisiana State University*  
(Fe,Co)Si, A Silicon-Based Magnetic Semiconductor
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<td>Jun Zou</td>
<td>Texas A&amp;M University</td>
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<td>10/27/2004</td>
<td>Kevin Storr</td>
<td>Prairie View A&amp;M University</td>
<td>Field induced superconductivity in organic insulators</td>
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<td>California State University Northridge</td>
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<td>Los Alamos National Laboratory</td>
<td>Colloquium: Glassy Behavior in Geometrically Frustrated Systems Glassy Behavior in Geometrically Frustrated Systems</td>
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<td>12/8/2004</td>
<td>Victor Gurarie</td>
<td>University of Colorado</td>
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<td>Artem Abanov</td>
<td>Los Alamos National Laboratory</td>
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High Energy Physics

2/2/2004  Per Sundell  
*Uppsala, Sweden*  
Multi-Span Giants

2/9/2004  Carlos Nunez  
*Massachusetts Institute of Technology*  
Aspects of Gauge Gravity Duality

2/16/2004  Ergin Sezgen  
*Texas A&M University*  
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3/1/2004  David Tong  
*Massachusetts Institute of Technology*  
Cosmology with a Speed Limit

3/10/2004  Thomas Hertog  
*University of California, Santa Barbara*  
New Black Holes and Asymptotics in AdS

3/11/2004  Murat Gunaydin  
*Pennsylvania State University*  
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3/23/2004  Dan Freedman  
*Massachusetts Institute of Technology*  
Comments on the C-theorem in Quantum Field Theory

3/24/2004  Harvey Reall  
*University of California, Santa Barbara*  
AdS Black Holes

*Illinois University*  
N=1 Field Theories and Fluxes in IIB String Theory

3/30/2004  Don Page  
*University of Alberta*  
Instability of Magnetic Black Holes

9/6/2004  Johannes Kerimo  
*Texas A&M University*  
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9/13/2004  ZhiWei Chong  
*Texas A&M University*  
How to Construct Supersymmetric Black Holes

9/20/2004  Chris Pope  
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Black Hole Thermodynamics in Higher Dimensions
9/28/2004  George Kraniotis  
*Texas A&M University*  
Precise Theory of Orbits in General Relativity with Cosmological Constant

10/4/2004  Charles Bennett  
*NASA Goddard Space Flight Center*  
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10/4/2004  Alain Blanchard  
*Laboratoire d’Astrophysique de l’Observatoire Midi-Pyrenees*  
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10/4/2004  Wim de Boer  
*Karlsruhe University*  
Excess of EGRET Galactic Gamma Rays Interpreted as Signal of Dark Matter Annihilation

10/4/2004  Olivier Dore  
*Princeton University*  
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10/4/2004  Andreas Eckart  
*Universitat zu Koln*  
The Milky Ways Black Hole and Central Stellar Cluster: Variable Emission from SgrA

10/4/2004  Ryoji Enomoto  
*University of Tokyo*  
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10/4/2004  Burkhard Fuchs  
*Astronomisches Rechen-Institut Heidelberg*  
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10/4/2004  Alexander Kusenko  
*University of California - Los Angeles*  
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10/4/2004  Adam Riess  
*Space Telescope Science Institute*  
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10/4/2004  Alexey Vikhlinin  
*Harvard-Smithsonian Center for Astrophysics*  
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10/4/2004  Yvonne Wong  
*DESY*  
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10/5/2004  Howard Baer  
Indirect, Direct and Collider Detection of Neutralino Dark Matter
Charles L. Bennett  
*NASA Goddard Space Flight Center*  
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Bhaskar Dutta  
*University of Regina*  
Dark Matter and Colliders

Nicolao Fornengo  
*Turin University*  
Light Neutralino Dark Matter In Gaugino Non-Universal Models

Kim Griest  
*University of California at San Diego*  
Probing Dark Objects Via Gravitational Lensing

George Kraniotis  
*Texas A&M University*  
Precise Theory of Orbits in General Relativity, the Cosmological Constant and the Perihelion Precession of Mercury

Keith Olive  
*University of Minnesota*  
Dark Matter Candidates in Supersymmetric Models

Adam Riess  
*Space Telescope Science Institute*  
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Leszek Roszkowski  
*University of Sheffield*  
SUSY “Exotica”: Gravitino and Axino as Cold Dark Matter

Kris Sigurdson  
*California Institute of Technology*  
How Dark is Dark? Electromagnetic Interactions in the Dark Sector

Ioannis Vergados  
*University of Ioannina*  
Exploring Novel Signatures in the Direct Neutralino Detection Experiments

Pierluigi Belli  
*Università di Roma*  
DAMA/NaI results on Dark Matter Particles by Annual Modulation Signature

Paul Brink  
*Stanford University*  
Latest CDMS II WIMP Search Results From The Soudan Underground Laboratory

Priscilla Cushman  
*University of Minnesota*  
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10/6/2004  Paolo Gondolo  
*University of Utah*  
How Can We Make Sure We Detect Dark Matter?

10/6/2004  Irina Krivosheina  
*MPI-K Heidelberg and NIRFI, Nishnij Nogorod*  
Search For Dark Matter With Genius-TF and HDMS

10/6/2004  Eric Linder  
*Lawrence Berkeley Laboratory*  
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10/6/2004  Roland Luscher  
*Rutherford Appleton Laboratory*  
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*Texas A&M University*  
Brany Liouville Inflation and Acceleration

10/6/2004  Pran Nath  
*Northeastern University*  
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10/6/2004  Atsushi Takeda  
*Kyoto University*  
WIMP-Wind Detection with an Advanced Gaseous Tracking Device

10/7/2004  Riccardo Cerulli  
*INFN - Laboratori Nazionali del Gran Sasso*  
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10/7/2004  David Cline  
*University of California - Los Angeles*  
The Need And Prospects For One Ton Dark Matter Detectors

10/7/2004  Wendy Freedman  
*Observatories of the Carnegie Institution*  
Exploring the Universe in the New Millennium

10/7/2004  Edward W. Kolb  
*Fermilab - University of Chicago*  
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10/7/2004  Eric Linder  
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10/7/2004  Chikaori Mitsuda  
*University of Tokyo*  
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*University of Sheffield*
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10/7/2004  Hanguo Wang  
*University of California - Los Angeles*
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10/8/2004  Elena Aprile  
*Columbia University*
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10/8/2004  Silvia Constantini  
*University of Rome 1 and INFN*
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10/8/2004  Hans Klapdor-Kleingrothaus  
*MPI-K, Heidelberg*
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10/8/2004  Edward W. Kolb  
*Fermilab - University of Chicago*
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10/8/2004  Lee Loveridge  
*University of California - Los Angeles*
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10/8/2004  Antonio Masiero  
*University of Padova*
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10/8/2004  Peter McIntyre  
*Texas A&M University*
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10/8/2004  Dante Nakazawa  
*University of Chicago*
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10/8/2004  Richard Schnee  
*Sternberg Astronomical Institute*
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10/8/2004  Nigel Smith  
*Rutherford Appleton Laboratory*
ZEPLIN IV/Max - A Tonne-Scale Dark Matter Detector Using Xenon

10/8/2004  Robert Webb  
*Texas A&M University*
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*Texas A&M University*  
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10/9/2004  Jihn E. Kim  
*Seoul National University*  
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10/9/2004  Mariana Kirchbach  
*San Luis Potosi University*  
C and P Symmetries of Space-Time as Origin of Dirac and Majorana Particles

10/9/2004  Vitaly Kocarovsky  
*Texas A&M University*  
Nonlinear Dynamics of Gravity and Matter Creation in a Cosmology with an Unbounded Hamiltonian

10/9/2004  Ludvig Popeko  
*St-Petersburg Nuclear Physics Institute*

10/9/2004  Margarida Robledo  
*CERN*  
Leptonic CP Violation and Baryon Asymmetry

10/9/2004  Anatoly Svidzinsky  
*Texas A&M University*  
Pointlike Quasars as Axionic Bubbles

10/11/2004  Samir Mathur  
*Ohio State University*  
What’s inside a Black Hole?

10/18/2004  Sergei Gukov  
*Harvard University*  
Topological M-theory

10/26/2004  Paul Howe  
*King’s College, London*  
Higher Order Corrections in M Theory

10/29/2004  Chris Pope  
*Texas A&M University*  
Higher-Order Corrections to Special-Hoonomy Backgrounds in String Theory and M-theory

11/1/2004  Andreai Mikhailov  
*California Institute of Technology*  
Classical strings in AdS/CFT correspondence

11/2/2004  Dimitri Nanopoulos  
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11/8/2004  John E. Wang  
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Gravity Solutions for Decaying Branes
11/12/2004  **Mirjam Cvetric**  
*University of Pennsylvania*  
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11/15/2004  **Melanie Becker**  
*University of Maryland*  
Flux Compactifications of M-Theory, Cosmology and the Standard Model of Elementary Particles
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<td>Ivan Vitev</td>
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<td>Universita di Baei, Italy</td>
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Texas A&M University  
Charm in Heavy-Ion Collisions  

11/5/2004  Hendrik van Hees  
Texas A&M University  
Charm in Heavy-Ion Collisions  

11/19/2004  Ronald Bryan  
Texas A&M University  
The low-energy nucleon-nucleon interaction and the sigma meson  

12/3/2004  Sabin Stoica  
National Institute of Physics & Nuclear Engineering, Bucharest  
Recent Results on Neutrino Properties  

12/17/2004  Loic Grandchamp  
Lawrence Berkeley National Laboratory  
Quarkonium production in Heavy-Ion Collisions
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<td>Thomas W. Adair, III</td>
<td>Professor</td>
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<td>Roland E. Allen</td>
<td>Professor</td>
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<td>Distinguished Professor Emeritus</td>
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<td>Professor</td>
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<td>Lecturer</td>
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<td>Professor</td>
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<tr>
<td>Siu Ah Chin</td>
<td>Professor</td>
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<tr>
<td>David A. Church</td>
<td>Professor</td>
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<tr>
<td>Nelson M. Duller, Jr.</td>
<td>Professor</td>
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<td>Albert L. Ford</td>
<td>Professor</td>
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<td>Edward S. Fry</td>
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<td>Carl A. Gagliardi</td>
<td>Professor</td>
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<td>John C. Hardy</td>
<td>Professor</td>
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<td>Chia-Ren Hu</td>
<td>Professor</td>
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<td>Teruki Kamon</td>
<td>Professor</td>
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<td>George W. Kattawar</td>
<td>Professor</td>
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<td>Robert A. Kenefick</td>
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<td>Che-Ming Ko</td>
<td>Professor</td>
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<tr>
<td>Olga Kocharovskaya</td>
<td>Professor</td>
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<tr>
<td>Vitaly Kocharovsky</td>
<td>Associate Professor</td>
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<tr>
<td>Peter M. McIntyre</td>
<td>Professor</td>
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<tr>
<td>Dimitri V. Nanopoulos</td>
<td>Distinguished Professor</td>
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<tr>
<td>Donald G. Naugle</td>
<td>Professor</td>
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<tr>
<td>Gerhard G Paulus</td>
<td>Associate Professor</td>
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<tr>
<td>Valery L. Pokrovsky</td>
<td>Distinguished Professor</td>
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<tr>
<td>Christopher N. Pope</td>
<td>Professor</td>
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<tr>
<td>Cindy Raisor</td>
<td>Professor</td>
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<tr>
<td>Ralf Rapp</td>
<td>Assistant Professor</td>
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<tr>
<td>John F. Reading</td>
<td>Professor</td>
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<tr>
<td>Joseph H. Ross, Jr.</td>
<td>Professor</td>
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<tr>
<td>Wayne M. Saslow</td>
<td>Professor</td>
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<tr>
<td>Vladimir Sautenkov</td>
<td>Research Associate Professor</td>
</tr>
<tr>
<td>Hans A. Schuessler</td>
<td>Professor</td>
</tr>
<tr>
<td>Marlan O. Scully</td>
<td>Distinguished Professor</td>
</tr>
<tr>
<td>Ergin Sezgin</td>
<td>Professor</td>
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<tr>
<td>Jairo Sinova</td>
<td>Assistant Professor</td>
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<tr>
<td>Alexei Sokolov</td>
<td>Assistant Professor</td>
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<tr>
<td>Winfried Teizer</td>
<td>Assistant Professor</td>
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<tr>
<td>David Toback</td>
<td>Assistant Professor</td>
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<tr>
<td>Robert E. Tribble</td>
<td>Professor</td>
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<tr>
<td>Thomas Walther</td>
<td>Assistant Professor</td>
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<td>Robert C. Webb, Sr.</td>
<td>Professor</td>
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<td>Michael B. Weimer</td>
<td>Professor</td>
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<tr>
<td>George R. Welch</td>
<td>Professor</td>
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<tr>
<td>James T. Welch</td>
<td>Professor</td>
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</tbody>
</table>
Wenhao Wu .................................................. Associate Professor
Dave H. Youngblood ............................................. Professor
M. Suhail Zubairy .................................................. Professor
5.1 Professional Activities, 2004

This section contains information, as reported by individual faculty members, encompassing each faculty member’s professional activities for the calendar year 2004. Whenever possible, information has been verified by additional sources.

Subsections of professional activities are defined as follows:

Honors and Awards
▷ All professional honors and awards, both internal and external.

Service Activities
▷ All professional service and leadership roles, including: departmental, college, university, state, national and international.

Teaching
▷ Classes taught during the Spring, Summer and Fall sessions of 2004.
▷ Any missing enrollment numbers were gathered from the Student Information Management System (SIMS) at Texas A&M University.

Research Projects
▷ All research projects, funded and unfunded.
▷ Whenever possible, all research-related employees of that faculty member are listed along with the citation. Key for employees: (P)=Postdoc, (G)=Graduate Student, (U)=Undergraduate Student.
▷ Renewals are marked by “(REN)” at the beginning of their title.
▷ Unfunded grants are marked by “(UNFUNDED)” at the end of the citation.
▷ Additional information (including PIs, CoPIs, and funding) on all funded grants are listed in Section 6.

Presentations
▷ All posters, invited and contributed lectures (plenary, conferences, colloquia, seminars, etc.).
▷ Whenever reported, posters, invited and contributed lectures are noted in parentheses following the citation.
▷ Citations are in chronological order.

Publications
▷ All printed materials published during 2004.
▷ Pre-press, in-press and submitted publications were not included.
▷ Citations were formatted in APA Style and are in alphabetical order by lead author.
• SERVICE DURING 2004

National
▷ Athletic Representative, NCAA Faculty
▷ Chair, NCAA Continuing Eligibility Sub-Committee
▷ Member, NCAA Academic Consultants

University
▷ Advisor, Intercollegiate Athletics
▷ Advisor, Texas A&M University President on Athletics
▷ Athletic Representative, Big 12 Faculty
▷ Member, Athletic Council
▷ Member, NCAA Academic/Eligibility/Compliance Cabinet

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 222.501 — Modern Physics for Engineers (total enrollment: 124)

Fall
▷ PHYS 208.506-510 — Electricity and Optics (total enrollment: 114)
• SERVICE DURING 2004

  Department
  ▶ Chair, Society of Physics Students
  ▶ Member, Performance Evaluation Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ PHYS 607.600 — Statistical Mechanics (total enrollment: 33)
  ▶ PHYS 691.602 — Research (total enrollment: 4)

  Summer
  ▶ PHYS 691.102 — Research (total enrollment: 1)
  ▶ PHYS 691.302 — Research (total enrollment: 3)

  Fall
  ▶ PHYS 414.500 — Quantum Mechanics II (total enrollment: 14)
  ▶ PHYS 691.602 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004

  ▶ NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, National Science Foundation
  ▶ Nanomagnets for Mobile Computing and Telecommunications, Telecommunications and Informatics Task Force
  ▶ A Low Temperature Interfacial Force Microscope for Surface Spectroscopy, Texas Advanced Research Program
  ▶ Electron Transport in Single Molecules, The Robert A. Welch Foundation
  ▶ Molecular Vibrational Spectroscopy Using Low Temperature Tunnel Junctions, The Robert A. Welch Foundation
• HONORS DURING 2004

College
➢ Distinguished Achievement Award - Teaching, Association of Former Students

• SERVICE DURING 2004

State
➢ Member, Texas APS Executive Committee

University
➢ Member, Tenure Mediation Committee

Department
➢ Chair, Chemical Physics Committee
➢ Chair, Astronomy Committee
➢ Member, High Energy Phenomenology
➢ Member, Nanostructures Search Committee
➢ Member, Condensed Matter Theory Search Committee
➢ Member, Condensed Matter Experiment Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
➢ LBAR 489.(H) — University Scholars Faculty Mentor Group (total enrollment: 8)
➢ PHYS 307.501 — Observational Astronomy (total enrollment: 38)
➢ PHYS 307.502 — Observational Astronomy (total enrollment: 36)
➢ PHYS 485.203(H) — Directed Studies (total enrollment: 1)
➢ PHYS 691.603 — Research (total enrollment: 2)

Summer
➢ PHYS 201.301-304 — College Physics (total enrollment: 60)
➢ PHYS 485.303 — Directed Studies (total enrollment: 2)
➢ PHYS 691.203 — Research (total enrollment: 1)
➢ PHYS 691.303 — Research (total enrollment: 1)

Fall
➢ PHYS 307.501-504 — Observational Astronomy (total enrollment: 151)
➢ PHYS 314.200(H) — Survey of Astronomy (total enrollment: 28)
➢ PHYS 485.503 — Directed Studies (total enrollment: 1)
➢ PHYS 627.600 — Elementary Particle Physics (total enrollment: 15)
PHYS 691.603 — Research (total enrollment: 1)

- **RESEARCH PROJECTS DURING 2004**
  - (REN) Response of Materials and Biological Molecules to Light, *The Robert A. Welch Foundation*
  - Response of Molecules to Femtosecond-Scale Laser Pulses, *The Robert A. Welch Foundation*

- **PRESENTATIONS DURING 2004**
  - “Lorentz-Violating Supergravity and Its Experimental Signatures,” Third Meeting on CPT and Lorentz Symmetry, Indiana University, Bloomington, IN, August 4-7, 2004. (Individual)
  - “Predictions of Lorentz-Violating Supergravity,” 10th International Symposium on Particles, Strings and Cosmology (PASCOS’04), Northeastern University, Boston, MA, August 16-22, 2004.

- **PUBLICATIONS DURING 2004**
• **CHAIRS**
  ▶ Hershel E. Burgess Chair in Physics (High Energy Physics) /1997/  

• **SERVICE DURING 2004**

  **Department**
  ▶ Chair, High Energy Phenomenology Search Committee
  ▶ Co-Chair, DARK 2004, Fifth International Conference on Dark Matter in Astro and Particle Physics

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ PHYS 624.600 — Quantum Mechanics (total enrollment: 31)
  ▶ PHYS 691.604 — Research (total enrollment: 4)

  **Summer**
  ▶ PHYS 685.304 — Directed Studies (total enrollment: 1)
  ▶ PHYS 691.104 — Research (total enrollment: 1)
  ▶ PHYS 691.204 — Research (total enrollment: 1)
  ▶ PHYS 691.304 — Research (total enrollment: 3)

  **Fall**
  ▶ PHYS 691.604 — Research (total enrollment: 3)

• **RESEARCH PROJECTS DURING 2004**
  ▶ Elementary Particle Theory, *National Science Foundation*
  ▶ Linear Collider, *UNFUNDED*

• **PRESENTATIONS DURING 2004**
  ▶ “Some Results in M-Theory Inspired Phenomenology,” Deserfest: A Celebration of the Life and Works of Stanley Deser, Ann Arbor, MI, April, 2004.( Invited)
  ▶ “Signals from Stau-Neutralino Co-Annihilation Region in a Linear Collider,” Victoria Linear Collider Workshop, Victoria, B.C., Canada, July, 2004.( Invited)
● PUBLICATIONS DURING 2004

• HONORS DURING 2004

University
▷ Favorite Professor, Texas A&M University, Qatar
▷ Thamann University Professorship in Undergraduate Teaching Excellence, Texas A&M University

• SERVICE DURING 2004

University
▷ Member, Faculty Senate
▷ Member, Executive Committee, Center for Teaching Excellence
▷ Member, ATMentors Executive Committee
▷ Member, Academic Affairs Committee

Department
▷ Chair, Undergraduate Curriculum Committee
▷ Chair, Teaching Evaluation Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 2XX. — Combination of 218, 208, and Thermodynamics QATAR (total enrollment: 16)

Fall
▷ PHYS 218.804-806 — Mechanics (total enrollment: 98)
▷ PHYS 218.816-818 — Mechanics (total enrollment: 99)

• RESEARCH PROJECTS DURING 2004

▷ TAMU STEPS: Physics, Engineering, and Mathematics (PEM) Model, National Science Foundation
▷ Increased Energy Efficiency of Fluorescent Lamps, Texas Advanced Technology Program
• SERVICE DURING 2004

National
▷ Referee: Journals, Journals
▷ Referee: Research, Department of Defense, National Science Foundation
▷ Reviewer, Academic Press

Department
▷ Chair, Astronomy Committee
▷ Co-Organizer, Session on Semiconductor Optoelectronics, Winter Colloquium
▷ Member, Nanoscience Search Committee
▷ Member, Theoretical Condensed Matter Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 306.501 — Basic Astronomy (total enrollment: 122)
▷ PHYS 691.660 — Research (total enrollment: 1)

Summer
▷ PHYS 306.100 — Basic Astronomy (total enrollment: 60)
▷ PHYS 691.360 — Research (total enrollment: 1)

Fall
▷ PHYS 306.502 — Basic Astronomy (total enrollment: 64)
▷ PHYS 306.503 — Basic Astronomy (total enrollment: 60)
▷ PHYS 691.660 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004

▷ “Adventures in the Solar System,” College Hills Elementary School, College Station, TX, 2004. (Individual)
▷ “Lives and Deaths of Stars’,” A&M Consolidated Middle School, College Station, TX, 2004. (Individual)


“Primordial black hole haloes around stars and globular clusters,” Mitchell Symposium on Observational Cosmology, College Station, TX, April, 2004. (Contributed)


“Quantum cascade Raman injection lasers,” International Conference Frontiers of Nonlinear Physics, Russia, July, 2004. (Contributed)

“Resonant nonlinear optical interaction in semiconductor lasers,” International Conference Frontiers of Nonlinear Physics, Russia, July, 2004. (Contributed)

“The highest-energy cosmic rays and converter acceleration mechanism,” International Conference Frontiers of Nonlinear Physics, Russia, July, 2004. (Contributed)


“Resonant Nonlinear Optics in Quantum-Cascade Nanostructures,” Seminar, University of Texas, Austin, TX, October, 2004. (Individual)

PUBLICATIONS DURING 2004

Akhlestina, SA; Aleshkin, VY; Belyanin, AA; Biryukov, AA; Deppe, D; Dubinov, AA; Kalugin, NG; Kocharovsky, VV; Korcharovsky, VV; Nekorkin, SM; Pestov, DS; Scully, MO; Zvonkov, BN; Zvonkov, NB. (2004) “Interband cascade lasers for difference-frequency generation,” Proceedings of the International Conference “Nanophotonics 2004”.


Esaev, DG; Rinzan, MBM; Matsik, SG; Perera, AGU; Liu, HC; Zvonkov, BN; Gavrilenko, VI; Belyanin, AA. (2004) High performance single emitter homojunction interfacial work function far infrared detectors *Journal of Applied Physics*, vol. 95, 512-519.


Gmachl, C; Owschimikow, N; Belyanin, A; Sergent, AM; Sivco, DL; Peabody, ML; Cho, AY; Capasso, F. (2004) Temperature dependence and single-mode tuning behavior of second-harmonic generation in quantum cascade lasers *Applied Physics Letters*, vol. 84, 2751-2753.

Malis, O; Belyanin, A; Gmachl, C; Sivco, DL; Peabody, ML; Sergent, AM; Cho, AY. (2004) Improvement of second-harmonic generation in quantum-cascade lasers with true phase matching *Applied Physics Letters*, vol. 84, 2721.


Mosely, TS; Belyanin, A; Gmachl, C; Sivco, DL; Peabody, ML; Cho, AY. (2004) Third harmonic generation in a Quantum Cascade laser with monolithically integrated resonant optical nonlinearity *Optics Express*, vol. 12, 2972.


Scully, MO; Kocharovsky, VV; Belyanin, A; Fry, E; Capasso, F. (2004) Comment on "Enhancing acceleration radiation from ground-state atoms via cavity quantum electrodynamics" - Reply *Physical Review Letters*, vol. 93, 129302.
JOEL BRYAN

LECTURER
PHYS (979)
jabryan@tamu.edu

• SERVICE DURING 2004
  Department
    ▶ Member, Science Education Faculty Search Committee

• RESEARCH PROJECTS DURING 2004
  ▶ Grade 8 Middle School Science: Teacher Quality Type B Professional Development Grants, 
    Texas Higher Education Coordinating Board
  ▶ High School Physics: Teacher Quality Type B Professional Development Grant, Texas 
    Higher Education Coordinating Board

• PRESENTATIONS DURING 2004
  ▶ “Physical Science: Motion, Motion, Everywhere,” Professional Development Session Conducted for Bonham and Navarro Elementary School Teachers, BISD, Bryan, TX, February, 2004. (Individual)
  ▶ “Preservice Middle School Teachers’ Development of and Alternative Conception for Light Bulb Circuits,” Southwest Association for Educators of Teachers of Science (SWEATS) annual meeting, Georgetown, TX, February, 2004. (Individual)
  ▶ “Technology for “Real World” Mathematics and Physics Investigations,” Workshop Presented at the Southwest Association for Educators of Teachers of Science (SWEATS) annual meeting, Georgetown, TX, February, 2004. (Individual)
  ▶ “Low Cost Physics Activities,” Six Hour Professional Development Session Conducted for Physics and Integrated Physics and Chemistry Teachers, Region VI Education Service Center, Huntsville, TX, March, 2004. (Individual)
  ▶ “Type B Physics,” Workshop Presenter, Texas Higher Education Coordinating Board (THECB), Huntsville, TX, June, 2004. (Individual)
  ▶ “What is Physics?,” Sam Rayburn Middle School, 6th Grade Students, Bryan, TX, August, 2004. (Individual)
  ▶ “TI 83+ and the Calculator-based Ranger (CBR),” Professional Development Session for Bryan ISD Middle School Science Teachers, Bryan, TX, October, 2004. (Individual)

• PUBLICATIONS DURING 2004
RONALD A. BRYAN

PROFESSOR
PHYS-High Energy

(979) 845-5636 bryan@physics.tamu.edu

• SERVICE DURING 2004

  National
  ▶ Referee: Journals, Physical Review C, The Physics Teacher

  Department
  ▶ Chair, Physics 218/208 Textbook Selection Committee
  ▶ Coordinator, Physics 218
  ▶ Member, Awards Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ PHYS 218.801-803 — Mechanics (total enrollment: 92)

• RESEARCH PROJECTS DURING 2004

  ▶ Cross-Disciplinary Theory and Experiment in Physics and Parapsychology, UNFUNDED
  ▶ Nucleon-nucleon Scattering, UNFUNDED
  ▶ Ultra High-Energy Cosmic Rays, UNFUNDED

• PRESENTATIONS DURING 2004

  ▶ “Nucleon-nucleon one-boson-exchange models,” Nuclear Theory Seminar, Texas A&M University, College Station, TX, December, 2004. (Individual)
SIU AH CHIN

• SERVICE DURING 2004
  
  National
  ▶ Referee: Journals

  University
  ▶ Advisor, Hong Kong Students Association

  College
  ▶ Judge, Texas Regional Science Bowl
  ▶ Member, Undergraduate Curriculum Committee

  Department
  ▶ Participant, Chemistry Open-House with a Magnetic Accelerator

  Interdisciplinary/Intercollegiate
  ▶ Chair, International Conference Series Recent Progress in May-Body Theories

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ PHYS 619.600 — Modern Computational Physics (total enrollment: 5)
  ▶ PHYS 691.607 — Research (total enrollment: 1)

  Summer
  ▶ PHYS 691.207 — Research (total enrollment: 1)

  Fall
  ▶ PHYS 401.500 — Computational Physics (total enrollment: 14)

• RESEARCH PROJECTS DURING 2004

  ▶ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
  ▶ Forward Symplectic Algorithms for Solving Physical Evolution Equations, National Science Foundation

• PRESENTATIONS DURING 2004

  ▶ 12th International Conference on “Recent Progress in Many-Body Theories, Santa Fe, NM, August, 2004.( Contributed)
  ▶ 28th International Conference on “Condensed Matter Theories”, Washington University, St. Louise, MO, September, 2004.( Invited)
• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
➤ Member, Executive Committee of Precision Measurements and Fundamental Constants Group of the APS
➤ Referee: Research, National Science Foundation, NIST Precision Measurement Grants

Department
➤ Chair, Awards Committee
➤ Member, Physics Performance Evaluation Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
➤ PHYS 309.500 — Modern Physics (total enrollment: 41)
➤ PHYS 485.508 — Directed Studies (total enrollment: 3)
➤ PHYS 689.602 — Special Topics in (total enrollment: 8)

Summer
➤ PHYS 202.301-303 — College Physics (total enrollment: 44)

• RESEARCH PROJECTS DURING 2004
➤ Spectroscopy and Collisions of Stored, Cold High-Charged Ions, *National Science Foundation*
➤ *(REN)* Spectroscopy and Collisions of Stored, Cold, Highly Charged Ions, *National Science Foundation*

• PRESENTATIONS DURING 2004
➤ “RETrap - A cryogenic Penning ion trap system,” International Conference on Highly Charged Ions-04, Latvia, September, 2004.( Contributed)
NELSON M. DULLER, JR.

PROFESSOR (979) 845-5067
PHYS-Applied Physics duller@physics.tamu.edu

- **SERVICE DURING 2004**
  - University
    - Member, ATMentors
  - College
    - Member, Undergraduate Curriculum Committee
  - Department
    - Member, Astronomy Committee
    - Member, Undergraduate Advising Committee

- **TEACHING ASSIGNMENTS DURING 2004**
  - Spring
    - PHYS 225.501-502 — **Electronic Circuits and Applications** (total enrollment: 33)
  - Summer
    - PHYS 306.200 — **Basic Astronomy** (total enrollment: 45)
  - Fall
    - PHYS 306.501 — **Basic Astronomy** (total enrollment: 103)
    - PHYS 426.500 — **Physics Laboratory** (total enrollment: 15)
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Assoicate Department Head [2004]

• SERVICE DURING 2004

National
  ▶ Referee: Journals, Physical Review A and Physical Review Letters

University
  ▶ Member, University Council for Teacher Education

College
  ▶ Member, College Qatar Liaison
  ▶ Member, Science Olympiad Physics Liaison
  ▶ Proofreader, Questions for the Junior Science Bowl and Science Bowl

Department
  ▶ Advisor, Teaching Field for Physical Science with Physics Core
  ▶ Chair, Graduate Student Credentials Committee
  ▶ Member, Long Range Planning Committee
  ▶ Member, Graduate Student Credentials Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ PHYS 202.505-508 — College Physics (total enrollment: 107)
  ▶ PHYS 205.501-502 — Concepts of Physics (total enrollment: 58)
  ▶ PHYS 285.512 — Directed Studies (total enrollment: 4)

Fall
  ▶ PHYS 201.501-508 — College Physics (total enrollment: 198)
  ▶ PHYS 205.501-502 — Concepts of Physics (total enrollment: 53)
  ▶ PHYS 285.512 — Directed Studies (total enrollment: 12)

• RESEARCH PROJECTS DURING 2004
  ▶ Writing for Assessment and Learning in the Natural and Mathematical Sciences, National Science Foundation
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Department Head [2002]

• SERVICE DURING 2004

  National

  University
  ▶ Campus Advisor, C S Organization

  College
  ▶ Member, Executive Committee

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ PHYS 485.213(H) — Directed Studies (total enrollment: 1)
  ▶ PHYS 691.613 — Research (total enrollment: 8)

  Summer
  ▶ PHYS 691.213 — Research (total enrollment: 5)
  ▶ PHYS 691.313 — Research (total enrollment: 1)

  Fall
  ▶ PHYS 691.613 — Research (total enrollment: 9)

• RESEARCH PROJECTS DURING 2004

  ▶ Optical Absorption of Pure Water in the Blue and Ultraviolet, National Science Foundation
  ▶ Quantum Optics Initiative, Office of Naval Research, coworkers: J. Katz (G)
  ▶ Studies of Hg and Hg2 with Objectives from Fundamental to Applied, The Robert A. Welch Foundation
  ▶ Direct Forward Light Scattering Studies (Bioaerosol Sampling and Collection), U.S. Army

• PUBLICATIONS DURING 2004

No report received from faculty member.
• SERVICE DURING 2004

National
▷ Chair, STAR Publication and Talks Policy Committee
▷ Member, STAR Council
▷ Member, DOE/NSF Nuclear Science Advisory Committee on Heavy-Ion Physics
▷ Referee: Journals, Nuclear Instruments and Methods, Physical Review Letters, Physical Review C
▷ Referee: Research, Department of Energy, National Science Foundation, ISTC and CRDF

Department
▷ Chair, Cyclotron Institute Computer Committee
▷ Member, Cyclotron Institute Safety Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 202.517-520 — College Physics (total enrollment: 93)
▷ PHYS 485.514 — Directed Studies (total enrollment: 1)
▷ PHYS 691.614 — Research (total enrollment: 2)
▷ PHYS 691.664 — Research (total enrollment: 1)

Summer
▷ PHYS 685.114 — Directed Studies (total enrollment: 1)
▷ PHYS 685.214 — Directed Studies (total enrollment: 1)
▷ PHYS 691.164 — Research (total enrollment: 1)
▷ PHYS 691.264 — Research (total enrollment: 1)
▷ PHYS 691.314 — Research (total enrollment: 3)

Fall
▷ PHYS 218.501-504 — Mechanics (total enrollment: 129)
▷ PHYS 691.614 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
▷ Cyclotron-Based Nuclear Science, Department of Energy
▷ (REN) QCD and Standard Model Studies, Department of Energy, coworkers: M. Vasiliev (Assistant Research Scientist), T. Henry (G), J. Musser (G)
▷ Cooperative Agreement-Czech Republic, National Science Foundation
▷ International: Asymptotic Normalization Co-Efficients in Nuclear Astrophysics, National Science Foundation
(REN) Nuclear Astrophysics Experiments with MARS, *The Robert A. Welch Foundation*, coworkers: G. Tabacaru (P), T. Al-Abdullah (G)

**PRESENTATIONS DURING 2004**

- “Jet Quenching at RHIC,” Wayne State University, Physics Department, Detroit, MI, March, 2004. (Individual)
- “Jet Quenching at RHIC,” University of Texas, Physics Department, Austin, TX, April, 2004. (Individual)
- “Recent Results from RHIC,” Third Int. Conf. Quarks and Nucl. Phys., Bloomington, IN, May, 2004. (Invited)
- “Recent Results from RHIC,” Abilene Christian University, Abilene, TX, September, 2004. (Individual)
- “Extracting the ANCs for $^{23}$Al $\rightarrow ^{22}$Mg $+p$ from its mirror system $^{23}$Ne $+ n$ reaction,” 2004 Annual Meeting of the Division of Nuclear Physics of the APS, Chicago, IL, October, 2004. (Contributed, T. Al-Abdullah)
- “Remeasurement of $^{14}$N+$^{7}$Be for astrophysical $S_{17}$ factor,” 2004 Annual Meeting of the Division of Nuclear Physics of the APS, Chicago, IL, October, 2004. (Contributed, G. Tabacaru)

**PUBLICATIONS DURING 2004**


Blackmon, JC; Bardayan, DW; Brune, CR; Carstoiu, F; Champagne, AE; Crespo, R; Davinson, T; Fernandes, JC; Gagliardi, GA; Gerife, U; Gross, GJ; Hausladen, PA; Iliaidis, C; Jewett, CC; Kozub, RL; Lewis, TA; Liang, F; Moazen, BH; Mukhamedzhanov, AM; Nesaraaja, CD; Nunes, FM; Parker, PD; Radford, DC; Sahin, L; Scott, JP; Shapira, D; Smith, MS; Thomas, JS; Trache, L; Tribble, RE; Woods, PJ; Yu, C-H. (2004) The $^{17}$F($p, \gamma$)$^{18}$Ne Direct Capture Cross Section Nuclear Physics A, vol. 746, 365c.


Tang, X; Azhari, A; Fu, C; Gagliardi, CA; Mukhamedzhanov, AM; Pirlepesov, F; Trache, L; Tribble, RE; Burjan, V; Kroha, V; Carstoiu, F; Irgaziev, BF. (2004) Determination of the direct capture contribution for $^{13}$N($p, \gamma$)$^{14}$O from the $^{14}$O $\rightarrow$ $^{13}$N + p asymptotic normalization coefficient Physical Review C: Nuclear Physics, vol. 69, 055807.

Trache, L; Carstoiu, F; Gagliardi, CA; Mukhamedzhanov, AM; Tribble, RE. (2004) Breakup of loosely bound nuclei at intermediate energies as indirect method in nuclear astrophysics: $^8$B, $^9$C and the $S_{17}$, $S_{18}$ astrophysical factors Nuclear Physics A, vol. 746, 625c.

Trache, L; Carstoiu, F; Gagliardi, CA; Tribble, RE. (2004) Breakup of $^8$B and the $S_{17}$ astrophysical factor reexamined Physical Review C: Nuclear Physics, vol. 69, 032802.
JOHN C. HARDY

PROFESSOR
PHYS-Nuclear

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hardy@comp.tamu.edu

• SERVICE DURING 2004

International
  ▶ Fellow, Royal Society of Canada
  ▶ Member, International Advisory Committee, ENAM
  ▶ Member, Canadian Association of Physicists
  ▶ Member, Trustee, Deep River Science Academy
  ▶ Member, 29th Mazurian Lakes Conference

National
  ▶ Chair, Tom Bonner Prize Committee, American Physical Soc.
  ▶ Chair, Program Advisory Committee, Oak Ridge Nat’l Lab
  ▶ Chair, Publications Committee, Division of Nuclear Physics, American Physical Society
  ▶ Elected Member, Executive Council of the Division of Nuclear Physics, American Physical Society
  ▶ Fellow, American Physical Society
  ▶ Member, Organizing Committee, Workshop in Precision Electroweak Physics, FermiLab
  ▶ Member, DOE visiting panel, High Power Target Laboratory at Oak Ridge National Laboratory
  ▶ Member, DOE Selection Committee, 2004 Ernest O. Lawrence Award in Physics
  ▶ Member, Proposal Panel for Experimental Nuclear Physics
  ▶ Member, Organizing Committee, From zero to Z-zero: a workshop on precision electroweak physics, at Fermilab
  ▶ Member, Science Policy Committee, Oak Ridge Nat’l Lab
  ▶ Referee: Research, Department of Energy, National Science Foundation

Department
  ▶ Chair, Physics Qualifying Exam Committee
  ▶ Member, Nuclear Chemistry Faculty Search Committee
  ▶ Member, Executive Committee, Nuclear Div., APS
  ▶ Member, Physics 218/208 Textbook Evaluation
  ▶ Member, Experimental Nuclear Physics Faculty Search Committee
  ▶ Member, Performance Evaluation Committee
  ▶ Member, Reactor Safety Board

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• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- PHYS 208.524-526 — *Electricity and Optics* (total enrollment: 64)
- PHYS 208.801-804 — *Electricity and Optics* (total enrollment: 94)
- PHYS 208.814 — *Electricity and Optics* (total enrollment: 20)

**Fall**
- PHYS 691.647 — *Research* (total enrollment: 1)

• **RESEARCH PROJECTS DURING 2004**
- Cyclotron-Based Nuclear Science, *Department of Energy*, coworkers: V. Iacob (P), N. Nica (P), J. Goodwin (G), H. Park (G), J. Montague (U), P. Yunker (U)
- Extending the Capabilities of the Texas A&M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, *Department of Energy*
- Extending the Capabilities of the Texas A&M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, *The Robert A. Welch Foundation*
- Nuclear Decay Studies, *The Robert A. Welch Foundation*
- (REN) Nuclear Decay Studies, *The Robert A. Welch Foundation*, coworkers: J. Goodwin (G), H. Park (G), J. Montague (U), P. Yunker (U)

• **PRESENTATIONS DURING 2004**
- “Precision mass measurements in weak interaction studies,” NIPNET International Workshop on High-Precision Mass Measurements, Saariselka, Finland, April, 2004.( Invited)
- “Precise branching ratios in the superallowed β-decay of 34Ar,” APS meeting, Denver, CO, May, 2004.( Contributed)
- “Precise measurement of the K-conversion coefficient for the 80.2 KeV transition from 1935IR,” APS meeting, Denver, CO, May, 2004.( Contributed)
- “V_{ud} overview,” Workshop on high-precision electroweak physics, Fermilab, May, 2004.( Invited)
- “Delimiting the standard model with superallowed nuclear data decay,” Colloquium, Queen’s University, Kingston, ON, Canada, July, 2004.( Individual)
- “How idiosyncratic is the weak force?,” Seminar, Cyclotron Institute, Texas A&M University, College Station, TX, August, 2004.( Individual)
- “Standard model tests with superallowed β decay: Nuclear data applied to fundamental physics,” International Conference on Nuclear Data for Science and Technology, Santa Fe, NM, September, 2004.( Invited)
- “Superallowed 0\(^+\)-to-0\(^+\) beta decay and CKM unitarity: a new overview including more exotic nuclei,” ENAM04, Exotic Nuclei and Atomic Masses Conference, Pine Mountain, GA, September, 2004.( Invited)
- “Efficiency calibration for a β-γ coincidence set-up: Source measurements and Monte Carlo calculations,” APS meeting, Chicago, IL, October, 2004.( Contributed)
“Measurement of K-shell fluorescent yield in Iridium: Testing internal-conversion theory,”
APS meeting, Chicago, IL, October, 2004. (Contributed)

“Superallowed nuclear beta decay: Probing the weak force with precision on-line measurements,” CAARI 2004, 18th International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, October, 2004.(Invited)

• PUBLICATIONS DURING 2004


Clark, J; Barber, RC; Boudreau, C; Buchinger, F; Crawford, JE; Gulick, S; Hardy, JC; Heinz, A; Lee, JKP; Moore, RB; Savard, G; Seweryniak, D; Sharma, KS; Sprouse, G; Vas, J; Wang, JC; Zhou, Z. (2004) Improvements in the injection system of the Canadian Penning trap mass spectrometer Nucl. Instrum. and Methods, B, vol. 204, 487.

Hardy, JC; Iacob, VE; Sanchez-Vega, M; Neilson, RG; Azhari, A; Gagliardi, CA; Mayes, VE; Tang, X; Trache, L; Tribble, RE. (2004) “Precise FT-value measurement for the superallowed \(0^+\)-to-\(0^+\) \(\beta\) Decay of \(^{22}\text{Mg}\),” Proceedings of the International Conference on the Labyrinth in Nuclear Structure, AIP Conference Proceedings Crete.


Nica, N; Hardy, JC; Iacob, VE; Raman, S; Nestor, Jr., CW; Trzhaskovskaya, MB. (2004) Precise measurement of \(\alpha_K\) for the M4 transition from \(^{193}\text{Ir}^{m}\): a test of internal-conversion theory Physical Review C: Nuclear Physics, vol. 70, 054305.

Savard, G; Clark, JA; Buchinger, F; Crawford, JE; Gulick, S; Hardy, JC; Hecht, AA; Iacob, VE; Lee, JKP; Levand, AF; Lundgren, BF; Scielzo, N; Sharmam, KS; Tanihata, I; Towner, IS; Trimble, W; Wang, JC; Wang, Y; Zhou, Z. (2004) Q-value of the superallowed decay of \(^{22}\text{Mg}\) and the calibration of the \(^{21}\text{Na}(p,\gamma)\) experiment Physical Review C: Nuclear Physics, vol. 70, 042501.
• SERVICE DURING 2004

National
▷ Referee: Journals, Physical Review and Physical Review Letters

Department
▷ Chair, Physics Department Distinguished Lecture Series and Colloquium Committee
▷ Member, Nanoscience Faculty Search
▷ Member, Physics Department Graduate Student Admissions and Appointments Committee
▷ Member, Physics Department Graduate Curriculum Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 221.500 — Optics and Thermal Physics (total enrollment: 32)

Fall
▷ PHYS 221.500 — Optics and Thermal Physics (total enrollment: 37)

• RESEARCH PROJECTS DURING 2004
▷ Vortex Manipulation and Trappings of Encapsulated Magnets, UNFUNDED

• PRESENTATIONS DURING 2004
▷ “Mean-field theoretical search for doubly-charged anti-phase island as a possible new mechanism for high-Tc superconductors,” APS meeting, Montreal, Canada, March, 2004. (Graduate, Q. Wang)
▷ “Spinmotive force induced by a transverse displacement current in a thin metal or doped semiconductor sheet: Classical and quantum views,” APS meeting, Montreal, Canada, March, 2004. (Individual)
▷ “Tunneling spectroscopy of a superconductor carrying a supercurrent,” APS meeting, Montreal, Canada, March, 2004. (Contributed)
▷ “Transverse-Displacement-Current-Induced Spinomotive force for Spintronics Applications: Classical and Quantum Views,” TcSAM Special Seminar, University of Houston, Houston, TX, July, 2004. (Individual)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Referee: Journals, Physical Review D and Physical Review Letters
▷ Reviewer, Douglas C. Giancoli, Physics for Scientists and Engineers, 3rd and 4th edition

Regional
▷ Judge, St. Michael’s Academy

University
▷ Member, Texas A&M Reactor Safety Board
▷ Member, Scholarship of Assessment Think Tank

College
▷ Member, Graduate Instruction Committee

Department
▷ Chair, Graduate Advisor
▷ Co-Chair, High Energy Theory Faculty Search Committee
▷ Member, Graduate Credentials Committee
▷ Member, Graduate Curriculum Committee
▷ Member, Physics 218/208 Textbook Committee
▷ Member, Promotion, Tenure, and Appointments Committee
▷ Member, High-Energy Exp. Faculty Search
▷ Member, Organizing Committee for Mitchell Symposium on Observation Cosmology
▷ Participant, Hands-On Science Fair
▷ Participant, Chemistry Open House

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 685.621 — Directed Studies (total enrollment: 1)
▷ PHYS 691.621 — Research (total enrollment: 2)
▷ PHYS 691.671 — Research (total enrollment: 2)

Summer
▷ PHYS 691.121 — Research (total enrollment: 1)
▷ PHYS 691.221 — Research (total enrollment: 1)
▷ PHYS 691.321 — Research (total enrollment: 1)
▷ PHYS 691.371 — Research (total enrollment: 2)
Fall

- PHYS 218.505-508 — Mechanics (total enrollment: 119)
- PHYS 285.521 — Directed Studies (total enrollment: 8)
- PHYS 691.621 — Research (total enrollment: 10)
- PHYS 691.671 — Research (total enrollment: 2)

**RESEARCH PROJECTS DURING 2004**

- (REN) High Energy Physics, *Department of Energy*
- High Energy Physics at Texas A&M University, *Department of Energy*
- Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*
- Large Hadron Collider, UNFUNDED, coworkers: S. Lee (P)

**PRESENTATIONS DURING 2004**

- “Search for Pair Production of Stop Quark at CDF,” 59th Meeting of Japanese Physical Society, Kyushu University, Fukuoka, Japan, March, 2004. (Contributed)
- “Dark Matter, Particle Physics and Cosmology,” 2004 Mitchell Symposium on Observational Cosmology, Texas A&M University, College Station, TX, April, 2004. (Contributed)
- “Feasibility Study of GMSB Models in Three-tau Channel,” Meeting of the American Physical Society, Denver, CO, April, 2004. (Graduate, T. Akimoto)
- “Search for Rare Decay $B_s \rightarrow \mu^+\mu^-$ and $B_d \rightarrow \mu^+\mu^-$ Using CDF Run 2 Data,” Chicago Flavor Seminar, Fermilab, Batavia, IL, May, 2004. (Poster Graduate, V. Krutelyov)
- “Status of Search for Rare Decays $D_0 \rightarrow \mu^+\mu^-$ and $B_s \rightarrow \mu^+\mu^-$ Using CDF Run 2 Data,” Meeting of the American Physical Society, Denver, CO, May, 2004. (Graduate, V. Krutelyov)
- “Probing Supersymmetry at Hadron and Linear Colliders,” Seminar, Waseda University, Tokyo, Japan, June, 2004. (Individual)
- “Signals from the $\tilde{\tau}_1-\tilde{\chi}_1^0$ Co-annihilation Region in a Linear Collider,” American Linear Collider Workshop (ALCWS2004 - Victoria), Victoria British Columbia, Canada, July, 2004. (Contributed)
- “Dark Matter and Collider,” 5th International Heidelberg Conference on Dark Matter in Astro and Particle Physics (DARK 2004), Texas A&M University, College Station, TX, October, 2004. (Contributed)
“Signals in the Co-annihilation Region of Supersymmetry at the LHC - Supersymmetry and Dark Matter,” Joint Fall Meeting of American Physical Society, American Association of Physics Teachers, and Society of Physics Students, Baylor University, Waco, TX, October, 2004. (Graduate, A. Aurisano)

- **PUBLICATIONS DURING 2004**
  - Acosta, D; et. al.. (2004) Combination of CDF and D0 Results on the W Boson Mass and Width *Physical Review D: Particles and Fields*, vol. 70, 92008.
  - Acosta, D; et. al.. (2004) Measurement of the $t\bar{t}$ Production Cross Section in *Physical Review Letters*, vol. 93, 142001.
  - Acosta, D; et. al.. (2004) Observation of the Narrow State $X(3872)\rightarrow J/\psi\pi^+\pi^-$ in *Physical Review Letters*, vol. 93, 072001.
  - Acosta, D; et. al.. (2004) Search for $B_s \rightarrow \mu^+\mu^-$ and $B_d \rightarrow \mu^+\mu^-$ Decays in *Physical Review Letters*, vol. 93, 032001.
  - Acosta, D; et. al.. (2004) Search for Pair Production of Scalar Top Quarks in $R$-parity Violating Decay Modes in *Physical Review Letters*, vol. 92, 051803.
Anastassov, Baroiant, S; Chertok, M; Conway, J; Goncharov, M; Jang, D; Kamon, T; Khotilovich, V; Lander, R; Lath, A; Murat, P; Ogawa, T; Pagliarone, C; Piacentino, GM; Ratnikov, F; Safonov, A; Savoy-Navarro, A; Smith, JR; Toback, D; Tourneur, S; Vataga, E; Wang, Z. (2004) “Selection of Tau Leptons with the CDF Run 2 Trigger System,” Proceedings of the 9th Pisa Meetings on Advanced Detectors La Biodola, Isola d’Elba, Italy.

Arnowitt, R; Dutta, B; Kamon, T; Vhotilovich, V. (2004) “mSUGRA at a 500-GeV Linear Collider,” Proceedings of International Conference on 20 Years of SUGRA and Search for SUSY and Unification (SUGRA 20) Boston, MA.
• SERVICE DURING 2004

National
▷ Referee: Research, ARO, DOD, DRDF, Department of Energy, NASA, and National Science Foundation

College
▷ Assisted, Publicity and Fundraising for ExplorationStation
▷ Co-Organizer, Hands-on Mini-Exploratorium for Cosmology Conference

Department
▷ Chair, Astronomy/Cosmology Search Committee
▷ Chair, Graduate Student Admissions and Appointments Committee
▷ Chair, Computer Committee
▷ Co-Coordinator, Mitchell Symposium on Observational Cosmology
▷ Member, Long Range Planning Committee
▷ Member, Advisory Committee
▷ Member, Astronomy Committee
▷ Organizer, DARK2004 Conference

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 202.202(H) — College Physics (total enrollment: 8)
▷ PHYS 691.622 — Research (total enrollment: 2)

Summer
▷ PHYS 307.100 — Observational Astronomy (total enrollment: 24)
▷ PHYS 307.200 — Observational Astronomy (total enrollment: 28)
▷ PHYS 691.322 — Research (total enrollment: 2)

Fall
▷ PHYS 201.201-202(H) — College Physics (total enrollment: 12)
▷ PHYS 691.622 — Research (total enrollment: 3)
• RESEARCH PROJECTS DURING 2004
  ▶ Simulation of Round-the-Clock Polarization-Based Target Discrimination by an Airborne Sensor from 0.40-14.0 microns, Air Force Office of Scientific Research, coworkers: H. Tynes (P)
  ▶ Quantum Optics Initiative, Office of Naval Research
  ▶ Theoretical Studies of Radiative Transfer with Inelastic Time-Dependent/Independent Scattering including Both Active and Passive Sources in Realistic Atmosphere-Ocean Systems, Office of Naval Research
  ▶ Center for Atmospheric Chemistry, Texas A&M University

• PRESENTATIONS DURING 2004
  ▶ “Li, C; Kattawar, GW,” FDTD and its applications, Baylor University, Waco, TX, October, 2004.( Contributed)
  ▶ “Mueller Matrix: the Consummate approach to imaging in turbid media,” Texas Section of APS/AAPR, Baylor Universities, Waco, TX, October, 2004.( Contributed)
  ▶ “The Effective Mueller Matrix for light scattering by Ice Clouds using the Monte Carlo Method,” American Geophysical Union national fall meeting, San Francisco, CA, December, 2004.(Poster Contributed)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004
  Department
  ▷ Member, Credentials Committee
  ▷ Reviewer, Physics GRE Questions

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▷ PHYS 202.521-524 — College Physics (total enrollment: 77)
  ▷ PHYS 327.500 — Experimental Physics (total enrollment: 16)
  Fall
  ▷ PHYS 202.501-504 — College Physics (total enrollment: 84)

• RESEARCH PROJECTS DURING 2004
  ▷ Increased Energy Efficiency of Fluorescent Lamps, Texas Advanced Technology Program
• **HONORS DURING 2004**

  **University**
  ▶ Distinguished Achievement Award - Research, Association of Former Students

• **SERVICE DURING 2004**

  **National**
  ▶ Referee: Research, Department of Energy

  **Department**
  ▶ Member, Graduate Admissions and Appointments

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ PHYS 489.500 — Special Topics in (total enrollment: 20)
  ▶ PHYS 685.625 — Directed Studies (total enrollment: 1)
  ▶ PHYS 691.625 — Research (total enrollment: 2)

  **Summer**
  ▶ PHYS 691.225 — Research (total enrollment: 1)

  **Fall**
  ▶ PHYS 408.500 — Thermodynamics and Statistical Mechanics (total enrollment: 15)
  ▶ PHYS 691.625 — Research (total enrollment: 2)

• **RESEARCH PROJECTS DURING 2004**

  ▶ Theoretical Nuclear Physics, *National Science Foundation*, coworkers: V. Greco (P), W. Liu (G)
  ▶ Theoretical Studies of Heavy Ion Collisions, *The Robert A. Welch Foundation*, coworkers: L. Chen (P), W. Liu (G)

• **PRESENTATIONS DURING 2004**

  ▶ “Hadronization via Coalescence,” 20th Winter Workshop on Nuclear Dynamics, Trelawny Beach, Jamaica, March, 2004. (Contributed)
PUBLICATIONS DURING 2004


Chen, LW; Ko, CM; Lin, ZW. (2004) Partonic effects on higher-order anisotropic flows in relativistic heavy-ion collisions Physical Review C: Nuclear Physics, vol. 69, 031901(R) (1-4).


• SERVICE DURING 2004

International
▷ Member, Program Committee of the International Conference "Frontiers of Nonlinear Physics"
▷ Organizer, AFOSR Workshop "Gamma-ray optics"

National

Department
▷ Member, Institute for Quantum Studies Evaluation and Promotion Committee
▷ Member, Departmental Promotion, Tenure and Appointments Committee
▷ Organizer, Session "Gamma-ray optics"

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 691.648 — Research (total enrollment: 3)
▷ PHYS 691.656 — Research (total enrollment: 2)

Summer
▷ PHYS 691.248 — Research (total enrollment: 1)
▷ PHYS 691.348 — Research (total enrollment: 2)

Fall
▷ PHYS 208.511-515 — Electricity and Optics (total enrollment: 114)
▷ PHYS 208.521-524 — Electricity and Optics (total enrollment: 93)
▷ PHYS 691.648 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
▷ Spin-Based Lattice-Gas Quantum Optics in Solids Using Optical Addressing, Air Force Office of Scientific Research, coworkers: R. Kolesov (G)
▷ Quantum Interference Phenomena with Gamma-Photons in Solids Doped by Mossbauer Nuclei, Civilian Research & Development Foundation (CRDF)
▷ Double Optical-Gamma Resonance, International Scientific and Technology Center
▷ Double Optical-Gamma Resonance, International Scientific and Technology Center
▷ Coherent Control of Nuclear Transitions, National Science Foundation
▷ Interference Phenomena at Gamma-Ray Nuclear Transitions, Office of Naval Research
Multiple Raman Scattering in Solids for the New Coherent Sources of Ultrashort Pulses, *Texas Advanced Research Program*

**PRESENTATIONS DURING 2004**


- “Narrowing Mossbauer Spectra by rotating magnetic field,” 34th Winter Colloquium on the Physics of Quantum Electronic, Snowbird, UT, January, 2004. (Graduate, P. Anisimov)

- “Possibility to suppress excited, state, absorption in solid-state lasers,” 34th Winter Colloquium on the Physics of Quantum Electronic, Snowbird, UT, January, 2004. (Graduate, E. Kuznetsova)


- “Laser control of nuclear transitions,” Physics Colloquium, University of Texas, Austin, TX, February, 2004. (Individual)

- “All optical magnetic field diagnostics in plasmas based on coherent population trappint,” 2nd International Conference “Frontiers of Nonlinear Physics”, Nizhny Novgorod - St. Petersburg, Russia, July, 2004. (Postdoc, R. Kolesov)


“Narrowing of the Mossabuer line by spinning magnetic field,” Fall Meeting of the Texas Section of the APS, Baylor University, Waco, TX, October, 2004. (Graduate, P. Anisimov)

“Suppression of excited-state absorption in laser crystals,” Fall Meeting of the Texas Section of the APS, Baylor University, Waco, TX, October, 2004. (Graduate, E. Kuznetsova)

PUBLICATIONS DURING 2004


Radeonychev, Y; Erukhimova, M; Kocharovskaya, O; Vilaseca, R; Sautenkov, VA; Ye, CY; Rostovtsev, Y; Scully, MO. (2004) Electromagnetically induced transparency and lasing without inversion in three level atom imbedded in a frequency dependent environment Izvestia Vosov-Radiofizika, vol. XLVII, 10-11.


• SERVICE DURING 2004

National
▷ Referee: Research, National Science Foundation Electronics, Device Fabrication, and Photonics division

Department
▷ Member, Nanoscience Faculty Search Committee
▷ Member, Institute for Quantum Studies Advisory Committee
▷ Member, Astronomy/Cosmology Faculty Search Committee
▷ Member, Graduate Council Representative on the Doctoral Student’s Advisory Committee
▷ Member, Undergraduate Curriculum Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 201.505-508 — College Physics (total enrollment: 94)
▷ PHYS 201.517-520 — College Physics (total enrollment: 93)

Fall
▷ PHYS 691.656 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Quantum Optics Initiative, Office of Naval Research
▷ Semiconductor Transistor Laser for Multiwavelength Operation, Research Corporation
▷ Rapid Sensing of Toxic Materials via Resonant Coherent Anti-Stokes Raman Scattering Excited with Femtosecond Pulses, U.S. Army

• PRESENTATIONS DURING 2004

▷ “Mid/far-infrared few-cycle-pulse emission via resonant mixing in semiconductor heterostructures,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004.(Poster Graduate, D. Pestov)
▷ “Nonadiabatic mechanisms of radiation from atoms in cavity QED,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004.( Invited)
▷ “Persistent and episodic gamma-ray emission from cosmic-ray acceleration sites,” 5th INTEGRAL Workshop, Munich, Germany, February, 2004.( Contributed)
▷ “Converter acceleration mechanism for the highest-energy cosmic rays,” 28th All-Russian Conference on Cosmic Rays, Moscow, Russia, June, 2004.( Invited)


“The convertor mechanism of particle acceleration and its applications to the unidentified EGRET sources,” 2nd Workshop “Multiwavelength approach to unidentified gamma-ray sources, Hong-Kong, China, June, 2004. (Contributed)


“New Type of Semiconductor Lasers (Nonlinear Mixing Lasers) and Review of Other Recent Results (on ultrahigh-energy cosmic rays, γ-ray bursts, gravity-matter creation, nonequilibrium BEC, Unruh radiation in cavity QED),” Department of Physics, Texas A&M University, College Station, TX, September, 2004. (Individual)


“Nonlinear dynamics of gravity and matter creation in a cosmology with an unbounded Hamiltonian,” 5th International Heldelberg conference “Dark Matter in Astro and Particle Physics, College Station, TX, October, 2004. (Invited)

“Nonequilibrium Bose-Einstein Condensation and Anomalous BEC Fluctuations,” University of Texas, Austin, TX, November, 2004. (Individual)

“Effects of free neutrons and neutrino catastrophe in the physics of gamma-ray bursts,” International conference “Cosmology and High Energy Astrophysics”, Moscow, Russia, December, 2004. (Contributed)

• PUBLICATIONS DURING 2004


• CHAIRS
  ▶ Mitchell/Heep Chair in Experimental High Energy Physics [2004]

• SERVICE DURING 2004

National
  ▶ Referee: Research, Department of Energy

University
  ▶ Member, Academic Affairs Committee (Senate)
  ▶ Member, Faculty Senate

Department
  ▶ Member, High Energy Phenomenology Faculty Search
  ▶ Member, High Energy Experiment Faculty Search
  ▶ Member, Departmental Advisory Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ PHYS 208.201-202(H) — Electricity and Optics (total enrollment: 35)
  ▶ PHYS 485.528 — Directed Studies (total enrollment: 1)
  ▶ PHYS 691.628 — Research (total enrollment: 5)

Summer
  ▶ PHYS 691.128 — Research (total enrollment: 1)
  ▶ PHYS 691.228 — Research (total enrollment: 1)
  ▶ PHYS 691.328 — Research (total enrollment: 2)

Fall
  ▶ PHYS 606.600 — Quantum Mechanics (total enrollment: 24)
  ▶ PHYS 691.628 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004

  ▶ (REN) High Energy Physics, Department of Energy
  ▶ New Technology for Future Colliders, Department of Energy, coworkers: R. Blackburn (Technician), T. Elliott (Technician), B. Henchel (Technician), A. Jaisle (Technician), A. McInturff (P), A. Sattarov (P), J. Byeon (G), P. Noyes (G), D. Smith (G)
  ▶ Superconducting Dipoles for Future Hadron Colliders, Department of Energy
  ▶ Acquisition of a State-of-the-Art X-Ray Diffraction System for Magneto-Thermo-Mechanical Materials Characterization Research and Education, National Science Foundation
• PRESENTATIONS DURING 2004
  ▶ “Tripling the LHC: From Technology to Discovery,” Dark2004, College Station, TX, October, 2004. (Invited)

• PUBLICATIONS DURING 2004
  ▶ Abazov, VM; et. al.. (2004) Combination of CDF and D0 results on W boson mass and width Physical Review D: Particles and Fields , vol. 70, 092008.
  ▶ Acosta, D; et. al.. (2004) Search for Pair Production of Scalar Top Quarks in R-parity Violating Decay Modes in p¯p Collisions at √s = 1.8 TeV Physical Review Letters , vol. 92, 051803.
• CHAIRS
  ▶ Mitchell-Heep Chair in High Energy Physics [2002]

• SERVICE DURING 2004

National
  ▶ Referee: Research, Department of Energy, European Union, and National Science Foundation

University
  ▶ Member, Distinguished Professor Committee

Department
  ▶ Chair, High Energy Phenomenology Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ PHYS 685.629 — Directed Studies (total enrollment: 1)
  ▶ PHYS 689.603 — Special Topics in (total enrollment: 9)
  ▶ PHYS 691.629 — Research (total enrollment: 2)

Summer
  ▶ PHYS 691.129 — Research (total enrollment: 1)
  ▶ PHYS 691.229 — Research (total enrollment: 1)
  ▶ PHYS 691.329 — Research (total enrollment: 2)

Fall
  ▶ PHYS 689.603 — Special Topics in (total enrollment: 7)
  ▶ PHYS 691.629 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
  ▶ (REN) High Energy Physics, *Department of Energy*
  ▶ High Energy Physics at Texas A&M University, *Department of Energy*
  ▶ Electromagnetic and Informational Processes in Biomolecular Polymers, *National Science Foundation*
  ▶ Binary Switches and Signal Propagation within Networks of Biomolecular Polymers, *Telecommunications and Informatics Task Force*
• PRESENTATIONS DURING 2004
  ▶ “WMAPing out Dark Matter, Supersymmetry and Proton Decay,” International “Observational Cosmology” Conference, College Station, TX, April, 2004. (Invited)
  ▶ “Physics and Environment,” Round Table Discussion on Global Warming, Athens, Greece, June, 2004. (Individual)
  ▶ “Brany Liouville Inflation and Acceleration,” International Conference, Dark Matter 04, College Station, TX, October, 2004. (Invited)
“On the Origin of the Big Bang,” Texas A&M University, College Station, TX, November, 2004. (Individual)

**PUBLICATIONS DURING 2004**

- Mershin, A; Pavlopoulos, E; Fitch, O; Braden, BC; Nanopoulos, DV; Skoulakis, EMC. (2004) Learning and memory deficits upon TAU accumulation in Drosophila mushroom body neurons *Learning and Memory, vol. 11*, 277.
- Nanopoulos, DV; Mershin, A; Kolomenski, AA; Schuessler, HA. (2004) Tubulin Dipole Moment, Dielectric Constant and Quantum Behavior: Computer Simulations, Experimental Results and Suggestions *Biosystems, vol. 77 (1-3)*, 73.
• SERVICE DURING 2004

National
  ▶ Referee: Journals, APL, JAP, Journal of Physics Condensed Matter, PRB, and PRL
  ▶ Referee: Research, National Science Foundation, New Zealand Science Foundation (Marsden Foundation), and US-Israeli Cooperative Grants

University
  ▶ Member, Executive Committee of Materials Science & Engineering

College
  ▶ Member, College Research Committee

Department
  ▶ Chair, Condensed Matter Experiment Search Committee
  ▶ Chair, Nanoscience Search Committee
  ▶ Member, Condensed Matter Theory Search Committee
  ▶ Member, Departmental Research Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ PHYS 208.511-515 — Electricity and Optics (total enrollment: 97)
  ▶ PHYS 691.630 — Research (total enrollment: 5)

Summer
  ▶ PHYS 485.330 — Directed Studies (total enrollment: 1)
  ▶ PHYS 685.330 — Directed Studies (total enrollment: 1)
  ▶ PHYS 691.130 — Research (total enrollment: 1)
  ▶ PHYS 691.230 — Research (total enrollment: 1)
  ▶ PHYS 691.330 — Research (total enrollment: 3)

Fall
  ▶ PHYS 218.810-812 — Mechanics (total enrollment: 101)
  ▶ PHYS 691.630 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
  ▶ Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, National Science Foundation
  ▶ Intrinsic Interactions Between Superconductivity and Magnetism in Quaternary and Pseudoquaternary Borocarbides, National Science Foundation
\begin{itemize}
  \item (REN) Intrinsic Interactions Between Superconductivity and Magnetism in Quaternary and Pseudoquaternary Borocarbides, \textit{National Science Foundation}
  \item NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, \textit{National Science Foundation}
  \item Nanomagnetics for Mobile Computing, \textit{Telecommunications and Informatics Task Force}
  \item Nanomagnets for Mobile Computing, \textit{Telecommunications and Informatics Task Force}
  \item Nanomagnets for Mobile Computing and Telecommunications, \textit{Telecommunications and Informatics Task Force}
  \item The Influence of Surfaces, Reduced Dimensionally and Disorder on the Properties of Solids, \textit{The Robert A. Welch Foundation}
  \item NER: Hybrid Magnetic Nanostructures, \textit{University of Colorado}
\end{itemize}

\textbf{PUBLICATIONS DURING 2004}

\begin{itemize}
  \item Cocke, DL; Mencer, DE; Hossain, MA; Schennach, R; Kesmez, M; Parga, JR; Naugle, GD. (2004) Investigation of the metal-oxide buried interfacial zone with linear sweep voltammetry \textit{Journal of Applied Electrochemistry}, vol. 34, 919-927.
  \item Majumdar, AK; Khatua, PK; Rathnayaka, KDD; Naugle, DG. (2004) Correlation between the extraordinary Hall constant and electrical resistivity minima in Co-rich metallic glasses \textit{Physical Review B: Condensed Matter}, vol. 69, 214417 (1-5).
\end{itemize}
GERHARD G PAULUS
ASSOCIATE PROFESSOR
PHYS
(979) 458-2864
ggp@physics.tamu.edu

• SERVICE DURING 2004

National

Department
▷ Member, Nano Science Search Committee
▷ Member, Quantum Optics Search Committee
▷ Member, Ad-Hoc Search Committee “Hänsch”
▷ Member, Ad-Hoc Search Committee “Schleich”

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 685.657 — Directed Studies (total enrollment: 1)
▷ PHYS 691.657 — Research (total enrollment: 2)

Summer
▷ PHYS 685.157 — Directed Studies (total enrollment: 1)
▷ PHYS 685.257 — Directed Studies (total enrollment: 1)
▷ PHYS 691.357 — Research (total enrollment: 2)

Fall
▷ PHYS 201.509-516 — College Physics (total enrollment: 148)
▷ PHYS 201.517-524 — College Physics (total enrollment: 176)
▷ PHYS 691.657 — Research (total enrollment: 4)

• RESEARCH PROJECTS DURING 2004

▷ Few-Cycle Femtosecond Laser System with Stabilized “Absolute” Phase, The Robert A. Welch Foundation
▷ Dissociation of H$_2^+$ by Intense Few-Cycle Laser Pulses, UNFUNDED

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004


- Dombi, P; Apolonski, A; Lemell, C; Paulus, GG; Kakehata, M; Holzwarth, R; Udem, T; Torizuka, K; Burgdörfer, J; Hansch, TW; Krausz, F. (2004) Direct measurement and analysis of the carrier-envelope phase in light pulses approaching the single-cycle regime New Journal of Physics, vol. 6, 39.


• **HONORS DURING 2004**

  National
  ▶ 2005 Lars Onsager Prize, American Physical Society

• **SERVICE DURING 2004**

  International
  ▶ Participant, Advisory Committee for XXIII International Congress on Statistical Physics

National
  ▶ Co-Editor, *Modern Physics Letters B*
  ▶ Co-Editor, *Journal of Modern Physics B*
  ▶ Referee: Research, Department of Energy, National Science Foundation, and Swiss Scientific Agency

University
  ▶ Member, Distinguished Professors Committee

Department
  ▶ Member, Search Committee for Nanophysics
  ▶ Member, Condensed Matter Search Committee
  ▶ Member, Colloquium Committee
  ▶ Member, Promotion, Tenure, and Appointments Committee

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ PHYS 689.605 — *Special Topics in* (total enrollment: 6)
  ▶ PHYS 691.632 — *Research* (total enrollment: 3)

  **Summer**
  ▶ PHYS 691.232 — *Research* (total enrollment: 1)
  ▶ PHYS 691.332 — *Research* (total enrollment: 1)

  **Fall**
  ▶ PHYS 611.600 — *Electromagnetic Theory* (total enrollment: 13)
  ▶ PHYS 691.632 — *Research* (total enrollment: 2)
• RESEARCH PROJECTS DURING 2004
  ▶ Theory of Magnetic Heterostructures at the Submicron Scale, Department of Energy, coworkers: M. Kayali (G), H. Wei (G)
  ▶ NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, National Science Foundation
  ▶ (REN) Physical Phenomena in Low-Dimensional Systems, National Science Foundation
  ▶ Nanomagnets for Mobile Computing and Telecommunications, Telecommunications and Informatics Task Force

• PRESENTATIONS DURING 2004
  ▶ “Landau-Zener transitions in noisy environment,” Colloquium, ETH, Zürich, Switzerland, June, 2004.( Individual)
  ▶ “History of Scaling,” City Physical Colloquium, Cologne, Germany, July, 2004.( Individual)
  ▶ “Landau-Zener transitions in noisy environment,” Quantum Optics Seminar, University of Ulm, Ulm, Germany, July, 2004.( Individual)
  ▶ “Quantum Noise in Landau-Zener Transitions,” Argonne Annual Symposium on Mesoscopic effects in Magnets and Superconductors, November, 2004.( Individual)

• PUBLICATIONS DURING 2004
• CHAIRS
  ▶ Stephen Hawking Chair in Fundamental Physics [2002]

• SERVICE DURING 2004
  National
  ▶ Referee: Research, EPSERC, Oxford and Cambridge College Research Fellowships
  ▶ Referee: Research, Department of Energy and National Science Foundation

College
  ▶ Member, Tenure and Promotion Advisory Committee

Department
  ▶ Chair, Departmental Promotions, Tenure, and Appointments
  ▶ Member, Quantum Optics Search
  ▶ Member, HE Phenomenology Search
  ▶ Member, HE String Theory Search
  ▶ Member, Department Computer Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ PHYS 616.600 — Methods of Theoretical Physics II (total enrollment: 5)
  ▶ PHYS 685.633 — Directed Studies (total enrollment: 3)
  ▶ PHYS 691.633 — Research (total enrollment: 4)

Summer
  ▶ PHYS 691.133 — Research (total enrollment: 1)
  ▶ PHYS 691.233 — Research (total enrollment: 1)
  ▶ PHYS 691.333 — Research (total enrollment: 2)

Fall
  ▶ PHYS 689.602 — Special Topics in (total enrollment: 28)
  ▶ PHYS 691.633 — Research (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004
  ▶ (REN) High Energy Physics, Department of Energy
  ▶ High Energy Physics at Texas A&M University, Department of Energy
International Collaboration on Gravitational Physics and Implications for M-Theory, University of Pennsylvania

**PRESENTATIONS DURING 2004**


**PUBLICATIONS DURING 2004**

- Cariglia, M; Gibbons, GW; Guven, R; Pope, CN. (2004) Nonabelian PP waves in D=4 supergravity theories Class. Quantum Grav., vol. 21, 2849.
- Cvetic, M; Gibbons, GW; Lu, H; Pope, CN. (2004) Orientifolds and slumps in G2 and Spin(7) metrics Annals of Physics, vol. 310, 265.
- Guven, R; Liu, JT; Pope, CN; Sezgin, E. (2004) Fine tuning and gauged N=(1,0) supergravity vacua Class. Quantum Grav., vol. 21, 1001.
- Kerimo, J; Liu, JT; Lu, H; Pope, CN. (2004) Variant N=(1,1) supergravity and (Minkowski)^4 x S^2 vacua Class. Quantum Grav., vol. 21, 3287.
Kerimo, J; Liu, JT; Lu, H; Pope, CN. (2004) Supergravities with Minkowski x Sphere 

Lu, H; Page, DN; Pope, CN. (2004) New inhomogeneous Einstein metrics on sphere bund-

Lu, H; Pope, CN; Sezgin, E. (2004) Yang-Mills-Cher-Simons supergravity Class. Quantum 
Grav., vol. 21, 2733.

Lu, H; Pope, CN; Stelle, KS. (2004) Higher-order corrections to non-compact Calabi-Yau 

Lu, H; Pope, CN; Stelle, KS; Townsend, PK. (2004) Superstring deformations of G2 
manifolds from higher-order corrections to string and M-theory Journal of High Energy 
Physics, vol. 0410, 019.

RALF RAPP

ASSISTANT PROFESSOR

PHYS

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• HONORS DURING 2004

National
   ▶ CAREER Award, National Science Foundation

• SERVICE DURING 2004

International
   ▶ Advisory Committee, International Workshop XXXIII on Gross Properties of Nuclei and Nuclear Excitations ”Probing QCD with High Energy Nuclear Collisions”
   ▶ Co-Chair/Organizer, “Quark Matter and Heavy Ions” at the International Conference on High Energy Physics
   ▶ Organizer, Trento ECT: Workshop on “Electromagnetic Probes of Hot and Dense Matter” (Italy)
   ▶ Session Chair, International Workshop on “Tracing deconfinement in nucleus-nucleus collisions”

National

College
   ▶ Conductor, RIKEN-Fellow/tenure-track position in Nuclear Theory at Texas A&M

Department
   ▶ Member, Nuclear Search Committee
   ▶ Member, Advisory Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
   ▶ PHYS 201.513-516 — College Physics (total enrollment: 96)
   ▶ PHYS 685.658 — Directed Studies (total enrollment: 1)

Summer
   ▶ PHYS 691.358 — Research (total enrollment: 1)

Fall
   ▶ PHYS 201.525-530 — College Physics (total enrollment: 142)
   ▶ PHYS 691.658 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
   ▶ New Faculty Start-Up Funds, College of Science
CAREER: Spectral Functions in Hot and Dense QCD Matter, *National Science Foundation*, coworkers: H. van Hees (P), D. Sun (G)

Quark-Hadron Duality in Matter, *UNFUNDED*

**PRESENTATIONS DURING 2004**

- “Hadrons below and above $T_c$,” International Workshop on Tracing deconfinement in nucleus-nucleus collisions, Trento, Italy, April, 2004. (Invited)
- “Light and Heavy Hadrons in Medium,” University of Frankfurt, Frankfurt, Germany, June, 2004. (Invited)
- “The $\Delta(1232)$ at RHIC,” International Workshop for Young Scientists on the Physics of Ultrarelativistic Nucleus-Nucleus Collisions (Hot Quarks ‘04), Taos Valley, NM, July, 2004. (Postdoc, H. van Hees)
- “The Vector Probe in Heavy-Ion Reactions,” International Workshop for Young Scientists on the Physics of Ultrarelativistic Nucleus-Nucleus Collisions (Hot Quarks ‘04), Taos Valley, NM, July, 2004. (Invited)
- “Light and Heavy Hadronic Modes below and above $T_c$,” Argonne National Laboratory, Argonne, IL, October, 2004. (Invited)
- “Medium Modifications of the $\Delta(1232)$,” APS-DNP Meeting, Chicago, IL, October, 2004. (Postdoc, H. van Hees)
- “Theoretical Predictions for Upsilon Production at RHIC and LHC,” APS-DNP Meeting, Chicago, IL, October, 2004. (Poster Graduate, S. Lumpkins)
- “Electromagnetic Radiation and In-Medium Effects,” European Graduate School Workshop on Hadrons in Medium, Giessen, Germany, November, 2004. (Invited)
- “Perspectives on RHIC-II: Heavy Ions and Hot and Dense Matter,” RHIC-II Science Workshop, Brookhaven National Laboratory, Upton, NY, November, 2004. (Invited)

**PUBLICATIONS DURING 2004**


• SERVICE DURING 2004

National
  ▶ Associate Editor, *Computer Physics Communications*

University
  ▶ Member, Writing Committee

College
  ▶ Member, Faculty Grievance Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ PHYS 202. — *College Physics* (total enrollment: 60)
  ▶ PHYS 685.634 — *Directed Studies* (total enrollment: 1)
  ▶ PHYS 691.634 — *Research* (total enrollment: 1)

Summer
  ▶ PHYS 202. — *College Physics* (total enrollment: 40)
  ▶ PHYS 691.134 — *Research* (total enrollment: 1)
  ▶ PHYS 691.234 — *Research* (total enrollment: 1)

• PRESENTATIONS DURING 2004

  ▶ “A critique of FHBS calculations for the doubly differential cross sections of ionized electrons following and ion-atom collision,” CAARI IIXX, Fort Worth, TX, November, 2004. (Graduate, J. Fu)
  ▶ “Classical and Quantal Methods in Atomic and Molecular Collisions,” CAARI IIXX, Fort Worth, TX, November, 2004. (Contributed)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Conference Organizer, APS sorting session
▷ Referee: Research, National Science Foundation

University
▷ Chair, Materials Science and Engineering Executive Committee
▷ Member, Interdepartmental Program Chairs Committee

College
▷ Member, College of Engineering Graduate Instruction Committee

Department
▷ Chair, Colloquium Committee
▷ Member, C.M. Experiment and Nanoscience Search Committees

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 208.807-810 — Electricity and Optics (total enrollment: 70)
▷ PHYS 685.635 — Directed Studies (total enrollment: 1)
▷ PHYS 691.635 — Research (total enrollment: 5)

Summer
▷ PHYS 222.300 — Modern Physics for Engineers (total enrollment: 23)
▷ PHYS 685.335 — Directed Studies (total enrollment: 2)
▷ PHYS 691.335 — Research (total enrollment: 2)

Fall
▷ PHYS 617.600 — Physics of the Solid State (total enrollment: 16)
▷ PHYS 691.635 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
▷ Phase Transitions, Pairing Mechanism, Electron-Quasiparticle Interaction and Flux Lattices in Rare-Earth Nickel Borocarbides, Civilian Research & Development Foundation (CRDF), coworkers: V. Goruganti (G)
▷ Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, National Science Foundation
Acquisition of a State-of-the-Art X-Ray Diffraction System for Magneto-Thermo-Mechanical Materials Characterization Research and Education, National Science Foundation

NIRT: Molecular Nanomagnets: Magnetic and Electronic Properties of Novel Magnetic Nanostructures and Nanostructured Materials, National Science Foundation

Demonstration of Nano-pinning for Terascale Information Storage, Telecommunications and Informatics Task Force

Nanomagnets for Mobile Computing and Telecommunications, Telecommunications and Informatics Task Force

Magnetism in Silicon Clathrate New Nanostructures, The Robert A. Welch Foundation

Determination of the Electronic Potential in a Lead-Acid Battery, UNFUNDED

Vortex Manipulation and Trappings of Encapsulated Magnets, UNFUNDED

• PRESENTATIONS DURING 2004
  “Atomic Tunneling in Clathrates and Related Materials,” Texas A&M University, College Station, TX, October, 2004.( Individual)
  “NMR Study of Atomic Hopping in Sr$_8$Ga$_{16}$Ge$_{30}$ Clathrate,” Texas Section of the American Physics Society, Waco, TX, October, 2004.( Graduate, W. Gou)
  Texas Section of the American Physics Society, Waco, TX, October, 2004.( Graduate, J. Chi)

• PUBLICATIONS DURING 2004
  Kong, DY; Li, Y; Xiang, OY; Prosvirin, AV; Zhao, HH; Ross, JH; Dunbar, KR; Clearfield, A. (2004) Syntheses, structure, and magnetic properties of new types of Cu(II), Co(II), and Mn(II) organophosphonate materials: Three-dimensional frameworks and a one-dimensional chain motif Chemistry of Materials, vol. 16, 3020-3031.
  Li, Y; Liu, Y; Duan, RF; Xiong, XT; Wang, BY; Cao, GH; Wei, L; Zheng, DN; Zhao, ZX; Ross, JH. (2004) Positron annihilation study of the O-T phase transition for Eu1+xBa2-xCu3O7-delta superconductors Physica C , vol. 402, 179-187.
  Li, Y; Yin, Z; Wang, Y; Cao, G; Ross, Jr., JH; Caplin, AD; Perkins, G; Wang, B; Wei, L. (2004) Flux pinning behavior and positron annihilation study on (Pb, Sn)-doped Bi-2212 superconductors Proc. Mater. Res. Soc., vol. EXS-3, 8.33.1.
• SERVICE DURING 2004

National
▷ Referee: Research, Department of Energy, National Science Foundation, Petroleum Research Fund

Department
▷ Member, Room 202 Renovation Committee
▷ Member, Cooperative Education and Scholarships Committee
▷ Member, High School Relations Committee
▷ Member, Graduate Advisors Committee
▷ Member, Awards Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 305.500 — Advanced Electricity and Magnetism II (total enrollment: 13)
▷ PHYS 685.636 — Directed Studies (total enrollment: 1)

Summer
▷ PHYS 208.301-305 — Electricity and Optics (total enrollment: 65)

Fall
▷ PHYS 101.500 — Topics in Contemporary Physics (total enrollment: 28)
▷ PHYS 304.500 — Advanced Electricity and Magnetism I (total enrollment: 38)

• RESEARCH PROJECTS DURING 2004
▷ Theory of Magnetic Heterostructures at the Submicron Scale, Department of Energy
▷ Determination of the Electronic Potential in a Lead-Acid Battery, UNFUNDED
▷ Multi Charge-Carrier Transport, UNFUNDED
▷ Superflow in Solid 4He, UNFUNDED

• PRESENTATIONS DURING 2004
▷ “Multi Charge-Carrier Transport: Batteries, Bathtubs, and Biology,” Rice University, Houston, TX, February, 2004.( Individual)
▷ “Superflow in Solid 4He,” Texas A&M University, College Station, TX, May, 2004.( Individual)
• PUBLICATIONS DURING 2004

HONORS DURING 2004

International
▷ N.G. Basov Award, Russian Academy of Science

RESEARCH PROJECTS DURING 2004
▷ Quantum Optics Initiative, Office of Naval Research

PRESENTATIONS DURING 2004
▷ “Optically Induced Magneto-Chiral Anisotropy in Rb Vapor,” Texas A&M University, Atomic Physics and Quantum Optics Seminar, College Station, TX, March, 2004.( Individual)

PUBLICATIONS DURING 2004
▷ Sautenkov, VA; Ye, CY; Rostovtsev, YV; Welch, GR; Scully, MO. (2004) Enhancement of field generation via maximal atomic coherence prepared by fast adiabatic passage in Rb vapor Physical Review A: Atomic Molecular and Optical Physics, vol. 70, 033406.
▷ Ye, CY; Sautenkov, VA; Rostovtsev, YV; Welch, GR; Scully, MO. (2004) Control of population and atomic coherence by adiabatic rapid passage and optimization of coherence anit-Stokes Raman scattering signal by maximal coherence Journal of Modern Optics, vol. 51, 2555.
• CHAIRS
  ▶ Schuessler/Mitchell/Heep Chair in Experimental Optical and Biomedical Physics [2004]

• SERVICE DURING 2004
  International
  ▶ Eminent Scientist, RIKEN (Nuclear Physics Laboratory in Tokyo, Japan)

  National
  ▶ Spokesperson, Laser Spectroscopy Collaboration at ISAC, TRIUMF (Vancouver)

  Department
  ▶ Group Leader, Laser Laboratory at the IBT (Houston)
  ▶ Group Leader, Stored Ion and Laser Physics Laboratory at TAMU
  ▶ Member, Awards Committee
  ▶ Member, Safety Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ PHYS 218.501-502 — Mechanics (total enrollment: 61)
  ▶ PHYS 218.504-507 — Mechanics (total enrollment: 83)
  ▶ PHYS 218.521-522 — Mechanics (total enrollment: 62)
  ▶ PHYS 691.637 — Research (total enrollment: 4)

  Summer
  ▶ PHYS 218.301-303 — Mechanics (total enrollment: 28)
  ▶ PHYS 691.137 — Research (total enrollment: 2)
  ▶ PHYS 691.237 — Research (total enrollment: 1)
  ▶ PHYS 691.337 — Research (total enrollment: 1)

  Fall
  ▶ PHYS 691.637 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
  ▶ Development of Submillimeter/Terahertz Instrumentation for Spectroscopy and Dynamics, National Science Foundation
  ▶ Electromagnetic and Informational Processes in Biomolecular Polymers, National Science Foundation
  ▶ Binary Switches and Signal Propagation within Networks of Biomolecular Polymers, Telecommunications and Informatics Task Force
• PRESENTATIONS DURING 2004
  ▶ “Spectroscopy on laser cooled atomic and molecular ions,” Japan Atomic Research Institute, Tokui Mura, Japan, July, 2004. (Individual)
  ▶ “Observing structure at the femto-meter scale,” University of Ulm, Ulm, Germany, November, 2004. (Individual)

• PUBLICATIONS DURING 2004
• **CHAIRS**
  ▶ Hershel E. Burgess Chair in Physics (Non-High Energy Physics) [1997]

• **ADDITIONAL UNIVERSITY TITLES HELD DURING 2004**
  ▶ Professor (J), Mechanical Engineering, [2004]
  ▶ Director, Institute for Quantum Studies (IQS), [2001]
  ▶ Director, Center for Theoretical Physics, [1995]

• **HONORS DURING 2004**
  National
  ▶ 2005 Arthur L. Schawlow Prize in Laser Science, American Physical Society

• **SERVICE DURING 2004**
  International
  ▶ Member, Auswärtiges Wissenschaftliches Mitglied at Max-Planck-Institut für Quantenoptik

  National
  ▶ Fellow, American Association for the Advancement of Science

• **TEACHING ASSIGNMENTS DURING 2004**
  Spring
  ▶ PHYS 689.600 — **Special Topics in** (total enrollment: 5)
  ▶ PHYS 691.638 — **Research** (total enrollment: 4)

  Summer
  ▶ PHYS 685.338 — **Directed Studies** (total enrollment: 1)
  ▶ PHYS 691.238 — **Research** (total enrollment: 1)
  ▶ PHYS 691.338 — **Research** (total enrollment: 4)

  Fall
  ▶ PHYS 691.638 — **Research** (total enrollment: 6)

• **RESEARCH PROJECTS DURING 2004**


CARS Experiments on the Signature of Dipicolinic Acid, *Department of Defense*

Maximal Coherence via Fractional STIRAP in Femtosecond Raman Experiments, *Office of Naval Research*

Precision Magnetometry in Optically Dense Coherent Media, *Office of Naval Research*, coworkers: P. Hsu (G), A. Zhang (G)

Quantum Chemistry Component of Quantum Optics Initiative-Molecular Calculations with Two-Center Correlated Orbitals and Dimensional Scaling, *Office of Naval Research*, coworkers: A. Svidzinsky (P)

Quantum Optics Initiative, *Office of Naval Research*, coworkers: A. Hill (Research Scientist), R. Xie (Research Scientist), N. Kalouguine (Research Staff), Y. Dou (P), N. Erez (P), A. Muthukrishnan (P), C. Ooi (P), A. Patnaik (P), V. Sautenkov (P), S. Hanna (G), K. Urtekin (G)

Quantum Optics Initiative, *Office of Naval Research*, coworkers: J. Giordmaine (Research Scientist), A. Hill (Research Scientist), F. Li (Research Scientist), M. Pilloff (Research Associate), Y. Rostovtsev (Assistant Research Scientist), N. Kalouguine (Research Staff), Y. Dou (P), N. Erez (P), K. Kapale (P), C. Ooi (P)

Real-Time Biological Warning Using Optical Raman Spectroscopy Enhanced by Maximal Coherence, *Office of Naval Research*


Rapid Sensing of Toxic Materials via Resonant Coherent Anti-Stokes Raman Scattering Excited with Femtosecond Pulses, *U.S. Army*

**PRESENTATIONS DURING 2004**


“From Lasing Without Inversion and Ultra Slow Light to Quantum Eraser and Quantum Microscopy,” University of Texas, Austin, TX, February, 2004. (Individual)

“Quantum Coherence Effects from QED to DNA,” DARPA Meeting, New Orleans, LA, February, 2004. (Individual)


- "From Lasing Without Inversion and Ultra Slow Light to Quantum Eraser and Quantum Microscopy," University of California, San Diego, CA, April, 2004. (Individual)
- "Quantum Controversies: From Maxwell’s Demon and Quantum Eraser to Black Hole Radiation," Condensed Matter Seminar, Texas A&M University, College Station, TX, April, 2004. (Individual)
- "Using Quantum Mechanics to Detect Anthrax," The Lindsay Seminar, Chemical Engineering Department, Texas A&M University, College Station, TX, April, 2004. (Individual)
- "Using Quantum Mechanics to Detect Anthrax (and much more),” NSF REU Program, Department of Chemistry, Texas A&M University, College Station, TX, June, 2004. (Individual)
- Final Keynote Address, Fields Institute Conference on Quantum Information and Quantum Control, University of Toronto, Toronto, Canada, July, 2004. (Individual)

• PUBLICATIONS DURING 2004
Muthukrishnan, A; Scully, MO; Zubairy, MS. (2004) Quantum microscopy using photon correlations *Journal of Optics B: Quantum and Semiclassical Optics*, vol. 6(6), S575-S582.


Sautenkov, VA; Rostovtsev, YV; Ye, CY; Welch, GR; Kocharovskaya, O; Scully, MO. (2004) Electromagnetically induced transparency with mode locked laser in Rb vapor *Izvestia Vusov- Radiofizika*, vol. 47, N 10-11.


Ye, CY; Sautenkov, VA; Rostovtsev, YV; Welch, GR; Scully, MO. (2004) Control of population and atomic coherence by adiabatic rapid passage and optimization of coherent anti-Stokes Raman scattering by maximal coherence *Journal of Modern Optics*, vol. 51, 2555.

• **SERVICE DURING 2004**

  **National**
  ▶ Referee: Research, National Science Foundation

  **Department**
  ▶ Chair, High Energy Search Committee

• **TEACHING ASSIGNMENTS DURING 2004**

  **Spring**
  ▶ PHYS 208.521-523 — *Electricity and Optics* (total enrollment: 62)
  ▶ PHYS 691.639 — *Research* (total enrollment: 2)

  **Summer**
  ▶ PHYS 691.139 — *Research* (total enrollment: 1)
  ▶ PHYS 691.339 — *Research* (total enrollment: 1)

  **Fall**
  ▶ PHYS 302.500 — *Advanced Mechanics* (total enrollment: 36)
  ▶ PHYS 485.539 — *Directed Studies* (total enrollment: 2)
  ▶ PHYS 691.639 — *Research* (total enrollment: 2)

• **RESEARCH PROJECTS DURING 2004**
  ▶ Elementary Particle Theory, *National Science Foundation*, coworkers: P. Howe (Visiting Scientist), D. Jong (P), K. Murakami (P)
  ▶ Superflow in Solid 4He, *UNFUNDED*, coworkers: S. Jolad (G)
  ▶ Transport in Multi-Carrier Charge Systems, *UNFUNDED*

• **PRESENTATIONS DURING 2004**
  ▶ “Developments in Higher Spin Gauge Theory,” Texas A&M University, College Station, TX, February, 2004. (Individual)
  ▶ “Mini Workshop on Developments in M-theory,” 2 Lectures, Bosphorous University, Istanbul, Turkey, August, 2004. (Invited)
  ▶ “The Supermembrane Revisited,” Texas A&M University, College Station, TX, November, 2004. (Individual)
• PUBLICATIONS DURING 2004


▷ Guven, R; Liu, JT; Pope, CN; Sezgin, E. (2004) Fine Tuning the Six-Dimensional Gauged N=(1,0) Supergravity Vacua *Class. Quantum Grav.*, vol. 21, 1001.


• SERVICE DURING 2004

Department
▷ Chair, Nano-science Search Committee
▷ Chair, Condensed Matter Theory Search Committee
▷ Chair, Condensed Matter Experimental Search Committee
▷ Member, Phenomenology Search Committee
▷ Organizer, Condensed Matter Seminar

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 202.513-515 — College Physics (total enrollment: 56)
▷ PHYS 685.659 — Directed Studies (total enrollment: 1)

Summer
▷ PHYS 691.359 — Research (total enrollment: 1)

Fall
▷ PHYS 485.559 — Directed Studies (total enrollment: 2)
▷ PHYS 691.659 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004

▷ “Universal intrinsic spin-Hall effect,” American Physical Society, Montreal, Canada, March, 2004.( Invited)
▷ “Experimental discovery of the spin-Hall effect in Rashba spin-orbit coupled semiconductor systems,” Centro de Investigacion Cientifica, Spain, October, 2004.( Individual)
▷ “Spin Hall effect: theory and experiment,” University of Delaware, Newark, DE, December, 2004.( Individual)

• PUBLICATIONS DURING 2004


Polini, M; Fazio, R; Tosi, MP; Sinova, J; MacDonald, AH. (2004) Frustration of a bose Gas inside an optical lattice Laser Physics, vol. 14, 603-608.


Sinova, J; Jungwirth, T; Liu, X; Sasaki, Y; Furdyna, JK; Atkinson, WA; MacDonald, AH. (2004) Magnetization relaxation in (Ga,Mn)As ferromagnetic semiconductors Physics Letters B, vol. 69, 085209.

ALEXEI SOKOLOV
ASSISTANT PROFESSOR (979) 845-7733
PHYS-Experimental Quantum Optics sokol@physics.tamu.edu

• SERVICE DURING 2004

International
▷ Referee: Research, International Science Foundation

National
▷ Member, CLEO/IQEC Conference
▷ Referee: Research, National Science Foundation

University
▷ Member, University contact/advisory group for Undergraduate Research

College
▷ Judge, Brazos Valley Regional Science and Engineering Fair
▷ Participant/Presenter, Exploration Place 2004

Department
▷ Coordinator, Chemistry Open House & Science Exploratorium
▷ Member, Quantum Optics Faculty Search Committee
▷ Member, Nanoscience Faculty Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 485.554 — Directed Studies (total enrollment: 2)
▷ PHYS 691.654 — Research (total enrollment: 5)

Summer
▷ PHYS 685.354 — Directed Studies (total enrollment: 1)
▷ PHYS 691.154 — Research (total enrollment: 1)
▷ PHYS 691.254 — Research (total enrollment: 1)
▷ PHYS 691.354 — Research (total enrollment: 2)

Fall
▷ PHYS 218.517-520 — Mechanics (total enrollment: 88)
▷ PHYS 691.654 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
▷ Sub-Cycle Optical Pulse Shaping by Parametric Beating with Adiabatically Prepared Raman Coherence, National Science Foundation, coworkers: A. Chugreey (P), A. Burzo (G), J. Peng (G), M. Zhi (G), J. Krause (U)
▷ Quantum Optics Initiative, Office of Naval Research, coworkers: J. Peng (G), L. Wang (G), M. Zhi (G)
▷ Real-Time Biological Warning Using Optical Raman Spectroscopy Enhanced by Maximal Coherence, Office of Naval Research, coworkers: J. Peng (G), D. Pestov (G), L. Wang (G)
▷ Sub-cycle Optical Pulse Shaping for Precise Control of Electronic and Nuclear Motion, Research Corporation, coworkers: A. Burzo (G), M. Zhi (G)
▷ Multiple Raman Scattering in Solids for the New Coherent Sources of Ultrashort Pulses, Texas Advanced Research Program
▷ Femtosecond Light Source Synchronized with Molecular Motion: A Unique Tool for Studying Ultrafast Molecular Dynamics, The Robert A. Welch Foundation, coworkers: A. Chugreev (P), A. Burzo (G), J. Peng (G), M. Zhi (G)
▷ Classical Analogs of EIT, slow light, and stopped light, UNFUNDED, coworkers: B. Winegar (U)
▷ Injection-seeded Molecular Modulator for Compression of Intense Femtosecond Pulses, UNFUNDED, coworkers: A. Chugreev (P), J. Peng (G)
▷ Nuclear Collisions Induced by Single-Cycle Laser Pulses: Molecular Approach to Fusion, UNFUNDED, coworkers: M. Zhi (G), G. Hodges (U)

• PRESENTATIONS DURING 2004
▷ “Keldysh model for multiphoton ionization by single cycle pulses timed with respect to the molecular motion,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004.(Poster Graduate, A. Burzo)
▷ “Multiphoton ionization by single cycle pulses synchronized with molecular motion,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004.(Poster Graduate, A. Burzo)
▷ “Nuclear collisions induced by single-cycle laser pulses: Molecular approach to fusion,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004.(Poster Graduate, M. Zhi)
▷ “Perspective sub-cycle field shaping by molecular modulation, and its potential applications,” 34th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT, January, 2004. (Invited)
▷ “Maximal coherence at work: Sub-cycle optical pulse shaping by molecular modulation,” AMO Physics Seminar, Texas A&M University, College Station, TX, February, 2004.
▷ “Additive Raman Technique for Generation and Control of Single Cycle Pulses,” APS Meeting, Texas Section, Baylor University, Waco, TX, October, 2004.( Graduate, A. Burzo)
▷ “Nuclear collisions induced by single-cycle laser pulses: Molecular approach to fusion,” APS Meeting, Texas Section, Baylor University, Waco, TX, October, 2004.( Graduate, M. Zhi)

• PUBLICATIONS DURING 2004

WINFRIED TEIZER

ASSISTANT PROFESSOR
PHYS-Condensed Matter Physics
(979) 845-7730
teizer@tamu.edu

• HONORS DURING 2004

College
▷ Montague-Center for Teaching Excellence Scholar, Center for Teaching Excellence

• SERVICE DURING 2004

National
▷ Referee: Research, National Science Foundation

Department
▷ Co-Chair, Ad-Hoc Recruiting Subcommittee
▷ Co-Organizer, Departmental Barbeque
▷ Member, Faculty Search Committee
▷ Member, Graduate Admissions Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 218.513-516 — Mechanics (total enrollment: 100)
▷ PHYS 425.500 — Physics Laboratory (total enrollment: 8)
▷ PHYS 685.655 — Directed Studies (total enrollment: 2)
▷ PHYS 691.655 — Research (total enrollment: 7)

Summer
▷ PHYS 485.355 — Directed Studies (total enrollment: 2)
▷ PHYS 685.355 — Directed Studies (total enrollment: 3)
▷ PHYS 691.155 — Research (total enrollment: 1)
▷ PHYS 691.255 — Research (total enrollment: 1)
▷ PHYS 691.355 — Research (total enrollment: 5)

Fall
▷ PHYS 691.655 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004

▷ Montague-Center for Teaching Excellence Scholarship: Strengthening the Texas A&M Curriculum in Nanotechnology, Center for Teaching Excellence
▷ Center for Nanoscale Science and Technology, College of Science, coworkers: A. Ford (G), K. Kim (G)
- Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, National Science Foundation
- NUE: Nanoscale Issues in Manufacturing, National Science Foundation
- Sandia/Texas A&M University Doctoral Fellowship in Science Excellence in Science Fellowship, Sandia National Laboratories, coworkers: J. Means (G)
- Acquisition of an Introductory Electron Beam Lithography System, Texas A&M University
- Miniaturized SQUIDs- A Novel Approach to Magnetic Detectors, Texas A&M University International Center
- Specific Heat Measurement of Molecular Magnet Monolayer Films, Texas A&M University International Center
- Spin Hall Effect, Texas Advanced Research Program
- Enhanced Anisotropy of Molecular Nanomagnets, The Robert A. Welch Foundation
- Determination of the Electronic Potential in a Lead-Acid Battery, UNFUNDED

**PRESENTATIONS DURING 2004**

- “Molecular Magnets,” Institute Seminar at Universität Hannover, Hannover, Germany, 2004. (Individual)
- “Nanotechnology - Vision and Implementation,” Texas A&M University, College Station, TX, 2004. (Individual)
- “Single Molecule Magnets - The Ultimate Frontier in Magnetism,” Department of Advanced Materials Science, University of Tokyo, Tokyo, Japan, 2004. (Individual)
- “Single Molecule Magnets - The Ultimate Frontier in Magnetism,” Institute for Solid State Physics, University of Tokyo, Tokyo, Japan, 2004. (Individual)
- “Single Molecule Magnets - The Ultimate Frontier in Magnetism,” Trinity University, San Antonio, TX, 2004. (Individual)
- “A Simple Way to Pattern Mn$_{12}$-acetate This Films,” APS Meeting, Montreal, Canada, March, 2004. (Contributed)
- “Fabrication of Mn$_{12}$-acetate Molecular Magnet Thin Films by the Dip-and-Dry Method,” APS Meeting, Montreal, Canada, March, 2004. (Contributed)
- “Magnetic properies of Mn$_{12}$-acetate films,” APS Meeting, Montreal, Canada, March, 2004. (Contributed)

**PUBLICATIONS DURING 2004**


Kim, K; Seo, D; Means, J; Meenakshi, V; Teizer, W; Zhao, H; Dunbar, K. (2004) Lithographic Patterns of Molecular Magnets *Applied Physics Letters*, vol. 85, 3872-3874.


• HONORS DURING 2004

University
▷ Distinguished Achievement College-Level Award in Teaching, Association of Former Students

• SERVICE DURING 2004

National
▷ Editorial Board, Search for New Physics in the WH → WWW* final state
▷ Member, MIT Undergraduate Admissions Educational Council

Department
▷ Chair, High Energy Experiment Faculty Search
▷ Member, Physics 218/208 Textbook Review Committee
▷ Member, High Energy Theory Faculty Search Committee
▷ Member, Department of Physics Graduate Admissions Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 218.509-512 — Mechanics (total enrollment: 73)
▷ PHYS 691.651 — Research (total enrollment: 2)

Summer
▷ PHYS 691.151 — Research (total enrollment: 1)
▷ PHYS 691.399 — Research (total enrollment: 1)

Fall
▷ PHYS 218.513-516 — Mechanics (total enrollment: 91)
▷ PHYS 691.651 — Research (total enrollment: 1)
▷ PHYS 691.699 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004

▷ (REN) High Energy Physics, Department of Energy
▷ High Energy Physics at Texas A&M University, Department of Energy
▷ Large Hadron Collider, UNFUNDED, coworkers: M. Goncharov (P), A. Aurisano (G), P. Wagner (G), P. Simeon (U)

• PRESENTATIONS DURING 2004

• “A method of using the HADTDC system to reject large MET events with out-of-time energy,” CDF Calorimeter Meeting, Fermilab, IL, March, 2004. (Individual)
• “A method of using the HADTDC system to reject large MET events with out-of-time energy,” CDF Photon Meeting, Fermilab, IL, March, 2004. (Individual)
• “A method of using the HADTDC system to reject large MET events with out-of-time energy,” CDF Supersymmetry Group Meeting, Fermilab, IL, March, 2004. (Individual)
• “A method of using the HADTDC system to reject large MET events with out-of-time energy: Answers to questions,” CDF Supersymmetry Group Meeting, Fermilab, IL, April, 2004. (Individual)
• “Searching for New Physics with Photons and Missing Energy at CDF: Recent Results, Upgrades and Prospects,” Texas A&M University, HEP Lunch Seminar, College Station, TX, April, 2004. (Individual)
• “Prospects of a search for neutral, long-lived particles using the EMTiming system at CDF,” New Perspectives Conference, Fermilab, IL, June, 2004. (Graduate, P. Wagner)
• “Prospects of a search for neutral, long-lived particles using photon timing at CDF,” Annual Meeting of the Division of Particles and Fields (DPF) of the American Physical Society (APS), University of California, Riverside, CA, August, 2004. (Graduate, P. Wagner)
• “An advantage of setting cross section limits on the total production mechanism when multiple processes produce the same final state,” Texas Section of APS meeting, Baylor University, Waco, TX, October, 2004. (Contributed)
• “Searching for New Particles at the Fermilab Tevatron,” Texas A&M University, Department Colloquium, College Station, TX, October, 2004. (Individual)
• “Signals in the Co-annihilation Region of Supersymmetry at the LHC,” Texas Section of APS meeting, Baylor University, Waco, TX, October, 2004. (Graduate, A. Aurisano)
• “Searching for New Particles at the Fermilab Tevatron,” The State University of New York, Department Colloquium, Buffalo, NY, November, 2004. (Invited)

• PUBLICATIONS DURING 2004
  • Abazov, VM; et. al.. (2004) Combination of CDF and D0 results on W Boson mass and width *Physical Review D: Particles and Fields*, vol. 70, 092008.
Acosta, D; et. al.. (2004) Measurement of the Polar Angle Distribution of Leptons from $W$ Boson Decay as a Function of the $W$ Transverse Momentum in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV Physical Review D: Particles and Fields, vol. 70, 032004.


Acosta, D; et. al.. (2004) Search for Pair Production of Scalar Top Quarks in $R$-parity Violating Decay Modes in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV Physical Review Letters, vol. 92, 051803.

Acosta, D; et. al.. (2004) Observation of the Narrow State $X(3872) \rightarrow J/\psi \pi^+\pi^-$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV Physical Review Letters, vol. 93, 072001.

Acosta, D; et. al.. (2004) Search for Doubly-Charged Higgs Bosons Decaying to Dileptons in $b\bar{b}$ Collisions at $\sqrt{s} = 1.96$ TeV Physical Review Letters, vol. 93, 221802.


Acosta, D; et. al.. (2004) Measurement of the $t\bar{t}$ Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV Physical Review Letters, vol. 93, 142001.

Acosta, D; et. al.. (2004) Search for $B^- \rightarrow \mu^+\mu^-$ and $B^- \rightarrow \mu^+\mu^-$ Decays in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV Physical Review Letters, vol. 93, 032001.


• SERVICE DURING 2004

International
▷ Chair, NSERC EMMA review committee, TRIUMF, Vancouver, B.C.
▷ Member, Helmholtz Program Review, Darmstadt, Germany
▷ Member, Experiments Evaluation Committee, TRIUMF, Vancouver, British Columbia

National
▷ Chair, Program Advisory Committee, LANSCE, Los Alamos National Laboratory
▷ Member, National Science Foundation site review: Indiana Univ.
▷ Member, IPECC
▷ Referee: Research, NSF, DOE, and CRDF

College
▷ Member, Executive Committee

Department
▷ Member, Department of Energy site reviews: MIT, LANL
▷ Member, SAPCC
▷ Member, Departmental PTAA Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 691.640 — Research (total enrollment: 7)

Summer
▷ PHYS 485.300 — Directed Studies (total enrollment: 11)
▷ PHYS 691.340 — Research (total enrollment: 5)

Fall
▷ PHYS 691.640 — Research (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004

▷ Cyclotron-Based Nuclear Science, Department of Energy, coworkers: V. Goldberg (Visiting Scientist), L. Trache (Research Scientist), A. Zhanov (Research Scientist), J. Brinkley (G), C. Fu (G), L. Pappalardo (G), Y. Zhai (G), M. McCleskey (U)
▷ Extending the Capabilities of the Texas A&M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, Department of Energy
▷ (REN) QCD and Standard Model Studies, Department of Energy
▷ Cooperative Agreement-Czech Republic, National Science Foundation
International: Asymptotic Normalization Co-Efficients in Nuclear Astrophysics, National Science Foundation

Extending the Capabilities of the Texas A&M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004


• PUBLICATIONS DURING 2004

- Adams, J; et. al. (2004) Production of $e^+e^-$ pairs accompanied by nuclear dissociation in ultra-peripheral heavy ion collisions Physical Review C: Nuclear Physics, vol. 70, 031902.
- Adams, J; et. al. (2004) Rapidity and centrality dependance of proton and antiproton production from $^{197}Au+^{197}Au$ collisions at $\sqrt{s_{NN}}= 130$ GeV Physical Review C: Nuclear Physics, vol. 70, 041901.


Blackmon, JC; Bardayan, DW; Bardayan, DW; Brune, CR; Carstoiu, F; Champagne, AE; Crespo, R; Davinson, T; Fernandes, JC; Gagilardi, GA; Gerife, U; Gross, GJ; Hausladen, PA; Iliadis, C; Jewett, CC; Kozub, RL; Lewis, TA; Liang, F; Moazen, BH; Mukhamedzhanov, AM; Nesaraja, CD; Nunes, FM; Parker, PD; Radford, DC; Sahin, L; Scott, JP; Shapira, D; Smith, MS; Thomas, JS; Trache, L; Tribble, RE; Woods, PJ; Yu, C-H. (2004) The $^{17}$F($p, \gamma$)$^{18}$Ne Direct Capture Cross Section *Nuclear Physics A*, vol. **746**, 365c.


Goldberg, VZ; Chubarian, GG; Tabacaru, G; Trache, L; Tribble, RE; Aprahamian, A; Rogachev, GV; Skorodumov, BB; Tang, XD. (2004) Low-lying levels in $^{15}$F and the shell model potential for drip- line nuclei *Physical Review C: Nuclear Physics*, vol. **69**, 031302.

Moretto, S; Fabris, D; Lunardon, M; Presente, S; Rizzi, V; Viesti, G; Barbui, M; Cinausero, M; Fioretto, E; Prete, G; Brondi, A; Vardaci, E; Lucarelli, F; Azhari, Z; Hagel, K; Ma, Y; Makeev, A; Murray, M; Natowitz, JB; Qin, L; Smith, P; Tang, XD; Trache, L; Tribble, RE; Wada, R; Wang, J. (2004) Search for temperature and N/Z dependent effects in the decay of A=98 compound nuclei *Physical Review C: Nuclear Physics*, vol. **69**, 044604.

Tang, X; Azhari, A; Fu, C; Gagliardi, CA; Mukhamedzhanov, AM; Pirelesosov, F; Trache, L; Tribble, RE; Burjan, V; Kroha, V; Carstoiu, F; Irgaziev, BF. (2004) Determination of the direct capture contribution for $^{13}$N($p, \gamma$)$^{14}$O from the $^{14}$O $\rightarrow$ $^{13}$N + p asymptotic normalization coefficient *Physical Review C: Nuclear Physics*, vol. **69**, 055807.

Trache, L; Carstoiu, F; Gagliardi, CA; Mukhamedzhanov, AM; Tribble, RE. (2004) Breakup of loosely bound nuclei at intermediate energies as indirect method in nuclear astrophysics: $^8$B, $^9$C and the $S_{17}$, $S_{18}$ astrophysical factors *Nuclear Physics A*, vol. **746**, 625c.

Trache, L; Carstoiu, F; Gagliardi, CA; Tribble, RE. (2004) Breakup of $^8$B and the $S_{17}$ astrophysical factor reexamined *Physical Review C: Nuclear Physics*, vol. **69**, 032802.

THOMAS WALTHER

ASSISTANT PROFESSOR
PHYS

On leave.
• SERVICE DURING 2004

University
▷ Chair, FacultySenate Research Committee
▷ Member, Council of Principal Investigators

College
▷ Member, Diversity Committee

Department
▷ Chair, Long Range Planning Committee
▷ Chair, High Energy Physics Theory Faculty Search Committee
▷ Member, 218/208 Textbook Review Committee
▷ Member, Nuclear Physics Search Committee
▷ Member, Experimental HEP Search Committee
▷ Member, Astronomy Search Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 208.501-505 — Electricity and Optics (total enrollment: 111)
▷ PHYS 691.641 — Research (total enrollment: 1)

Summer
▷ PHYS 208.301-305 — Electricity and Optics (total enrollment: 59)
▷ PHYS 685.341 — Directed Studies (total enrollment: 1)
▷ PHYS 691.341 — Research (total enrollment: 1)

Fall
▷ PHYS 208.520 — Electricity and Optics (total enrollment: 22)
▷ PHYS 208.525-528 — Electricity and Optics (total enrollment: 28)
▷ PHYS 685.341 — Directed Studies (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
▷ (REN) High Energy Physics, Department of Energy
▷ High Energy Physics at Texas A&M University, Department of Energy
▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
• PRESENTATIONS DURING 2004
  ▶ “Update on the MINOS Experiment at the Fermilab Main Injector,” DARK 2004, Texas
  A&M University, College Station, TX, October, 2004. (Invited)

• PUBLICATIONS DURING 2004
  ▶ Adamson, P; et. al. (2004) On the linearity of the MINOS light-injection calibration
  ▶ Aglietta, M; et. al. (2004) The cosmic ray proton, helium and CNO fluxes in the 100-
    TeV energy region from TeV muons and EAS atmospheric Cherenkov light observations
    of MACRO and EAS-TOP Astroparticle Physics, vol. 21, 223.
  ▶ Ambrosio, M; et. al. (2004) Search for stellar gravitational collapses with the MACRO
  ▶ Ambrosio, M; et. al. (2004) Measurements of atmospheric muon neutrino oscillations,
    global analysis of the data collected with MACRO detector European Physical Journal C,
    vol. 36, 323.
• SERVICE DURING 2004

University
▷ Member, Council of Principal Investigators

College
▷ Member, Faculty Advisory Committee

Department
▷ Chair, Graduate Curriculum Committee
▷ Interim Chair, Undergraduate Curriculum Committee
▷ Member, Advisory Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 306.502 — Basic Astronomy (total enrollment: 104)
▷ PHYS 306.503 — Basic Astronomy (total enrollment: 99)
▷ PHYS 691.642 — Research (total enrollment: 2)

Summer
▷ PHYS 691.342 — Research (total enrollment: 1)

Fall
▷ PHYS 691.642 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Cross-Sectional Scanning Tunneling Microscopy, Air Force Office of Scientific Research
▷ Cross-Sectional Scanning Microscopy Analysis of Interband Cascade Laser Heterostructures, Army Research Office
▷ Atomic Scale Control of InAs/GaInSb Strained-Layer Superlattices for LWIR Focal Plane Arrays, Department of Defense
▷ Characterization and Control of Interfacial Structure in Type-II Superlattices and Quantum Wells, National Science Foundation

• PUBLICATIONS DURING 2004

GEORGE R. WELCH

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PHYS-Quantum Optics grw@tamu.edu

• SERVICE DURING 2004

National
▷ Organizer, 34th Winter Colloquium on Quantum Electronics

College
▷ Member, Undergraduate Curriculum Committee

Department
▷ Chair, Computer Committee
▷ Member, Promotions, Tenure, and Appointments
▷ Member, Long-Range Planning Committee
▷ Member, Undergraduate Curriculum Committee
▷ Member, Physics 218/208 Textbook Review Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 208.506-510 — Electricity and Optics (total enrollment: 108)
▷ PHYS 691.643 — Research (total enrollment: 2)

Summer
▷ PHYS 691.343 — Research (total enrollment: 2)

Fall
▷ PHYS 218.807-809 — Mechanics (total enrollment: 97)
▷ PHYS 691.643 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Non-Stationary Data Compression, Adaptive Rate Modulation, and Time Varying Estimation, Air Force Office of Scientific Research
▷ Spin-Based Lattice-Gas Quantum Optics in Solids Using Optical Addressing, Air Force Office of Scientific Research
▷ Studies in Quantum Optics, Air Force Office of Scientific Research
▷ Coherent Control of Nuclear Transitions, National Science Foundation
▷ Magnetometry and Atomic Coherence Studies in Cold Atoms, Office of Naval Research
▷ Precision Magnetometry in Optically Dense Coherent Media, Office of Naval Research
▷ Precision Magnetometry in Optically Dense Coherent Media, Office of Naval Research
• PRESENTATIONS DURING 2004
  ▶ “Anomalous Stimulated Scattering of Sound Waves via Ultra-Slow Light,” Quantum Optics Seminar, Texas A&M University, College Station, TX, March, 2004. (Individual)

• PUBLICATIONS DURING 2004
  ▶ Sautenkov, VA; Rostovtsev, YV; Ye, CY; Welch, GR; Kocharovskaya, O; Scully, MO. (2004) Electromagnetically induced transparency with mode locked laserin Rb vapour Izvestia Vusov- Radiofizika, vol. 47, N 10-11.
  ▶ Sautenkov, VA; Ye, CY; Rostovtsev, YV; Welch, GR; Scully, MO. (2004) Enhancement of field generation via maximal atomic coherence prepared by fast adiabatic passage in Rb vapor Physical Review A: Atomic Molecular and Optical Physics, vol. 70, 033406.
  ▶ Ye, CY; Sautenkov, VA; Rostovtsev, YV; Welch, GR; Scully, MO. (2004) Control of population and atomic coherence by adiabatic rapid passage and optimization of coherent anti-Stokes Raman scattering signal by maximal coherence Journal of Modern Optics, vol. 51, 2555-2569.
• SERVICE DURING 2004

College
➤ Volunteer, Hawking Science Fair

Department
➤ Member, High Energy Experiment Search
➤ Member, High Energy Theory Search Committee
➤ Member, Performance Evaluation Committee
➤ Member, Awards Committee
➤ Member, Astronomy Committee
➤ Member, Computer Committee
➤ Volunteer, Chemistry Science Fair

• TEACHING ASSIGNMENTS DURING 2004

Spring
➤ PHYS 485.544 — Directed Studies (total enrollment: 3)
➤ PHYS 666.600 — Scientific Instrument Making (total enrollment: 9)
➤ PHYS 691.644 — Research (total enrollment: 1)

Summer
➤ PHYS 666.300 — Scientific Instrument Making (total enrollment: 9)
➤ PHYS 666.301 — Scientific Instrument Making (total enrollment: 9)
➤ PHYS 691.344 — Research (total enrollment: 2)

Fall
➤ PHYS 218.201-203(H) — Mechanics (total enrollment: 44)
➤ PHYS 218.509-512 — Mechanics (total enrollment: 126)
➤ PHYS 306.503 — Basic Astronomy (total enrollment: 100)
➤ PHYS 666.600 — Scientific Instrument Making (total enrollment: 9)
➤ PHYS 691.644 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
➤ A High-Pressure Neon-Based Detector for Underground Physics, Department of Energy, coworkers: J. Maxin (G), G. Salinas (G), J. Miller (U)
➤ (REN) High Energy Physics, Department of Energy, coworkers: J. Gao (G), J. Maxin (G), J. Miller (G), R. Blessitt (U)
➤ High Energy Physics at Texas A&M University, Department of Energy
Request for Operating Funds for Zeplin II and R&D Support for Zepling IV - A New Liquid Xenon Detector, *National Science Foundation*, coworkers: J. Gao (G)

Solid Xenon Particle Detector, *Texas Advanced Research Program*, coworkers: J. Gao (G), J. Maxin (G), G. Salinas (U), J. Seifert (U)

**PRESENTATIONS DURING 2004**

- “A Study of Wavelength shifting Readout Methods for Noble Element-based Particle Detectors,” APS Meeting, Waco, TX, October, 2004. (Graduate, R. Blessitt)
- “Crystalline Xenon Particle Detector,” APS Meeting, Waco, TX, October, 2004. (Graduate, J. Maxin)
- “Development of a High Pressure Gaseous Neon Based Detector for Dark Matter Searches,” APS Meeting, Waco, TX, October, 2004. (Graduate, G. Salinas)
- “Gated Cesium Iodide Photocathode for Particle Detectors,” APS Meeting, Waco, TX, October, 2004. (Graduate, J. Miller)
- “SIGN, A Discrimination Dark Matter Detector based on Scintillation and Ionization in Gaseous Neon,” Dark 2004 - 5th International Heidelberg Conference on Dark Matter in Astro and Particle Physics, Texas A&M University, College Station, TX, October, 2004. (Individual)
- “The Zepin II Dark Matter Experiment,” APS Meeting, Waco, TX, October, 2004. (Graduate, J. Gao)

**PUBLICATIONS DURING 2004**

WENHAO WU

ASSOCIATE PROFESSOR
PHYS

wwu@physics.tamu.edu

▷ On leave
• SERVICE DURING 2004
  National
  ▶ Referee: Journals, Physical Review C

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ PHYS 208.516-520 — Electricity and Optics (total enrollment: 107)
  ▶ PHYS 691.645 — Research (total enrollment: 1)
  Summer
  ▶ PHYS 691.345 — Research (total enrollment: 1)
  Fall
  ▶ PHYS 208.501-505 — Electricity and Optics (total enrollment: 96)
  ▶ PHYS 691.645 — Research (total enrollment: 1)

• RESEARCH PROJECTS DURING 2004
  ▶ Cyclotron-Based Nuclear Science, Department of Energy
  ▶ (REN) Study of Nuclei at High Excitations, The Robert A. Welch Foundation

• PRESENTATIONS DURING 2004
  ▶ “Giant Monopole Resonance in Cd and Sn Isotopes,” XXXIX Zakopane School of Physics, International Symposium in Atomic Nuclei at Extreme Values of Temperatures, Spin and Isospin, Zakopane, Poland, August, 2004. (Invited)

• PUBLICATIONS DURING 2004
  ▶ Lui, YW; Youngblood, DH; Tokimoto, Y; Clark, HL; John, B. (2004) Isoscalar Multipoles Strength in $^{110}$Cd and $^{116}$Cd Physical Review C: Nuclear Physics, vol. 69, 034611.
  ▶ Youngblood, DH; Lui, YW; Clark, HL; John, B; Tokimoto, Y; Chen, X. (2004) Isoscalar E0-E3 Strength in $^{116}$Sn, $^{144}$Sm, $^{154}$Sm and $^{208}$Pb Physical Review C: Nuclear Physics, vol. 69, 034315.
  ▶ Youngblood, DH; Lui, YW; John, B; Tokimoto, Y; Clark, HL; Chen, X. (2004) Compression Mode Resonances in $^{90}$Zr Physical Review C: Nuclear Physics, vol. 69, 054312.
• SERVICE DURING 2004

International
▷ Co-Director, International Workshop on Quantum Informatics

National
▷ Co-Chair, SPIE Conference on Fluctuations and Noise in Photonics and Quantum Optics III
▷ Member, SPIE Conference on Noise and Information in Nanoelectronics

Department
▷ Chair, Search Committee for Quantum Optics
▷ Member, Graduate Admissions Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ PHYS 685.653 — Directed Studies (total enrollment: 1)
▷ PHYS 689.606 — Special Topics in (total enrollment: 30)
▷ PHYS 691.653 — Research (total enrollment: 3)

Summer
▷ PHYS 691.153 — Research (total enrollment: 1)
▷ PHYS 691.253 — Research (total enrollment: 2)
▷ PHYS 691.353 — Research (total enrollment: 2)

Fall
▷ PHYS 648.600 — Quantum Optics and Laser Physics (total enrollment: 8)
▷ PHYS 691.653 — Research (total enrollment: 5)

• RESEARCH PROJECTS DURING 2004

▷ Non-Stationary Data Compression, Adaptive Rate Modulation, and Time Varying Estimation, Air Force Office of Scientific Research, coworkers: J. Chang (G), O. Cizmeci (G), H. Xiong (G)
▷ Quantum Optical Implementations of Quantum Computing and Quantum Informatics Protocols, Air Force Office of Scientific Research, coworkers: T. Zapata (Technician), T. Di (G), H. Xiong (G)
▷ Spin-Based Lattice-Gas Quantum Optics in Solids Using Optical Addressing, Air Force Office of Scientific Research
▷ Studies in Quantum Optics, Air Force Office of Scientific Research
Quantum Optics Initiative, Office of Naval Research, coworkers: F. Li (Research Scientist), H. Xiong (G)
Real-Time Biological Warning Using Optical Raman Spectroscopy Enhanced by Maximal Coherence, Office of Naval Research
Resilient Quantum Computing, Telecommunications and Informatics Task Force

• PRESENTATIONS DURING 2004
  “From correlated emission laser to an entanglement amplifier,” Quantum Computing Seminar Series, Texas A&M University, Department of Computer Engineering, College Station, TX, April, 2004. (Individual)
  “Correlated emission laser as an entanglement amplifier,” Feynman Festival, University of Maryland, Baltimore, MD, August, 2004. (Invited)
  “Quantum state measurement,” Hunter College of the City University of New York, New York, NY, August, 2004. (Individual)
  “Quantum teleportation via conditional measurements,” Quantum Computing Seminar Series, Department of Computer Science, Texas A&M University, College Station, TX, November, 2004. (Individual)

• PUBLICATIONS DURING 2004

Xiong, H; Zubairy, MS. (2004)“Cavity QED: Applications to Quantum Computing,” Quantum Communications and Quantum Imaging II, ed. Mayer, RE; Shih, YH.

6. Research Activity, 2004

This section contains information on all funded research activity for the calendar year 2004. Information was initially reported by faculty and verified whenever possible through the granting agency. Because of calculations and rounding there is a small margin of error.

Information reported by faculty:
▷ Title
▷ Granting Agency
▷ PIs, Co-PIs, and co-workers (internal/external)
▷ Total Funding
▷ Indirect Costs
▷ Start & End Dates

Calendar year calculations:
▷ Total - Indirect = Direct
▷ # Days Total Grant = End Date - Start Date
▷ Daily Grant Award = Total Funding Reported / # Days Total Grant
▷ Grant Award for 2004 = # Days 2004 × Daily Grant Award
### 6.1 Summary of Research Support, 2004

#### Federal Agencies

- **Air Force Office of Scientific Research**

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* Subtotal: **Air Force Office of Scientific Research**

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<td>Weimer, M.B.</td>
<td>Atomic Scale Control of InAs/GaInSb Strained-Layer Superlattices for LWIR Focal Plane Arrays</td>
<td>9/1/2002</td>
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<td>95,809</td>
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* Subtotal: **Department of Defense**

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<td>Hardy, J.C.</td>
<td>Extending the Capabilities of the Texas A&amp;M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, (with: J. Hardy, R. Tribble)</td>
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* Subtotal: **Department of Energy**

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SEC. 6.  RESEARCH ACTIVITY  667
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<td>Tribble, R.E.</td>
<td>Extending the Capabilities of the Texas A&amp;M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, (with: J. Hardy, R. Tribble)</td>
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* National Science Foundation

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<td>Elementary Particle Theory</td>
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SEC. 6. RESEARCH ACTIVITY 669
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<td>Spectroscopy and Collisions of Stored, Cold High-Charged Ions</td>
<td>9/1/1999</td>
<td>2/29/2004</td>
<td>8,891</td>
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<td>Church, D.A.</td>
<td>(REN) Spectroscopy and Collisions of Stored, Cold, Highly Charged Ions</td>
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<td>8/31/2005</td>
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<td>Gagliardi, C.A.</td>
<td>International: Asymptotic Normalization Co-Efficients in Nuclear Astrophysics, (with: C. Gagliardi, R. Tribble)</td>
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<td>McIntyre, P.M.</td>
<td>Acquisition of a State-of-the-Art X-Ray Diffraction System for Magneto-Thermo-Mechanical Materials Characterization Research and Education, (with: P. McIntyre, J. Ross, Jr.)</td>
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<td>Naugle, D.G.</td>
<td>Intrinsic Interactions Between Superconductivity and Magnetism in Quaternary and Pseudoquaternary Borocarbides</td>
<td>9/1/2001</td>
<td>8/31/2005</td>
<td>7,525</td>
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<td>Rapp, R.</td>
<td>CAREER: Spectral Functions in Hot and Dense QCD Matter</td>
<td>12/15/2004</td>
<td>1/31/2009</td>
<td>4,101</td>
<td>1,866</td>
<td>5,967</td>
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<td>Sezgin, E.</td>
<td>Elementary Particle Theory</td>
<td>8/15/2003</td>
<td>7/31/2006</td>
<td>67,530</td>
<td>30,726</td>
<td>98,256</td>
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<td>Sokolov, A.</td>
<td>Sub-Cycle Optical Pulse Shaping by Parametric Beating with Adiabatically Prepared Raman Coherence</td>
<td>9/1/2004</td>
<td>8/31/2007</td>
<td>30,969</td>
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<td>Teizer, W.</td>
<td>Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, (with: K. Dunbar, I. Lyuksyutov, D. Naugle, J. Ross, Jr., W. Teizer)</td>
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<td>Teizer, W.</td>
<td>NUE: Nanoscale Issues in Manufacturing</td>
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<td>Tribble, R.E.</td>
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<td>Tribble, R.E.</td>
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<td>Weimer, M.B.</td>
<td>Characterization and Control of Interfacial Structure in Type-II Superlattices and Quantum Wells</td>
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<td>Welch, G.R.</td>
<td>Coherent Control of Nuclear Transitions, (with: O. Kocharovskaya, G. Welch)</td>
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<td>White, J.T.</td>
<td>Request for Operating Funds for Zeplin II and R&amp;D Support for Zepling IV- A New Liquid Xenon Detector</td>
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- **Subtotal:** National Science Foundation

- **Subtotal:** Office of Naval Research

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<td>Fry, E.S.</td>
<td>Quantum Optics Initiative, (with: E. Fry, G. Kattavar, V. Kocharovsky, V. Sautenkov, M. Scully, A. Sokolov, M. Zubairy)</td>
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<td>Kattawar, G.W.</td>
<td>Quantum Optics Initiative, (with: E. Fry, G. Kattavar, V. Kocharovsky, V. Sautenkov, M. Scully, A. Sokolov, M. Zubairy)</td>
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<td>Scully, M.O.</td>
<td>Maximal Coherence via Fractional STIRAP in Femtosecond Raman Experiments</td>
<td>9/30/2004</td>
<td>12/31/2005</td>
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**International Agencies**

- **International Scientific and Technology Center**
  - Kocharovskaya, O. Double Optical-Gamma Resonance | 1/10/2003 | 1/9/2004 | 549 | 0 | 549

SEC. 6.    RESEARCH ACTIVITY 675
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**PRIVATE AGENCIES**

* Civilian Research & Development Foundation (CRDF)


- * Subtotal: Civilian Research & Development Foundation (CRDF) 41,894 0 41,894

* Research Corporation

- Kocharovsky, V. Semiconductor Transistor Laser for Multivavelength Operation 1/1/2003 12/31/2007 7,000 0 7,000

- Sokolov, A. Sub-cycle Optical Pulse Shaping for Precise Control of Electronic and Nuclear Motion 1/1/2004 12/31/2006 11,667 0 11,667

- * Subtotal: Research Corporation 18,667 0 18,667

* The Robert A. Welch Foundation


- Allen, R.E. (REN) Response of Materials and Biological Molecules to Light 6/1/2003 5/31/2006 50,000 0 50,000

- Allen, R.E. Response of Molecules to Femtosecond-Scale Laser Pulses 6/1/2003 5/31/2006 50,000 0 50,000

- Fry, E.S. Studies of Hg and Hg2 with Objectives from Fundamental to Applied 6/1/2001 5/31/2004 20,685 0 20,685

- Gagliardi, C.A. (REN) Nuclear Astrophysics Experiments with MARS 6/1/2002 5/31/2005 50,000 0 50,000

- Hardy, J.C. Extending the Capabilities of the Texas A&M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, (with: J. Hardy, R. Tribble) 4/1/2004 3/31/2008 93,836 0 93,836

- Hardy, J.C. Nuclear Decay Studies 6/1/2001 5/31/2004 20,685 0 20,685

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2004 PHYSICS ANNUAL REPORT
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<td>Naugle, D.G.</td>
<td>The Influence of Surfaces, Reduced Dimensionally and Disorder on the Properties of Solids</td>
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<td>Preparation and Optical Studies of Ultra Cold Molecular Ions</td>
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<td>Scully, M.O.</td>
<td>Quantum Coherence and Decoherence in Atomic Molecular and Solid State Systems: Continuation and Extensions</td>
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<td>Sokolov, A.</td>
<td>Femtosecond Light Source Synchronized with Molecular Motion: A Unique Tool for Studying Ultrafast Molecular Dynamics</td>
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* Subtotal: Private Agencies 923,129 0 923,129

State Agencies

* Texas A&M University

Kattawar, G.W. Center for Atmospheric Chemistry 9/1/2003 12/31/2004 5,996 0 5,996

Teizer, W. Acquisition of an Introductory Electron Beam Lithography System 9/1/2003 8/31/2004 135,547 0 135,547

* Subtotal: Texas A&M University 141,543 0 141,543

* Texas Advanced Research Program


SEC. 6. RESEARCH ACTIVITY 677
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* Texas A&M University International Center

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* Subtotal: Texas A&M University International Center 1,264 0 1,264

* Subtotal: University Agencies 263,573 24,634 288,206

*** Total: All Grantees 8,168,529 1,521,382 9,689,911

680 2004 Physics Annual Report
6.2 Summary of Individual Support, 2004

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SEC. 6. RESEARCH ACTIVITY 681
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Department of Energy  
National Science Foundation  

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* Kattawar, G.W.  
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Quantum Optics Initiative, (with: E. Fry, G. Kattawar, V. Kocharovsky, V. Sautenkov, M. Scully, A. Sokolov, M. Zubairy) | 3/15/2003 | 12/31/2005 | 12,047 | 2,953  | 15,000 |

684  
2004 PHYSICS ANNUAL REPORT
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<td>National Science Foundation</td>
<td>Coherent Control of Nuclear Transitions, (with: O. Kocharovskaya, G. Welch)</td>
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SEC. 6.  RESEARCH ACTIVITY  685
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<td>Texas Advanced Research Program</td>
<td>Multiple Raman Scattering in Solids for the New Coherent Sources of Ultrashort Pulses, (with: O. Kocharovsky, A. Sokolov)</td>
<td>1/1/2002</td>
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* Subtotal Kocharovsky, O.  

290,658 40,366 331,024

* Kocharovsky, V.  

Office of Naval Research  
Quantum Optics Initiative, (with: E. Fry, G. Kattawar, V. Kocharovsky, V. Sautenkov, M. Scully, A. Sokolov, M. Zubairy)  

U.S. Army  
Rapid Sensing of Toxic Materials via Resonant Coherent Anti-Stokes Raman Scattering Excited with Femtosecond Pulses, (with: V. Kocharovsky, M. Scully)  

Research Corporation  
Semiconductor Transistor Laser for Multil wavelength Operation  
1/1/2003 12/31/2007 7,000 0 7,000

* Subtotal Kocharovsky, V.  

117,514 9,854 127,368

* Lyuksyutov, I.  

National Science Foundation  
Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, (with: K. Dunbar, I. Lyuksyutov, D. Naugle, J. Ross, Jr., W. Teizer)  
8/1/2003 7/31/2005 17,640 0 17,640

National Science Foundation  
Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, (with: K. Dunbar, I. Lyuksyutov, D. Naugle, J. Ross, Jr., W. Teizer)  
8/1/2003 7/31/2005 17,640 0 17,640

* Subtotal Lyuksyutov, I.  

35,280 0 35,280

* McIntyre, P.M.  

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2004 Physics Annual Report
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* Subtotal McIntyre, P.M. 537,949 92,598 630,547

* Nanopoulos, D.V.

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* Subtotal Nanopoulos, D.V. 117,132 31,982 149,114

* Naugle, D.G.

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SEC. 6. RESEARCH ACTIVITY 687
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<td>8/31/2005</td>
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<td>8/31/2006</td>
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<td>The Robert A. Welch Foundation</td>
<td>The Influence of Surfaces, Reduced Dimensionally and Disorder on the Properties of Solids</td>
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- **Paulus, G.G.**

| The Robert A. Welch Foundation | Feu-Cycle Femtosecond Laser System with Stabilized "Absolute" Phase | 6/1/2003    | 5/31/2006   | 50,000  | 0        | 50,000  |

* Subtotal Paulus, G.G. | 50,000 | 0 | 50,000 |

- **Pokrovsky, V.L.**


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- * Ross, Jr., J.H.
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<td>Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, (with: K. Dunbar, I. Lyuksyutov, D. Naugle, J. Ross, Jr., W. Teizer)</td>
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* Subtotal Ross, Jr., J.H. 117,757 25,814 143,571

* Saslow, W.M.


* Subtotal Saslow, W.M. 23,333 18,333 41,667

* Sautenkov, V.
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<td>Quantum Optics Initiative, (with: E. Fry, G. Kattawar, V. Kocharovsky, V. Sautenkov, M. Scully, A. Sokolov, M. Zubairy)</td>
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<td>National Science</td>
<td>Sub-Cycle Optical Pulse Shaping by Parametric Beating with Adiabatically Prepared Raman Coherence</td>
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2004 Physics Annual Report
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<td>Texas Advanced Research Program</td>
<td>Multiple Raman Scattering in Solids for the New Coherent Sources of Ultrashort Pulses, (with: O. Kocharovskaya, A. Sokolov)</td>
<td>1/1/2002</td>
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<p>| Teizer, W.                          |                                                                      |             |             |         |          |        |
| National Science Foundation         | Acquisition of a Scanning Hall Probe Microscope for Nanomagnetics Research and Student Training, (with: K. Dunbar, I. Lyuksyutov, D. Naugle, J. Ross, Jr., W. Teizer) | 8/1/2003    | 7/31/2005   | 17,640  | 0        | 17,640 |
| Sandia National Laboratories        | Sandia/Texas A&amp;M University Doctoral Fellowship in Science Excellence in Science Fellowship | 9/1/2002    | 9/30/2005   | 43,545  | 0        | 43,545 |
| Texas A&amp;M University                | Acquisition of an Introductory Electron Beam Lithography System      | 9/1/2003    | 8/31/2004   | 135,547 | 0        | 135,547 |
| Texas Advanced Research Program     | Spin Hall Effect                                                     | 1/2/2002    | 8/31/2004   | 37,500  | 0        | 37,500 |
| Center for Teaching Excellence      | Montague-Center for Teaching Excellence Scholarship: Strengthening the Texas A&amp;M Curriculum in Nanotechnology | 9/1/2004    | 8/31/2005   | 1,662   | 0        | 1,662 |</p>
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* Teback, D.

| * Subtotal Teback, D.        |                                                                      |         |         | 51,351   | 22,438   | 73,789  |

* Tribble, R.E.

<p>| Department of Energy         | Extending the Capabilities of the Texas A&amp;M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, (with: J. Hardy, R. Tribble) | 4/1/2004| 3/31/2008| 168,904  | 0        | 168,904 |
| Department of Energy         | (REN) QCD and Standard Model Studies, (with: C. Gagliardi, R. Tribble) | 12/1/2002| 11/30/2005| 78,147   | 0        | 78,147  |
| National Science Foundation  | Cooperative Agreement-Czech Republic, (with: C. Gagliardi, R. Tribble) | 9/1/2003| 8/31/2006| 1,169    | 0        | 1,169   |
| National Science Foundation  | International: Asymptotic Normalization Co-Efficients in Nuclear Astrophysics, (with: C. Gagliardi, R. Tribble) | 9/1/2003| 8/31/2006| 1,169    | 0        | 1,169   |</p>
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<td>The Robert A. Welch Foundation</td>
<td>Extending the Capabilities of the Texas A&amp;M University, Cyclotron Institute to Include Reaccelerated Radioactive Beams, (with: J. Hardy, R. Tribble)</td>
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<td>Atomic Scale Control of InAs/GaInSb Strained-Layer Superlattices for LWIR Focal Plane Arrays</td>
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<td>11/25/2005</td>
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SEC. 6. RESEARCH ACTIVITY

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<td>Coherent Control of Nuclear Transitions, (with: O. Kocharovskaya, G. Welch)</td>
<td>9/15/2002</td>
<td>8/31/2006</td>
<td>42,280</td>
<td>0</td>
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<td>Precision Magnetometry in Optically Dense Coherent Media</td>
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<td><strong>White, J.T.</strong></td>
<td>A High-Pressure Neon-Based Detector for Underground Physics</td>
<td>5/1/2004</td>
<td>4/30/2006</td>
<td>30,248</td>
<td>6,148</td>
<td>36,396</td>
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<td>National Science Foundation</td>
<td>Request for Operating Funds for Zeplin II and R&amp;D Support for Zepling IV- A New Liquid Xenon Detector</td>
<td>8/1/2002</td>
<td>7/31/2006</td>
<td>18,785</td>
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<td>Texas Advanced Research Program</td>
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<td>Department of Energy</td>
<td>Cyclotron-Based Nuclear Science, (with: C. Gagliardi, J. Hardy, J.</td>
<td>1/1/2002</td>
<td>12/31/2004</td>
<td>181,828</td>
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<td>282,416</td>
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</tbody>
</table>

Annual Report, 2004

THE DEPARTMENT OF STATISTICS
TEXAS A&M UNIVERSITY

College Station, Texas
# Contents

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1. Foreword from Dr. Michael Longnecker, Interim Dept. Head

This Annual Report summarizes the activities during 2004 of the Statistics faculty in their teaching, research, and service. A recent article for research output in probability and statistics reported that our department ranked in the top 15 for total research output and in the top 5 for total research output per distinct author. The Eli Lilly Foundation has awarded the department $25,000 per year for the next three years to assist the department in attracting outstanding new students to Statistics, and to support outstanding Ph.D. students whose research is concentrated on statistical methods for biostatistics, biotechnology or bioinformatics.

It is my pleasure to announce that Dr. Simon J. Sheather has been named the new Head of the Department of Statistics. Dr. Sheather began his term as department head on March 1, 2005.

Dr. Sheather comes to us from the Australian Graduate School of Management at the University of New South Wales in Sydney, Australia where he was the Head of Statistics and Operations Research Group. He was also the Associate Dean of Research at the University of New South Wales. Dr. Sheather's internationally acclaimed research interests are in the areas of robust and flexible regression methods and the development of regression diagnostics. He also works on the development of statistical models of wine quality. Dr. Sheather also has extensive experience in distance learning having taught statistics courses in the MBA program remotely across Australia.

The faculty of the Department of Statistics were recognized with numerous honors and awards. The Association of Former Students recognized Raymond Carroll with a university-wide outstanding research award. The Association of Former Students acknowledged Emanuel Parzen with a distinguished teaching award at the fall College of Science Faculty Meeting. Dr. Raymond Carroll was selected as one of two Texas A&M University Distinguished Lecturers for the 2003-2004 academic year. The title of his talk was “Why Do So Many Studies Find No Relationship Between Cancer and What We Eat: A Statistician’s Perspective”. Cliff Spiegelman was selected to give one of the Chance magazine lectures at the Joint Statistical Meetings. Jim Calvin has been appointed the Executive Associate Vice President for Research. Jim was Department Head from 1998 through 2003. Cliff Spiegelman was promoted to Senior Research Scientist at the Texas Transportation Institute. Erning Li and Samiran Sinha were awarded the International Biometric Society’s ENAR Distinguished Paper Award. Naisyin Wang and Suojin Wang are University Faculty Fellows. Michael Longnecker was runner-up for the Presidential Professor for Teaching Excellence. Larry Ringer was named Professor Emeritus. Larry also was honored by having the College Station Library renamed the Larry J. Ringer Public Library. Several of the department’s graduate received awards. Shubhankar Ray was awarded the Emanuel Parzen Graduate Research Fellowship. Zonghui Hu was recognized by International Chinese Statistics Association for her research paper. Yolanda Munoz was selected by the George Bush Presidential Library Foundation for a travel grant. Christine Spinka received the William S. Connor Memorial Award. John Dougherty and Arnab Maity both received the Eva and Lee Smith Fellowships. Nysia George won a Minority Supplement Award from NIH. Veera Baladandayuthpani received the Institute of Mathematical Statistics Laha Travel Award to attend the IMS Meetings in Spain.

The department welcomed a new Associate Professor Dr. Marc Genton and four new Assistant Professors: David Dahl, Erning Li, Yanyuan Ma, and Samiran Sinha. Dr. Genton works in the areas of robustness, spatial and spatio-temporal statistics, financial time series, multivariate analysis, and data mining. He comes to the department from North Carolina State University. Dr. Ma’s research interests include semi-parametric methods, mixed effects models with non-normally distributed random effect, skew-elliptical distributions, robust statistics, and matrix canonical forms. Dr. Ma
comes to us from the Statistical and Applied Mathematical Sciences Institute, where she was a post-doctoral Research Associate. Dr. Dahl’s research centers on Bayesian methods, parametric and nonparametric models, statistical computing, and bioinformatics with applications to genetics and ophthalmology. He received his PhD from the University of Wisconsin in June 2004. Dr. Li’s research interests are concentrated in the areas of longitudinal data analysis, mixed effects models, generalized linear models, semi-parametric inference, and survival analysis. She received her PhD from the North Carolina State University in June 2004. Dr. Sinha’s research centers on case-control studies, semi-parametric generalized linear models, Bayesian statistical analysis, and genetic epidemiology. He received his PhD from the University of Florida in June 2004.

The Department of Statistics was the host for two Advanced Placement workshops, one for new teachers and the other for experienced teachers. Dr. James Matis of the Department of Statistics is the organizer of the two AP Statistics workshop with assistance from Linda Gann and Chris Olsen, two experienced high school teachers.

The department is currently home to an NCI funded training grant in bioinformatics. Dr. Raymond Carroll is the Director of the program, which accepts two new post docs every year in a two-year training program. Post Docs are assigned both a statistical and biological advisor and devote a majority of their time in laboratories learning biology and laboratory techniques.

The department hosted the Aggie Reunion at the national Joint Statistical Meetings in Toronto. At the reception, Dr. Lee Smith was awarded the H.O. Hartley Award, which is presented annually to an outstanding graduate of the department. Dr. Smith received his Ph.D. in 1964 under the direction of Dr. Hartley. In fact, Dr. Smith was the Department of Statistics’ very first Ph.D. graduate.
## 2. Statistical Abstract

<table>
<thead>
<tr>
<th>I. Personnel</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tenure-Track Faculty</td>
<td>25</td>
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<td>Professor</td>
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<td>15</td>
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<tr>
<td>Assistant Professor</td>
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<tr>
<td>Associate Professor</td>
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<td>Distinguished Professor</td>
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<td>b. Non-Tenure-Track Faculty</td>
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<td>Visiting Professor</td>
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<td>Senior Lecturer</td>
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<tr>
<td>Assistant Lecturer</td>
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<td>c. Postdoctoral Fellows</td>
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<tr>
<td>d. Graduate Students</td>
<td>102</td>
<td>74</td>
</tr>
<tr>
<td>e. Support Staff</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

## II. Instructional Activities

| a. Graduate Semester Credit Hours | 4,963 | 4,284 |
| b. Undergraduate Semester Credit Hours | 13,995 | 13,401 |
| c. PhD Degrees | 6 | 15 |
| d. Masters Degrees | 19 | 18 |
| e. Undergraduate Degrees | 0 | 0 |

## III. Research Activities

| a. Research Publications | 68 | 100 |
| b. Research Presentations | 51 | 101 |
| c. Federal | 4,768,237 | 2,322,237 |
| d. State | 139,943 | 174,606 |
| e. University | 323,990 | 11,500 |
| f. Private/Non-profit | 29,335 | 53,144 |
| g. Industrial | 0 | 0 |
| h. International | 0 | 567 |
| Total | 5,261,506 | 2,572,054 |
3. Honors & Awards, 2004

By Faculty

▷ This section contains all honors and awards, as reported by individual faculty members, during the calendar year 2004.

By Students

▷ This section contains all honors and awards, as reported by the department, during the calendar year 2004.
### 3.1 Honors & Awards Received by Faculty, 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Award</th>
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<tbody>
<tr>
<td>R. Carroll</td>
<td>Distinguished Achievement Award - Research, Association of Former Students</td>
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<tr>
<td>E. Li</td>
<td>Distinguished Student Paper Award, International Biometric Society Eastern North American Region (ENAR)</td>
</tr>
<tr>
<td>M. Longnecker</td>
<td>Finalist, Presidential Professor for Teaching Excellence, Texas A&amp;M University</td>
</tr>
<tr>
<td>E. Parzen</td>
<td>Distinguished Achievement College-Level Award in Teaching, Association of Former Students</td>
</tr>
<tr>
<td>S. Sinha</td>
<td>Gibson Dissertation Fellowship Award, University of Florida</td>
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<tr>
<td></td>
<td>Student Award, International Biometric Society’s Eastern North American Region (ENAR)</td>
</tr>
<tr>
<td>S. Wang</td>
<td>Faculty Fellow, Texas A&amp;M University</td>
</tr>
</tbody>
</table>
3.2 Honors & Awards Received by Students, 2004

Graduate

▸ Eva and Lee Smith Fellowship
  John Dougherty
  Arnab Maity

▸ George Bush Presidential Library Foundation Grant
  Yolanda Munoz

▸ Inst. Mathematical Stat Lana Travel Award to attend IMS Annual Meetings in Barcelona, Spain
  Veera Baladandayuthapni

▸ Parzen Graduate Research Fellow
  Shubhankar Ray

▸ Student paper and travel award fellowship, International Chinese Statistics Association
  Zonghui Hu

▸ Wm. S. Connor Memorial Award
  Christine Spinka
4. Students, 2004

This section contains all degrees awarded, as reported by the department, during the calendar year 2004.
4.1 Graduate Degrees Awarded, 2004

Spring

▷ MS
- Lindsay Katherine Alfieri
- Bo Li
- Jun Liu
- Lian Liu
- Yingxue Liu
- James Carl Nelson
- Mei Wang
- Wei Wei
- Foyzunnessa Yasmin
- Meng Zhao

▷ Ph. D.
- Scott Harold Holan: Time Series Exponential Models: Theory and Methods
  Advisor(s): E. Parzen
- Kyeong Eun Lee: Bayesian Models for DNA Microarray Data Analysis
  Advisor(s): B. Mallick and J. Calvin
- Sang-Joon Lee: Asymptotics and Computations for Approximation of Method of Regularization Estimators
  Advisor(s): R. Eubank

Summer

▷ MS
- Yimei Han
- Yuliya Marchanka
- Minghua Mei
- Kristin Lanette Wilkinson
- Xuelian Zhu

▷ Ph. D.
- Tatiyana V. Apanasovich: Testing for Spacial Correlation and Semiparametric Spatial Modeling of Binary Outcomes with Application to Aberrant Crypt Foci in Colon Carcinogenesis Experiments
  Advisor(s): R. Carroll
- Jeesun Jung: High Resolution Linkage and Association Study of Quantitative Trait Loci
  Advisor(s): R. Fan
- Hyun Sun Kim: Topics in Ordinal Logistic Regression and Its Applications
  Advisor(s): S. Wang
- Kyungduk Ko: Bayesian Wavelet Approaches for Parameter Estimation and Change Point Detection in Long Memory Processes
  Advisor(s): M. Vannucci
- Ho-Jin Lee: Functional Data Analysis: Classification and Regression
  Advisor(s): T. Hsing
<table>
<thead>
<tr>
<th>Name</th>
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<th>Advisor(s)</th>
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<tr>
<td>Suriani Pokta</td>
<td>Bayesian Model Selection Using Exact and Approximated Posterior Probabilities with Applications to Star Data</td>
<td>J. Hart</td>
</tr>
<tr>
<td>Joon Jin Song</td>
<td>Bayesian Multivariate Spatial Models and Their Applications</td>
<td>B. Mallick</td>
</tr>
</tbody>
</table>

**Fall**

- **MS**
  - May Boggess
  - Ute Duvenhage
  - Lijun Ren

- **Ph. D.**
  - Mickey Paul Dunlap
    - Using the Bootstrap to Analyze Variable Stars Data
    - J. Hart
  - Hyunsu Hu
    - Topics in Analyzing Longitudinal Data
    - S. Wang
  - Zonghui Hu
    - Semiparametric Functional Data Analysis for Longitudinal/Clustered Data: Theory and Application
    - N. Wang
  - Christine M. Spinka
    - Gene-Environment Interactions in Genetic Epidemiology
    - R. Carroll
  - Malgorzata Leyk Williams
    - Summarizing FLARE Assay Images in Colon Carcinogenesis
    - R. Carroll
## 5. Colloquium and Seminar Speakers, 2004

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<tr>
<th>Date</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Topic</th>
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<tr>
<td>1/27/2004</td>
<td>Mahlet Tadesse</td>
<td>Texas A&amp;M University</td>
<td>Bayesian Variable Selection Methods for the Analysis of Genomics Data</td>
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<tr>
<td>1/29/2004</td>
<td>Malay Ghosh</td>
<td>University of Florida</td>
<td>Small Area Estimation Based on Natural Exponential Family Quadratic Variance Function Models and Survey Weights</td>
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<tr>
<td>2/5/2004</td>
<td>Ying Zhang</td>
<td>University of Central Florida</td>
<td>Non- and Semi-Parametric Models with Panel Count Data</td>
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<td>2/6/2004</td>
<td>Samiran Sinha</td>
<td>University of Florida</td>
<td>Semiparametric Bayesian Analysis of Matched Case-Control Studies with Missing Exposure</td>
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<td>2/9/2004</td>
<td>Erning Li</td>
<td>North Carolina State University</td>
<td>Estimation for Generalized Linear Models when Covariates are Subject-Specific Parameters in a Mixed Model for Longitudinal Data: Estimation and Inference Function</td>
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<tr>
<td>2/12/2004</td>
<td>Annie Qu</td>
<td>Oregon State University</td>
<td>Semiparametric and Nonparametric Models for Longitudinal Data: Estimation and Inference Function</td>
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<td>2/19/2004</td>
<td>Haiyan Wang</td>
<td>Pennsylvania State University</td>
<td>Testing in Multifactor Heteroscedastic ANOVA and Repeated Measures Designs with Large Number of Levels</td>
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<tr>
<td>2/23/2004</td>
<td>Subharup Guha</td>
<td>Ohio State University</td>
<td>Benchmark Estimation for Markov Chain Monte Carlo Samples</td>
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<td>2/25/2004</td>
<td>Ming Yuan</td>
<td>University of Wisconsin - Madison</td>
<td>Efficient Empirical Bayes Variable Selection and Estimation</td>
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</tbody>
</table>
2/26/2004  Marc Genton  
North Carolina State University  
Skew-Symmetric and Skew-Elliptical Distributions: A Trip Beyond Normality

2/26/2004  Yanyuan Ma  
North Carolina State University  
Locally Efficient Semiparametric Estimators for Measurement Error Models

3/25/2004  Cliff Spiegelman  
Texas A&M University  
A Statistician’s View of the FBI Compositional Analysis of Bullet Lead (CABL) and the National Academy’s Report

4/1/2004  John Cornell  
University of Florida  
Experimenting with Mixtures: From Plant Nutrition to the Optimum Harvey Wallbanger Recipe

4/8/2004  Jeffrey S. Morris  
University of Texas - MD Anderson  
Wavelet-Based Functional Mixed Models

4/15/2004  Ji Zhu  
University of Michigan  
Piecewise Linear SVM Paths

4/29/2004  Eric Renshaw  
University of Strathclyde  
The Immigration-Death Process: A Model for all Seasons

5/5/2004  Suhasini Subba Rao Tata  
University of Heidelberg - Germany  
Time-Varying Nonstationary Processes: Some Stationary Approximations and Statistical Inference

6/1/2004  Jianhua Huang  
University of Pennsylvania  
Data-Driven Estimation of Covariance Matrices

9/23/2004  Peter Mueller  
MD Anderson Cancer Center  
Nonparametric Bayesian Modeling For Multivariate Ordinal Data

10/21/2004  Alan F. Karr  
National Institute of Statistical Sciences  
Secure Statistical Analysis of Distributed Data

10/28/2004  Dylan Small  
University of Pennsylvania  
Marginal Regression Analysis of Longitudinal Data with Time-dependent Covariates

11/4/2004  Rudolf Reidi  
Rice University  
A Non-parametric Wavelet-based Estimator of the Tail Parameter
11/18/2004  **Oliver Perrin**  
*GREMAQ, University of Toulouse 1 & LERNA, INRA*  
Identification of an Isometric Transformation of the Standard Brownian Sheet

12/2/2004  **Jean Opsomer**  
*Iowa State University*  
Two Applications of nonparametric Regression in Survey Estimation

12/9/2004  **Veera Baladandayuthapani**  
*Texas A&M University*  
Bayesian Methods in Bioinformatics
6. Faculty, 2004

Derya Akleman .............................................. Lecturer
James A. Calvin ............................................ Professor
Julie H. Carroll ............................................ Senior Lecturer
Raymond J. Carroll .................................. Distinguished Professor
Willa W. Chen ............................................. Assistant Professor
Su-Chun Cheng ........................................... Associate Professor
Gerda Claeskens ........................................ Assistant Professor
Daren B. Cline ............................................. Associate Professor
David Dahl .................................................. Assistant Professor
P. Fred Dahm ............................................... Professor
Randall L. Eubank ......................................... Professor
Ruzong Fan .................................................. Assistant Professor
Jessica Fried ............................................... Assistant Lecturer
Marc Genton ................................................ Associate Professor
Jeffrey D. Hart ............................................ Professor
Tailen Hsing ............................................... Professor
Erning Li ..................................................... Assistant Professor
Faming Liang ............................................... Assistant Professor
Johan Lim .................................................. Assistant Professor
Chuanhai Liu ............................................... Associate Professor
Michael Longnecker ................................. Interim Department Head
Yanyuan Ma ................................................ Associate Professor
Bani K. Mallick ............................................ Professor
James H. Matis ............................................ Professor
H. Joseph Newton ....................................... Professor
Emanuel Parzen .......................................... Distinguished Professor
Larry J. Ringer ............................................. Professor Emeritus
Henrik Schmiediche ................................ Senior Lecturer
Michael Sherman ........................................ Associate Professor
Samiran Sinha ............................................. Assistant Professor
F. Michael Speed .......................................... Professor
Clifford H. Spiegelman ................................ Professor
Ellen H. Toby ............................................... Lecturer
Marina Vannucci ........................................ Associate Professor
Naisyin Wang ................................................ Professor
Suojin Wang ................................................ Professor
Thomas E. Wehrly ......................................... Professor
Li Zhu ....................................................... Assistant Professor (J)

SEC. 6. FACULTY 717
6.1 Professional Activities, 2004

This section contains information, as reported by individual faculty members, encompassing each faculty member’s professional activities for the calendar year 2004.

Subsections of professional activities are defined as follows:

Honors and Awards
▷ All professional honors and awards, both internal and external.

Service Activities
▷ All professional service and leadership roles, including: departmental, college, university, state, national and international.

Teaching
▷ Classes taught during the Spring, Summer and Fall sessions of 2004.
▷ Any missing enrollment numbers were gathered from the Student Information Management System (SIMS) at Texas A&M University.

Research Projects
▷ All research projects, funded and unfunded.
▷ Whenever possible, all research-related employees of that faculty member are listed along with the citation. Key for employees: (P)=Postdoc, (G)=Graduate Student, (U)=Undergraduate Student.
▷ Renewals are marked by “(REN)” at the beginning of their title.
▷ Unfunded grants are marked by “(UNFUNDED)” at the end of the citation.
▷ Additional information (including PIs, CoPIs, and funding) on all funded grants are listed in Section 6.

Presentations
▷ All posters, invited and contributed lectures (plenary, conferences, colloquia, seminars, etc.).
▷ Whenever reported, posters, invited and contributed lectures are noted in parentheses following the citation.
▷ Citations are in chronological order.

Publications
▷ All printed materials published during 2004.
▷ Pre-press, in-press and submitted publications were not included.
▷ Citations were formatted in APA Style and are in alphabetical order by lead author.
• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 211.501 — Principles of Statistics I (total enrollment: 72)
▷ STAT 211.502 — Principles of Statistics I (total enrollment: 85)
▷ STAT 211.503 — Principles of Statistics I (total enrollment: 97)

Fall
▷ STAT 211.501 — Principles of Statistics I (total enrollment: 99)
▷ STAT 211.502 — Principles of Statistics I (total enrollment: 62)
▷ STAT 211.503 — Principles of Statistics I (total enrollment: 67)

• PUBLICATIONS DURING 2004
▷ Akleman, D. (April 2004) Tourism in Peripheral Areas: A Case of Three Turkish Towns
  e- Review of Tourism Research.
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Executive Associate Vice President for Research, Vice President for Research, [2004]

• SERVICE DURING 2004

  National
  ▶ Chair, ASU Statistics Program Site Visit
  ▶ Chair, NIEHS EHS Review Committee
  ▶ Member, American Statistical Association Samuel Wilks Award Committee
  ▶ Member, National Research Council-NIST ITL Review Committee

  University
  ▶ Member, Life Sciences Task Force

  Department
  ▶ Member, Promotion and Tenure Committee

• TEACHING ASSIGNMENTS DURING 2004

  Fall
  ▶ STAT 612.600 — Theory of Linear Models (total enrollment: 14)

• RESEARCH PROJECTS DURING 2004

  ▶ Center for Environmental Rural Health, National Institute for Environmental Health Sciences
  ▶ Procedures to Assess the Hazards of a Superfund Site, National Institutes of Health
  ▶ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

Department
  ▶ Member, Undergraduate Education Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ STAT 303.508-510 — Statistical Methods (total enrollment: 146)

Fall
  ▶ STAT 303.508-510 — Statistical Methods (total enrollment: 148)
• **HONORS DURING 2004**
  
  College
  ▶ Distinguished Achievement Award - Research, Association of Former Students

• **SERVICE DURING 2004**
  
  National
  ▶ Chair, NIH BMRD Study Section
  ▶ Co-Editor, Oxford Statistical Society Series

  University
  ▶ Member, Executive Committee of Distinguished Professors

  Department
  ▶ Member, Department Head Search Committee
  ▶ Member, Promotion and Tenure Committee

  Interdisciplinary/Intercollegiate
  ▶ Director, CERH Facility Core of Bioinformatics
  ▶ Director, CERH Research Core of Biostatistics

• **TEACHING ASSIGNMENTS DURING 2004**
  
  Spring
  ▶ STAT 685.603 — Directed Studies (total enrollment: 1)
  ▶ STAT 691.603 — Research (total enrollment: 4)

  Summer
  ▶ STAT 691.301 — Research (total enrollment: 4)

  Fall
  ▶ STAT 691.603 — Research (total enrollment: 2)

• **RESEARCH PROJECTS DURING 2004**
  
  ▶ Center for Environmental Rural Health, National Institute for Environmental Health Sciences
  ▶ Diet, Apoptosis, and Colon Carcinogenesis, National Institutes of Health
  ▶ Measurement Error, Nutrition and Breast/Colon Cancer, National Institutes of Health
  ▶ Nutrition, Biostatistics, and Bioinformatics, National Institutes of Health
  ▶ Response to DNA Damage: Colon vs Small Intestine, National Institutes of Health
  ▶ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
Nutritional Countermeasures to Radiation Exposure, *National Space Biomedical Research Institute*

Advanced Methodologies for Longitudinal/Clustered Data with Applications to Nutrition and Cancer, *Texas Higher Education CB*

**PRESENTATIONS DURING 2004**

- “University of Minnesota,” 2004. (Invited)
- Australian National University, Canberra, Australia, 2004. (Invited)
- Distinguished Lecture Series, Texas A&M University, College Station, TX, 2004. (Invited)
- ENAR, 2004. (Invited)
- Johns Hopkins University, Baltimore, MD, 2004. (Invited)
- Lehmann Conference, Rice University, Houston, TX, 2004. (Invited)
- North Carolina State University, Raleigh, NC, 2004. (Invited)
- Ohio State University, 2004. (Invited)
- Ohio State University, MBI, 2004. (Invited)

**PUBLICATIONS DURING 2004**

- Balagurunathan, Y; Wang, NY; Dougherty, ER; Nguyen, D; Chen, YD; Bittner, ML; Trent, J; Carroll, R. (2004) Noise factor analysis for cDNA microarrays *Journal of Biomedical Optics*, vol. 9, 663-678.
- Davidson, LA; Nguyen, DV; Hokanson, RM; Callaway, ES; Isett, RB; Turner, ND; Dougherty, ER; Lupton, JR; Carroll, RJ; Chapkin, RS. (2004) Chemopreventive n-3 polysaturated fatty acids reprogram genetic signatures during colon cancer initiation and progression in the rat *Cancer Research*, vol. 64, 6797-6804.
Freedman, LS; Midthune, D; Carroll, RJ; Krebs-Smith, S; Subar, AF; Troiano, RP; Dodd, K; Schatzkin, A; Ferrari, P; Kipnis, V. (2004) Adjustments to improve the estimation of usual dietary intake distributions in the population *Journal of Nutrition, vol. 134*, 1836-1843.


Mallinckrodt, CH; Kaiser, CJ; Watkin, JG; Molenberghs, G; Carroll, RJ. (2004) The effect of correlation structure on treatment contrasts estimated from incomplete clinical trial data with likelihood- based repeated measures compared with last observation carried forward ANOVA *Clinical Trials, vol. 1*, 477-489.


Sanders, LM; Henderson, C; Hong, MH; Wang, N; Spinka, CM; Carroll, RJ; Turner, ND; Chapkin, RS; Lupton, JR. (2004) An increase in reactive oxygen species by dietary fish oil coupled with the attenuation of antioxidant defenses by dietary pectin enhances rat colonocyte apoptosis *Journal of Nutrition, vol. 134*, 3233-3288.

• SERVICE DURING 2004
  National

  College
  ▶ Member, Graduate Program Committee

• TEACHING ASSIGNMENTS DURING 2004
  Fall
  ▶ STAT 673.600 — *Time Series Analysis I* (total enrollment: 9)

• RESEARCH PROJECTS DURING 2004
  ▶ Fractional Cointegration and Tapering in Long Memory Time Series, *National Science Foundation*

• PUBLICATIONS DURING 2004
Gerda Claeskens

Assistant Professor
STAT

(979) 845-3141
gerda@stat.tamu.edu

On leave.
• SERVICE DURING 2004

National
▷ Referee: Journals, Various Journals

College
▷ Member, Faculty Advisory Committee
▷ Member, College Grievance Committee

Department
▷ Chair, Colloquium Series
▷ Member, Faculty Recruiting Committee
▷ Member, Department of Statistics Undergraduate Minors Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 212.500 — Principles of Statistics II (total enrollment: 47)
▷ STAT 681.601 — Seminar (total enrollment: 12)
▷ STAT 685.605 — Directed Studies (total enrollment: 2)

Summer
▷ STAT 601.100 — Statistical Analysis (total enrollment: 18)

Fall
▷ STAT 610.602 — Theory of Statistics I (total enrollment: 20)
▷ STAT 681.601 — Seminar (total enrollment: 18)
▷ STAT 689.601 — Special Topics in (total enrollment: 8)

• PRESENTATIONS DURING 2004


▷ “Evaluating the Lyapounov Exponent and Existence of Moments for Threshold ARCH and GARCH Models,” The Second Erich L. Lehmann Symposium, Houston, TX, 2004. (Contributed)

• PUBLICATIONS DURING 2004


▷ Yang, GQ; Cline, DBH; Lytton, RL; Little, DN. (2004) Ternary and multivariate quality gradation for hot control charts of aggregate mix asphalt *Journal of Materials in Civil Engineering*, vol. 16, 28-34.
• SERVICE DURING 2004
  
  National
  ▶ Referee: Journals, *Statistics in Medicine*

  Department
  ▶ Member, Bioinformatics Faculty Committee

• TEACHING ASSIGNMENTS DURING 2004
  
  Fall
  ▶ STAT 651. — *Statistics in Research I* (total enrollment: 27)

• PRESENTATIONS DURING 2004
  
  ▶ “An Improved Merge-Split Sampler for Conjugate Dirichlet Process Mixture Models,”
    Second Workshop on Monte Carlo Methods, Cambridge, MA, 2004.( Invited)
• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Graduate Advisor, Statistics, [1989]

• SERVICE DURING 2004

  National
  ▶ Associate Editor, ECOMOD (Newsletter for the International Society of Ecological Modeling)

  College
  ▶ Member, Graduate Instruction Committee

  Department
  ▶ Chair, Linear Models Cumulative Examination Committee
  ▶ Chair, Admissions and Recruiting Committee
  ▶ Member, Theoretical and Computational Biology Search Committee
  ▶ Member, Awards Committee
  ▶ Safety Coordinator

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ STAT 644.600 — Biostatistics II (total enrollment: 14)
  ▶ STAT 685.606 — Directed Studies (total enrollment: 1)

  Summer
  ▶ STAT 211.201 — Principles of Statistics I (total enrollment: 30)
  ▶ STAT 691.302 — Research (total enrollment: 1)

  Fall
  ▶ STAT 641.600 — The Methods of Statistics I (total enrollment: 22)
  ▶ STAT 691.606 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004
  ▶ “A second look at elementary teacher attrition: a follow-up to a 1998 attrition study funded through the Texas Commissioner’s Research Initiative,” The Fourth Annual Chancellor’s Invitational Conference, Houston, TX, 2004. (Invited)
  ▶ “A second look at elementary teacher attrition: do professional development school preparation programs make a difference?,” Association of Teacher Educators Annual Conference, Dallas, TX, 2004. (Contributed)
“Attrition among elementary literacy teachers: do professional development school preparation programs make a difference?,” 48th Annual Meeting of the College Reading Association, 2004.( Contributed)

• SERVICE DURING 2004

National
▷ Associate Editor, *Computational Statistics*
▷ Associate Editor, *JASA*
▷ Coordinating Editor, *JSPI*

State
▷ Consultant, Texas Lottery

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 691.608 — Research (total enrollment: 3)

Summer
▷ STAT 691.202 — Research (total enrollment: 1)
▷ STAT 691.303 — Research (total enrollment: 3)

Fall
▷ STAT 211. — *Principles of Statistics I* (total enrollment: 100)
▷ STAT 604.600 — *Special Problems in Statistical Computations and Analysis* (total enrollment: 19)
▷ STAT 685.608 — Directed Studies (total enrollment: 4)
▷ STAT 691.608 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*
▷ Spline Smoothing and Nonparametric Regression, *National Science Foundation*

• PRESENTATIONS DURING 2004

▷ “Prediction using functional regression analysis,” Department of Food and Resource Economics, University of Delaware, Newark, DE, April, 2004. (Invited)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Referee: Journals, *Biometrics*
▷ Referee: Journals, *Genetic Epidemiology*
▷ Referee: Journals, *Proceedings of the National Academy of Sciences*
▷ Referee: Journals, *American Journal of Human Genetics*

Department
▷ Member, Bioinformatics
▷ Member, Library Committee
▷ Member, Biostatistics Examination Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 651.601 — Statistics in Research I (total enrollment: 16)
▷ STAT 685.610 — Directed Studies (total enrollment: 2)
▷ STAT 691.610 — Research (total enrollment: 1)

Summer
▷ STAT 691.304 — Research (total enrollment: 2)

Fall
▷ STAT 651.601 — Statistics in Research I (total enrollment: 40)
▷ STAT 685.610 — Directed Studies (total enrollment: 1)
▷ STAT 691.610 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004
▷ University of Bonn, Bonn, Germany, July, 2004. (Invited)

• PUBLICATIONS DURING 2004
• **TEACHING ASSIGNMENTS DURING 2004**

**Spring**
- STAT 302.506-507 — Statistical Methods (total enrollment: 100)
- STAT 302.508-510 — Statistical Methods (total enrollment: 150)

**Summer**
- STAT 302.201-203 — Statistical Methods (total enrollment: 129)

**Fall**
- STAT 302.506-507 — Statistical Methods (total enrollment: 100)
- STAT 302.508-510 — Statistical Methods (total enrollment: 150)
• SERVICE DURING 2004
  National
  ▶ Associate Editor, *Chilean Journal of Statistics*
  ▶ Associate Editor, *Journal of Statistical Planning and Inference*
  ▶ Organizer, JSM 2004, Toronto
  Department
  ▶ Member, Departmental Examination Committee
  ▶ Member, Faculty Recruiting Committee

• RESEARCH PROJECTS DURING 2004
  ▶ A Unified Treatment of Skew-Distributions with Applications in Statistical Modeling, *Fondo de Desarrollo de Ciencia y Tecnología Chile*
  ▶ Statistical Methods for AIDS Clinical Trials, *National Institutes of Health*
  ▶ Robust Statistics for Correlated Data, *National Science Foundation*
  ▶ Scientific Computing Research Environments for the Mathematical Sciences, *National Science Foundation*
  ▶ Spatial and Temporal Analysis of Catastrophic Wildfire, *U.S. Forest Service*

• PRESENTATIONS DURING 2004
  ▶ “Skew-symmetric and skew-elliptical distributions: a trip beyond normality,” Texas A&M University, College Station, TX, February, 2004. (Invited)
  ▶ “Linear mixed effects models with flexible generalized skew-elliptical random effects,” ISBA, Vina del Mar, Chile, May, 2004. (Invited)
“Data mining classification: from Fisher’s linear discriminant function to Support Vector Machines,” Workshop on robustness for large data sets, Banff, Canada, June, 2004.(Invited)

“Separable approximations of space-time covariances,” TIES/Spatial accuracy, Portland, OR, June, 2004.(Invited)


“Separable approximations of space-time covariances,” GeoEnv2004, Neuchatel, Switzerland, October, 2004.(Invited)

“Separable approximations of space-time covariances,” CLATSE VI, Concepcion, Chile, November, 2004.(Invited)

“A unified view on selection distributions,” Workshop on skew distributions, Guanajuato, Mexico, December, 2004.(Invited)

- PUBLICATIONS DURING 2004


• SERVICE DURING 2004

National
▷ Referee: Journals, Statistica Neerlandica
▷ Referee: Journals, Journal of the American Statistical Association
▷ Referee: Research, National Science Foundation

College
▷ Member, Promotion and Tenure Committee

Department
▷ Chair, Promotion and Tenure Committee
▷ Member, Department Head Search Committee
▷ Member, Faculty Hiring Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 611.602 — Theory of Statistics II (total enrollment: 20)
▷ STAT 652.601 — Statistics in Research II (total enrollment: 56)
▷ STAT 691.609 — Research (total enrollment: 3)

Summer
▷ STAT 691.101 — Research (total enrollment: 1)

Fall
▷ STAT 632.600 — Statistical Decision Theory (total enrollment: 5)
▷ STAT 691.609 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004

▷ Mechanisms of Edema Resolution: Implications for Treatment of Cardiovascular Disease, Life Science Task Force
▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation

• PRESENTATIONS DURING 2004

▷ “Semiparametric Bayesian and Frequentist Tests of Trend for a Large Collection of Variable Stars,” The Second Erich L. Lehmann Symposium, Rice University, Houston, TX, May, 2004.( Invited)
• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

National
▷ Associate Editor, *Statistica Sinica*

Department
▷ Associate Director, Bioinformatics Training Program
▷ Chair, Bioinformatics Search Committee
▷ Member, Faculty Search Committee
▷ Member, Promotion and Tenure Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 614.600 — Advanced Theory of Statistics (total enrollment: 9)
▷ STAT 681.602 — Seminar (total enrollment: 12)
▷ STAT 689.602 — Special Topics in (total enrollment: 15)
▷ STAT 691.611 — Research (total enrollment: 4)

Summer
▷ STAT 691.102 — Research (total enrollment: 2)
▷ STAT 691.203 — Research (total enrollment: 1)

Fall
▷ STAT 681.602 — Seminar (total enrollment: 4)
▷ STAT 691.611 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
▷ Nutrition, Biostatistics, and Bioinformatics, *National Institutes of Health*

• PUBLICATIONS DURING 2004
ERNING LI
ASSISTANT PROFESSOR
STAT-Function Estimation
(979) 845-3141
eli@stat.tamu.edu

• HONORS DURING 2004
  International
    ▶ Distinguished Student Paper Award, International Biometric Society Eastern North American Region (ENAR)

• SERVICE DURING 2004
  National
    ▶ Referee: Journals, *Statistical Sinica*

Department
  ▶ Member, Library Committee
  ▶ Member, Diversity Committee
  ▶ Member, Colloquia Committee
  ▶ Member, Admissions and Recruiting Committee
  ▶ Member, Ph.D. Cumulative Exam Linear Models Committee

• TEACHING ASSIGNMENTS DURING 2004
  Fall
    ▶ STAT 211.507 — Principles of Statistics I (total enrollment: 56)

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004
FAMING LIANG
ASSISTANT PROFESSOR (979) 845-3141
STAT fliang@stat.tamu.edu

• SERVICE DURING 2004
  National
  ▶ Referee: Research, National Science Foundation
  Department
  ▶ Member, Qualifying Examination Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ STAT 611.601 — Theory of Statistics II (total enrollment: 20)
  ▶ STAT 685.631 — Directed Studies (total enrollment: 10)
  ▶ STAT 691.631 — Research (total enrollment: 1)
  Fall
  ▶ STAT 414.500 — Mathematical Statistics I (total enrollment: 29)

• RESEARCH PROJECTS DURING 2004
  ▶ A Contour Based Monte Carlo Algorithm with Applications to Computational Statistics and Bioinformatics, National Science Foundation

• PRESENTATIONS DURING 2004
  ▶ “Contour Monte Carlo for Protein Folding Simulations,” Department of Statistics, Texas A&M University, College Station, TX, March, 2004.( Invited)
  ▶ “Contour Monte Carlo with Applications in Protein Structure Optimization,” The Second Cape Cod Workshop on Monte Carlo Methods, Harvard University, Boston, MA, August, 2004.( Invited)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004
  National
  ▶ Chair, JSM 2004, Generalized Regression and Linear Models
  Department
  ▶ Member, Ph.D. Program Committee
  ▶ Member, Ph.D. Theory Qualifying Exam Committee

• TEACHING ASSIGNMENTS DURING 2004
  Spring
  ▶ STAT 211.506 — Principles of Statistics I (total enrollment: 71)
  Fall
  ▶ STAT 610.601 — Theory of Statistics I (total enrollment: 54)

• PRESENTATIONS DURING 2004
  ▶ “Parameter Estimation in Spatial Auto-logistic Model with Varying Independent Sub-blocks,” Department of Mathematics, University of Louisville, Louisville, KY, April, 2004. (Invited)
  ▶ “Constrained Uniform Approximation and Estimation of Shape Restricted Functions,” Department of Statistical Science, Southern Methodist University, Dallas, TX, October, 2004. (Invited)
• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 211.505 — Principles of Statistics I (total enrollment: 71)

On leave.
• HONORS DURING 2004

University
  ▶ Finalist, Presidential Professor for Teaching Excellence, Texas A&M University

• SERVICE DURING 2004

National
  ▶ Member, American Statistical Association Graduate Education and Research Task Force
  ▶ Member, American Statistical Association Committee on Statistics and Disabilities

Department
  ▶ Chair, Examinations Committee
  ▶ Chair, Consulting Service
  ▶ Chair, GAT/GANT Assignments
  ▶ Chair, Teaching Assignments
  ▶ Coordinator, Internship Program

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ STAT 642.600 — The Methods of Statistics II (total enrollment: 17)
  ▶ STAT 684.600 — Professional Internship (total enrollment: 14)
  ▶ STAT 685.614 — Directed Studies (total enrollment: 6)
  ▶ STAT 691.614 — Research (total enrollment: 1)

Summer
  ▶ STAT 684.100 — Professional Internship (total enrollment: 1)
  ▶ STAT 684.300 — Professional Internship (total enrollment: 4)
  ▶ STAT 691.204 — Research (total enrollment: 1)

Fall
  ▶ STAT 684.600 — Professional Internship (total enrollment: 11)
  ▶ STAT 684.650 — Professional Internship (total enrollment: 1)
  ▶ STAT 685.614 — Directed Studies (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004

  ▶ Statistical Approach to Model Verification/Data Validation, Lawrence Livermore National Laboratory
  ▶ Improving the Quality of and Access to Undergraduate Statistics Education, National Science Foundation
YANYUAN MA
ASSISTANT PROFESSOR (979) 845-3141
STAT-Semiparametric/nonparametric methods ma@stat.tamu.edu

• SERVICE DURING 2004
  Department
  ▶ Member, Examination Committee

• TEACHING ASSIGNMENTS DURING 2004
  Fall
  ▶ STAT 211. — Principles of Statistics I (total enrollment: 36)

• PRESENTATIONS DURING 2004
  ▶ “Locally Efficient Semiparametric Estimators for Functional Measurement Error Models,” Texas A&M University, College Station, TX, February, 2004.( Invited)

• PUBLICATIONS DURING 2004
• SERVICE DURING 2004

International
▷ Organizer, JSM Invited Sessions

National
▷ Associate Editor, Journal of Computational and Graphical Statistics
▷ Panel Member, National Science Foundation, Mathematical Division
▷ Referee: Journals, Various Journals

University
▷ Member, High Performance Computing Steering Committee

Department
▷ Chair, Bioinformatics
▷ Member, Center for Environmental and Rural Public Health

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 651.602 — Statistics in Research I (total enrollment: 52)
▷ STAT 651.603 — Statistics in Research I (total enrollment: 38)
▷ STAT 685.622 — Directed Studies (total enrollment: 1)
▷ STAT 691.622 — Research (total enrollment: 7)

Summer
▷ STAT 691.104 — Research (total enrollment: 1)
▷ STAT 691.205 — Research (total enrollment: 1)
▷ STAT 691.305 — Research (total enrollment: 2)
▷ STAT 691.306 — Research (total enrollment: 2)

Fall
▷ STAT 691.622 — Research (total enrollment: 7)

• RESEARCH PROJECTS DURING 2004

▷ Procedures to Assess the Hazards of a Superfund Site, National Institute for Environmental Health Sciences
▷ Measurement Error, Nutrition and Breast/Colon Cancer, National Institutes of Health
▷ Nutrition, Biostatistics, and Bioinformatics, National Institutes of Health
▷ Bayesian Nonlinear Regression with Multivariate Linear Spines, National Science Foundation
CMG Research on Multiscale Spatial Models for Petroleum Mapping Using Static and Dynamic Data, *National Science Foundation*

Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*

**PRESENTATIONS DURING 2004**

- International Conference, Hyderabad, India, 2004. (Invited)
- ISBA, Chile, 2004. (Invited)

**PUBLICATIONS DURING 2004**

• SERVICE DURING 2004

  Regional
  ▶ Member, Founding Board of Directors for Brazos Valley Fulbright Chapter

  Department
  ▶ Chair, Department Head Search Advisory Committee
  ▶ Director, Summer Advanced Placement Workshops
  ▶ Organizer, Beyond Advanced Placement Statistics Workshops sponsored by American Statistical Association

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ STAT 302.200(H) — Statistical Methods (total enrollment: 30)

  Fall
  ▶ STAT 302.200(H) — Statistical Methods (total enrollment: 30)

• RESEARCH PROJECTS DURING 2004

  ▶ Integrating Statistical Research Projects into the Honors Curriculum Using Technologically-Based DVD Modules, Texas A&M University

• PRESENTATIONS DURING 2004


• PUBLICATIONS DURING 2004


• CHAIRS
  ▶ Richard H. Harrison III/External Advisory and Development Council Endowed Dean’s 
     Chair in Science [2000]

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Dean, College of Science, [2002]

• SERVICE DURING 2004
  College
  ▶ Chair, Executive Committee

• TEACHING ASSIGNMENTS DURING 2004
  Summer
  ▶ STAT 626.300 — Methods in Time Series Analysis (total enrollment: 14)

• RESEARCH PROJECTS DURING 2004
  ▶ Center for the Application of Information Technology in the Teaching and Learning of 
    Science, National Science Foundation
  ▶ China U.S. Cooperative Research Exchange: A Pilot for Increasing US China Cooperation 
    in Science Education Integrating Science Education, and IT in a Cross Cultural Setting, 
    National Science Foundation
  ▶ DEM-Changing Faculty Through Learning Communities, National Science Foundation
  ▶ Noyce Scholarship (Supplement to ITS Center Grant), National Science Foundation
EMANUEL PARZEN

DISTINGUISHED PROFESSOR
STAT
eparzen@stat.tamu.edu
(979) 845-3188

• HONORS DURING 2004

University
▷ Distinguished Achievement College-Level Award in Teaching, Association of Former Students

• SERVICE DURING 2004

University
▷ Member, Executive Committee of Distinguished Professors

Department
▷ Organizer, Workshop on Nonparametric Statistics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 211.200(H) — Principles of Statistics I (total enrollment: 19)
▷ STAT 691.617 — Research (total enrollment: 2)

Summer
▷ STAT 691.206 — Research (total enrollment: 1)

Fall
▷ STAT 211.200(H) — Principles of Statistics I (total enrollment: 19)
▷ STAT 671.600 — Methods of Statistical Data Modeling I (total enrollment: 2)
▷ STAT 691.617 — Research (total enrollment: 1)

• PRESENTATIONS DURING 2004

▷ Emory University, Department of Biostatistics, Atlanta, GA, March, 2004.( Invited)
▷ Georgia Tech Industrial Engineering Department, March, 2004.( Invited)
▷ Rice University, Lechmann Symposium, Houston, TX, May, 2004.( Invited)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004

National
▷ Reviewer, Manuscripts and/or prospectus for textbooks for several publishers

Department
▷ Consultant/Mentor, Provided help to students in design of studies, analyses of results and interpretation of results
▷ Supervisor, Education Programs of the Food Safety and Inspection Service (FSEP, SEP, and CSO training)

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 685.619 — Directed Studies (total enrollment: 1)

Summer
▷ STAT 651.100 — Statistics in Research I (total enrollment: 54)

Fall
▷ STAT 652.601 — Statistics in Research II (total enrollment: 42)
▷ STAT 652.602 — Statistics in Research II (total enrollment: 21)

• PUBLICATIONS DURING 2004

▷ de Gonzalez, MTN; Keeton, JT; Acuff, GR; Ringer, LJ; Lucia, LM. (2004) Effectiveness of acidic calcium sulfate with propionic and lactic acid and lactates as postprocessing dipping solutions to control Listeria monocytogenes on frankfurters with or without potassium lactate and stored vacuum packaged at 4.5 degrees C Journal of Food Protection, vol. 67, 915-921.

▷ De Gonzalez, MTN; Keeton, JT; Ringer, LJ. (2004) Sensory and physicochemical characteristics of frankfurters containing lactate with antimicrobial surface treatments Journal of Food Science, vol. 69, .

2004 STATISTICS ANNUAL REPORT
• SERVICE DURING 2004
  
  College
  ▶ Member, Computing Committee

  Department
  ▶ Member, Computing Committee

• TEACHING ASSIGNMENTS DURING 2004
  
  Spring
  ▶ STAT 211.504 — Principles of Statistics I (total enrollment: 73)
• SERVICE DURING 2004

National
  ▶ Referee: Journals, *Biometric Journal*
  ▶ Referee: Journals, *Journal of the American Statistical Association*

Regional
  ▶ President, Southeast Chapter of the American Statistical Association

Department
  ▶ Member, Awards Committee
  ▶ Member, Faculty Recruiting Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ STAT 616.600 — Multivariate Analysis (total enrollment: 10)
  ▶ STAT 691.621 — Research (total enrollment: 1)

Fall
  ▶ STAT 407.500 — Principles of Sample Surveys (total enrollment: 2)
  ▶ STAT 607.600 — Sampling (total enrollment: 13)
  ▶ STAT 685.621 — Directed Studies (total enrollment: 1)
  ▶ STAT 689.602 — Special Topics in (total enrollment: 10)
  ▶ STAT 691.621 — Research (total enrollment: 2)

• RESEARCH PROJECTS DURING 2004
  ▶ Fetal Alcohol Exposure and Neurodevelopment, *National Institutes of Health*
  ▶ Risk of Childhood Cancers Associated with Agricultural Pesticide Use, *National Institutes of Health*
  ▶ Medicaid Cuts Budget Cuts: Effects on Nursing Homes and Rural Elderly and Disables, *The Federal Office of Rural Health Policy*

• PRESENTATIONS DURING 2004

• PUBLICATIONS DURING 2004

HONORS DURING 2004

International
▷ Student Award, International Biometric Society’s Eastern North American Region (ENAR)

University
▷ Gibson Dissertation Fellowship Award, University of Florida

TEACHING ASSIGNMENTS DURING 2004

Fall
▷ STAT 211. — Principles of Statistics I (total enrollment: 49)

PRESENTATIONS DURING 2004

▷ Rollings School of Public Health, Emory University, February, 2004. (Invited)
▷ Department of Epidemiology and Biostatistics, University of South Florida, Tampa, FL, March, 2004. (Invited)
▷ Department of Statistics, Texas A&M University, College Station, TX, March, 2004. (Invited)
▷ ENAR Spring Meeting, March, 2004. (Invited)
▷ Department of Statistics, University of Georgia, Athens, GA, October, 2004. (Invited)

PUBLICATIONS DURING 2004

• ADDITIONAL UNIVERSITY TITLES HELD DURING 2004
  ▶ Associate Dean for Technology Mediated Instruction, College of Science, [2000]

• SERVICE DURING 2004

  National
  ▶ Chair, ASA/SRCOS So. Regional Comm. On Statistical Summer Research
  ▶ Member, American Statistical Association (NSF Funded) to look at Research Protocols for No Child Left Behind

  Regional
  ▶ Member, Work with High School Teachers to Develop Multimedia Products

  University
  ▶ Chair, Provost Committee of Distance Education
  ▶ Member, University Computing Committee
  ▶ Organizer, Contract Negotiations for University Wide Site Licenses-Camtasia/Snagit

  College
  ▶ Member, College of Science Qatar Committee

  Department
  ▶ Chair, Quality Enhancement Proposal Program
  ▶ Developer, Online Student Evaluation of Faculty
  ▶ Member, Examination Committee
  ▶ Recruiting, Recruit Minorities and Students from Disadvantaged Areas

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ STAT 652.602 — Statistics in Research II (total enrollment: 36)
  ▶ STAT 652.700,710 — Statistics in Research II (total enrollment: 40)
  ▶ STAT 685.623 — Directed Studies (total enrollment: 6)

  Fall
  ▶ STAT 651.605 — Statistics in Research I (total enrollment: 37)
  ▶ STAT 651.700 — Statistics in Research I (total enrollment: 48)
  ▶ STAT 651.710 — Statistics in Research I (total enrollment: 18)
  ▶ STAT 653.600 — Statistics In Research III (total enrollment: 36)
  ▶ STAT 653.700 — Statistics In Research III (total enrollment: 10)
  ▶ STAT 685.623 — Directed Studies (total enrollment: 15)
• RESEARCH PROJECTS DURING 2004
  ▶ Improving the Quality of and Access to Undergraduate Statistics Education, *National Science Foundation*
  ▶ Assuring Excellence in Pre-Calculus Instruction, *Texas Higher Education Teacher Quality Grant*

• PRESENTATIONS DURING 2004
  ▶ COTS, March, 2004. (Invited)
  ▶ Centra, May, 2004. (Invited)
  ▶ ICTCM, October, 2004. (Invited)
• SERVICE DURING 2004

National
▷ Editor, Chemometrics and Intelligent Laboratory Systems
▷ Editorial Board, Journal of Transportation and Statistics
▷ Editorial Board, Journal of Environmetrics
▷ Member, National Research Council Panel on bullet evidence

University
▷ Advisor, Hillel "Friends of Israel" Club
▷ Faculty Advisor, Hillel Jewish Student Organization
▷ Representative, NISS

Department
▷ Member, Promotion and Tenure Committee
▷ Member, Transportation Research Board committee on transportation statistics

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 623.600 — Statistical Methods in Chemistry (total enrollment: 9)
▷ STAT 636.600 — Methods in Multivariate Analysis (total enrollment: 19)
▷ STAT 685.624 — Directed Studies (total enrollment: 1)

Fall
▷ STAT 651.604 — Statistics in Research I (total enrollment: 60)

• PUBLICATIONS DURING 2004

• SERVICE DURING 2004
  College
    ▶ Consultant, College of Veterinary Medicine, Texas A&M University

• TEACHING ASSIGNMENTS DURING 2004
  Spring
    ▶ STAT 302.501-503 — Statistical Methods (total enrollment: 150)
    ▶ STAT 302.504-505 — Statistical Methods (total enrollment: 100)
  Fall
    ▶ STAT 302.501-503 — Statistical Methods (total enrollment: 149)
    ▶ STAT 302.504-505 — Statistical Methods (total enrollment: 99)
• SERVICE DURING 2004

International
▷ Organizer, ISBA World Meeting, Invited Session
▷ Program Committee Member, Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining

National
▷ Associate Editor, Bayesian Analysis
▷ Associate Editor, Technometrics
▷ Associate Editor, Chemometrics and Intelligent Laboratory Systems
▷ Member, Travel Award Committee, IMS
▷ Organizer, ENAR Spring Regional Meeting, Invited Session
▷ Panel Member, National Science Foundation Statistics and Probability Screen Panelist, DMS
▷ Referee: Journals, Various journals in the field

Regional
▷ Chapter Representative, Southwest Texas Chapter, ASA

College
▷ Member, Diversity Committee

Department
▷ Member, Department Head Search Advisory Committee
▷ Member, Parametric Inference Cumulative Exam Committee
▷ Member, Faculty Recruiting Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 408.500 — Introduction to Linear Models (total enrollment: 4)
▷ STAT 608.600 — Least Squares and Regression Analysis (total enrollment: 22)
▷ STAT 689.601 — Special Topics in (total enrollment: 14)
▷ STAT 691.628 — Research (total enrollment: 3)

Summer
▷ STAT 691.103 — Research (total enrollment: 2)
▷ STAT 691.207 — Research (total enrollment: 2)
▷ STAT 691.307 — Research (total enrollment: 1)
Fall

▷ STAT 685.628 — Directed Studies (total enrollment: 1)
▷ STAT 691.628 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
  ▷ Adaptive Methodology for Functional Biomedical Data, National Institutes of Health
  ▷ Development of a High Density, High Performance Beowulf Cluster, National Science Foundation
  ▷ Some Application of Wavelets in Statistics, National Science Foundation
  ▷ Hail: High Availability Network Infrastructure Laboratory, Texas A&M University

• PRESENTATIONS DURING 2004
  ▷ “Bayesian Inference for Wavelet-based Modelling of Functional Data,” ENAR Spring Meeting, Pittsburgh, PA, March, 2004.( Invited)
  ▷ “Bayesian Statistical Modelling with Wavelets,” International Society for Bayesian Analysis, World Meeting, Vina del Mar, Chile, May, 2004.( Invited)
  ▷ “Bayesian Variable Selection for the Identification of Molecular Signatures of Disease Heterogeneity,” School of Biosciences, University of Birmingham, Birmingham, UK, July, 2004.( Invited)
  ▷ “Bioinformatic Tools to Identify Differentially Expressed Genes in Microarray Data and Detect Regulatory Motifs in Genome Sequences,” TX-UK Workshop on Computational Biology and Biomedicine, Glasgow, Scotland, July, 2004.( Invited)
  ▷ “Bayesian Variable Selection for Gene Expression Analysis,” Joint Statistical Meetings, Toronto, Canada, August, 2004.( Invited)
  ▷ “Bayesian Variable Selection for the Identification of Molecular Signatures of Disease Heterogeneity,” Department of Biostatistics, Columbia University, New York, NY, September, 2004.( Invited)
  ▷ “Bayesian Inference for Wavelet-based Modelling of Functional Data,” Division of Biostatistics, New York State Psychiatric Institute, Columbia University, New York, NY, October, 2004.( Invited)
  ▷ “Bayesian Variable Selection for the Identification of Molecular Signatures of Disease Heterogeneity,” Institute of Statistics and Decision Sciences, Duke University, Durham, NC, October, 2004.( Invited)
- **PUBLICATIONS DURING 2004**
  - Davies, NJ; Tadesse, MGT; Vannucci, M; Kikuchi, H; Trevino, V; Sarti, D; Dragoni, I; Contestabile, A; Zanders, E; Falciani, F. (2004) Making sense of molecular signatures in the immune system *Combinatorial Chemistry and High Throughput Screening*, vol. 7, 231-238.
  - Sha, NJ; Vannucci, M; Tadesse, MG; Brown, PJ; Dragoni, I; Davies, N; Roberts, TRC; Contestabile, A; Salmon, M; Buckley, C; Falciani, F. (2004) Bayesian variable selection in multinomial probit models to identify molecular signatures of disease stage *Biometrics*, vol. 60(3), 812-819.
• SERVICE DURING 2004

International
  ▶ Member, International Chinese Statistical Association
  ▶ Member, International Biometrics Society, Regional Advisory Board

National
  ▶ Associate Editor, *Biometrics*
  ▶ Associate Editor, *Journal of the American Statistical Association*
  ▶ Member, National Institutes of Health MBRD Study Section
  ▶ Member, COPSS Fisher Lecture Committee
  ▶ Member, ENAR, International Biometrics Society, Student paper competition committee
  ▶ Organizer, Invited Talk Session, ENAR

Department
  ▶ Chair, Graduate Program Committee
  ▶ Chair, Biostatistics Preliminary Examination Committee
  ▶ Member, Faculty Recruiting Committee
  ▶ Member, Tenure and Promotion Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
  ▶ STAT 685.625 — Directed Studies (total enrollment: 3)
  ▶ STAT 691.625 — Research (total enrollment: 2)

Summer
  ▶ STAT 691.625 — Research (total enrollment: 2)

Fall
  ▶ STAT 643.600 — Biostatistics I (total enrollment: 9)
  ▶ STAT 691.625 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
  ▶ Measurement Error, Missing Data, and Semiparametrics, *National Cancer Institute*
  ▶ Missing/Mismeasured Variables - Methods and Applications, *National Institutes of Health*
  ▶ Non-invasive Optical Detection of Skin Cancer, *National Institutes of Health*
  ▶ Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*
  ▶ Advanced Methodologies for Longitudinal/Clustered Data with Applications to Nutrition and Cancer, *Texas Higher Education CB*
• PRESENTATIONS DURING 2004
  ▶ ASA Houston Chapter, Houston, TX, 2004.( Invited)
  ▶ Department of Statistics, Oregon State University, Corvallis, OR, 2004.( Invited)
  ▶ Department of Statistics, Penn State University, University Park, PA, 2004.( Invited)
  ▶ Department of Statistics, University of California, Davis, CA, 2004.( Invited)
  ▶ ENAR Meeting, Pittsburgh, PA, 2004.( Invited)
  ▶ Joint Statistical Meeting, Toronto, Ontario, 2004.( Invited)
  ▶ Model Based Clustering Workshop, Seatle, WA, 2004.( Invited)
  ▶ WNAR meeting, Albuquerque, NM, 2004.( Invited)

• PUBLICATIONS DURING 2004
  ▶ Davidson, LA; Nguyen, DV; Hokanson, RM; Callaway, ES; Isett, RB; Turner, ND; Dougherty, ER; Wang, N; Lupton, JR; Carroll, RJ; Chapkin, RS. (2004) Chemopreventive n-3 polyunsaturated fatty acids reprogram genetic signatures during colon cancer initiation and progression in the rat Cancer Research, vol. 64(18), 6797-6804.
  ▶ Sanders, LM; Henderson, CE; Hong, MI; Barhoumi, R; Burghardt, RC; Wang, N; Spinka, CM; Carroll, RJ; Turner, ND; Chapkin, RS; Joann, LR. (2004) Enhancement of reactive oxygen species by dietary fish oil and attenuation of antioxidant defenses by dietary pectin coordinately heighten apoptosis in rat colonocytes Journal of Nutrition, vol. 134, 3233-3238.
• HONORS DURING 2004

University
▷ Faculty Fellow, Texas A&M University

• SERVICE DURING 2004

National
▷ Associate Editor, Computational Statistics
▷ Associate Editor, Biometrics
▷ Editor, InterStat
▷ Editorial Board, Journal of Nonparametric Statistics
▷ Referee, Numerous articles for journals, grant proposals, external tenure and promotion cases

College
▷ Member, College Strategic Planning Committee

Department
▷ Chair, Departmental Theory Qualifier for Qualifying Exams Committee
▷ Chair, Faculty Recruiting Committee
▷ Member, Tenure and Promotion Committee
▷ Member, Awards Committee

• TEACHING ASSIGNMENTS DURING 2004

Spring
▷ STAT 685.626 — Directed Studies (total enrollment: 1)
▷ STAT 691.626 — Research (total enrollment: 5)

Summer
▷ STAT 211.101 — Principles of Statistics I (total enrollment: 41)
▷ STAT 691.105 — Research (total enrollment: 2)
▷ STAT 691.208 — Research (total enrollment: 3)

Fall
▷ STAT 212.500 — Principles of Statistics II (total enrollment: 64)
▷ STAT 620.600 — Statistical Large Sample Theory (total enrollment: 7)
▷ STAT 691.626 — Research (total enrollment: 3)

• RESEARCH PROJECTS DURING 2004
▷ Determinants of Male and Female Fecundity and Fertility, National Institutes of Health
Health Maintenance Consortium Resource Center Grant, *National Institutes of Health*

The Role of Pesticide Dispersion within Texas Watersheds in Childhood Cancers, *National Institutes of Health*

Delivery of Health Care to People with Multiple Sclerosis Living in Rural Areas, *National Multiple Sclerosis Society*

Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*

Effects of Medical Marijuana Laws on Drug Use Among Arreestees and Hospital Emergency Room Admissions, *Robert Wood Johnson Foundation*

Factors Influencing Alcohol-Related Traffic Crashes and Fatalities in Texas and an Evaluation of the State’s 0.08 BAC Law, *Robert Wood Johnson Foundation*

Delivery of Health Care to People with Multiple Sclerosis Living in Rural Areas, *University of North Carolina-Charlotte*

The Long-Term Care Needs of People with Multiple Sclerosis, *University of North Carolina-Charlotte*

**PRESENTATIONS DURING 2004**

“Feeding back information on ineligibility from sample surveys to the frame,” 6th ISCA International Conference, Singapore, June, 2004. (Invited)

“Partially linear models with missing linear covariates,” Zhejiang University, Hangzhou, Zhejiang Province, China, June, 2004. (Invited)

**PUBLICATIONS DURING 2004**

Buchanan, RJ; et al. (2004) End of life care in nursing homes: Residents in hospice compared to other end stage residents *Journal of Palliative Medicine*, vol. 7, 221-232.


Buchanan, RJ; et al.. (2004) Analyses of male residents in community nursing facilities: Comparisons of VA residents to other residents *Journal of Rehabilitation Research and Development*, vol. 41, 847-860.


Buchanan, RJ; et al.. (2004) Nursing home residents with emphysema/COPD compared to other residents *Journal of Social Work in Disability & Rehabilitation*, vol. 3, 53-78.

Buchanan, RJ; et al. (2004) Decision making and the use of advance directives among nursing home residents at admission and one year after admission *Journal of Social Work in Long Term Care*, vol. 3, 3-12.

Buchanan, RJ; et al.. (2004) Nursing home residents with multiple sclerosis: Comparisons of African American residents the white residents at admission *Multiple Sclerosis*, vol. 10, 660-667.

Buchanan, RJ; Martin, RA; Wang, SJ; Ju, HS. (2004) Analyses of nursing home residents with multiple sclerosis at admission and one year after admission *Multiple Sclerosis*, vol. 10, 74-79.


THOMAS E. WEHRLY

PROFESSOR STAT (979) 845-3151
twehrly@stat.tamu.edu

• SERVICE DURING 2004

  National
  ▶ Associate Editor, *Statistics and Probability Letters*
  ▶ Referee: Journals, Several journals

  University
  ▶ Chair, University Athletic Council

  College
  ▶ Member, College Undergraduate Curriculum Committee
  ▶ Member, College Research Enhancement Committee

  Department
  ▶ Chair, Faculty Recruiting Committee
  ▶ Chair, Graduate Service Committee
  ▶ Member, Departmental Examination Committee - Parametric Inference Chair

• TEACHING ASSIGNMENTS DURING 2004

  Spring
  ▶ STAT 601.600 — *Statistical Analysis* (total enrollment: 38)
  ▶ STAT 659.600 — *Applied Categorical Data Analysis* (total enrollment: 37)
  ▶ STAT 685.627 — *Directed Studies* (total enrollment: 2)

  Summer
  ▶ STAT 651.200 — *Statistics in Research I* (total enrollment: 29)

  Fall
  ▶ STAT 601.600 — *Statistical Analysis* (total enrollment: 39)
  ▶ STAT 613.600 — *Intermediate Theory of Statistics* (total enrollment: 9)

• RESEARCH PROJECTS DURING 2004
  ▶ Development of a High Density, High Performance Beowulf Cluster, *National Science Foundation*
  ▶ Integration of Biology and Mathematics Education, *National Science Foundation*
  ▶ REU Site: Analytical and Statistical Methods in the Mathematical Sciences, *National Science Foundation*
  ▶ UBM Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, *National Science Foundation*
• PUBLICATIONS DURING 2004
LI ZHU
ASSISTANT PROFESSOR (J)  (979) 845-3160
STAT  liz@stat.tamu.edu

- SERVICE DURING 2004
  National
  ▶ Referee: Journals, *Journal of Computational and Graphical Studies*
  ▶ Referee: Journals, *Cancer*

- PRESENTATIONS DURING 2004
  ▶ “Bayesian Spatial Models for Alcohol Availability, Drug “Hot Spots” and Violent Crime,”
    ENAR Spring Meeting, Pittsburgh, PA, 2004. (Contributed)

- PUBLICATIONS DURING 2004
  ▶ Buchanan, RJ; Bolin, J; Wang, SJ; Zhu, L; Kim, MS. (2004) Urban/Rural Differences in
    Decision Making and the Use of Advance Directives Among Nursing Home Residents at
  ▶ Buchanan, RJ; Wang, SJ; Zhu, L; Kim, MS. (2004) Rural-Urban Comparisons of Nursing
    Home Residents With Multiple Sclerosis *Journal of Rural Health*, vol. 20, 85-91.
  ▶ Cizmas, L; Zhou, GD; Safe, SH; McDonald, TJ; Zhu, L; Donnelly, KC. (2004) Comparative
    In Vitro and In Vivo Genotoxicities of 7H-Benzo[c]fluorene, Manufactured Gas
    Plant Residue and MGP Fractions *Environmental and Molecular Mutagenesis*, vol. 43,
    159-168.
    Analysis *Alcohol and Alcoholism*, vol. 39, 369-375.
7. Research Activity, 2004

This section contains information on all funded research activity for the calendar year 2004. Information was initially reported by faculty and verified whenever possible through the granting agency. Because of calculations and rounding there is a small margin of error.

Information reported by faculty:

▷ Title
▷ Granting Agency
▷ PIs, Co-PIs, and co-workers (internal/external)
▷ Total Funding
▷ Indirect Costs
▷ Start & End Dates

Calendar year calculations:

▷ Total - Indirect = Direct
▷ # Days Total Grant = End Date - Start Date
▷ Daily Grant Award = Total Funding Reported / # Days Total Grant
▷ Grant Award for 2004 = # Days 2004 × Daily Grant Award
### 7.1 Summary of Research Support, 2004

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
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<tbody>
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<td><strong>Federal Agencies</strong></td>
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<tr>
<td>* Lawrence Livermore National Laboratory*</td>
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<tr>
<td>* Subtotal: Lawrence Livermore National Laboratory*</td>
<td></td>
<td>17,182</td>
<td>7,818</td>
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<td>25,000</td>
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<td><strong>National Cancer Institute</strong></td>
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<tr>
<td>* Subtotal: National Cancer Institute*</td>
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<td>63,585</td>
<td>33,769</td>
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<td>97,355</td>
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<td><strong>National Institute for Environmental Health Sciences</strong></td>
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<tr>
<td>Mallick, B.K.</td>
<td>Procedures to Assess the Hazards of a Superfund Site</td>
<td>4/1/2001</td>
<td>3/31/2004</td>
<td>9,924</td>
<td>4,223</td>
<td>14,147</td>
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<tr>
<td>* Subtotal: National Institute for Environmental Health Sciences*</td>
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<td>44,729</td>
<td>33,280</td>
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<td>78,009</td>
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<td><strong>National Institutes of Health</strong></td>
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<tr>
<td>Calvin, J.A.</td>
<td>Procedures to Assess the Hazards of a Superfund Site</td>
<td>4/1/2000</td>
<td>3/31/2004</td>
<td>17,400</td>
<td>13,672</td>
<td>31,072</td>
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<td>Carroll, R.J.</td>
<td>Diet, Apoptosis, and Colon Carcinogenesis</td>
<td>2/1/2002</td>
<td>1/31/2005</td>
<td>44,471</td>
<td>37,127</td>
<td>81,598</td>
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<tr>
<td>Carroll, R.J.</td>
<td>Response to DNA Damage: Colon vs Small Intestine</td>
<td>5/1/2002</td>
<td>4/30/2005</td>
<td>56,402</td>
<td>44,316</td>
<td>100,717</td>
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<tr>
<td>Genton, M.</td>
<td>Statistical Methods for AIDS Clinical Trials</td>
<td>9/1/2003</td>
<td>8/31/2008</td>
<td>97,036</td>
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<td>Grantee</td>
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<td>Vannucci, M.</td>
<td>Adaptive Methodology for Functional Biomedical Data</td>
<td>4/1/2004</td>
<td>3/31/2008</td>
<td>21,251</td>
<td>0</td>
<td>21,251</td>
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<tr>
<td>Wang, N.</td>
<td>Missing/Mismeasured Variables - Methods and Applications</td>
<td>4/21/1997</td>
<td>3/31/2004</td>
<td>7,768</td>
<td>6,544</td>
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<td><strong>Subsubtotal: National Institutes of Health</strong></td>
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<td>917,595</td>
<td>128,335</td>
<td>1,045,930</td>
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**National Science Foundation**

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<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
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</table>

SEC. 7.1 RESEARCH ACTIVITY - BY AGENCY
<table>
<thead>
<tr>
<th>Grantee</th>
<th>Title</th>
<th>Start</th>
<th>End</th>
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<th>Indirect</th>
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<tr>
<td>Genton, M.</td>
<td>Robust Statistics for Correlated Data</td>
<td>8/1/2002</td>
<td>7/31/2005</td>
<td>19,910</td>
<td>0</td>
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<tr>
<td>Liang, F.</td>
<td>A Contour Based Monte Carlo Algorithm with Applications to Computational Statistics and Bioinformatics</td>
<td>9/1/2004</td>
<td>8/31/2007</td>
<td>9,954</td>
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<tr>
<td>Mallick, B.K.</td>
<td>Bayesian Nonlinear Regression with Multivariate Linear Spines</td>
<td>9/1/2002</td>
<td>8/31/2005</td>
<td>44,196</td>
<td>15,804</td>
<td>60,000</td>
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<tr>
<td>Newton, H.</td>
<td>Center for the Application of Information Technology in the Teaching and Learning of Science, (with: R. Ewing, H. Newton, J. Schielack)</td>
<td>9/1/2000</td>
<td>8/31/2005</td>
<td>400,000</td>
<td>0</td>
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<td>Newton, H.</td>
<td>DEM-Changing Faculty Through Learning Communities</td>
<td>11/1/2001</td>
<td>10/31/2005</td>
<td>56,250</td>
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<td>Newton, H.</td>
<td>Noyce Scholarship (Supplement to ITS Center Grant), (with: R. Ewing, H. Newton, J. Schielack)</td>
<td>7/31/2002</td>
<td>8/31/2006</td>
<td>24,464</td>
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<tr>
<td>Vannucci, M</td>
<td>Some Application of Wavelets in Statistics</td>
<td>1/1/2001</td>
<td>12/31/2005</td>
<td>36,800</td>
<td>13,200</td>
<td>50,000</td>
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<tr>
<td>Wehrly, T.E.</td>
<td>Integration of Biology and Mathematics Education, (with: D. Bell-Pedersen, V. Cassone, T. McKnight, J. Walton, T. Wehrly)</td>
<td>1/1/2004</td>
<td>12/31/2009</td>
<td>49,644</td>
<td>0</td>
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<tr>
<td>Wehrly, T.E.</td>
<td>UBM Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences, (with: D. Bell-Pedersen, V. Cassone, R. Honeycutt, T. McKnight, J. Walton, T. 16,769</td>
<td>1,658</td>
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**Private Agencies**

**SEC. 7.1**

**RESEARCH ACTIVITY - BY AGENCY**

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2004 Statistics Annual Report
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## 7.2 Summary of Individual Support, 2004

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784 2004 STATISTICS ANNUAL REPORT
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| National Science Foundation | Robust Statistics for Correlated Data                               | 8/1/2002  | 7/31/2005   | 19,910 | 0        | 19,910  |
| National Science Foundation | Scientific Computing Research Environments for the Mathematical Sciences | 9/1/2001  | 8/31/2004   | 4,869  | 0        | 4,869   |
| U.S. Forest Service         | Spatial and Temporal Analysis of Catastrophic Wildfire               | 7/1/2001  | 7/31/2005   | 15,180 | 0        | 15,180  |
| Fondo de Desarrollo de Ciencia y Tecnologia Chile | A Unified Treatment of Skew-Distributions with Applications in Statistical Modeling | 7/1/2004  | 6/30/2005   | 567    | 0        | 567     |
| * Subtotal Genton, M.       |                                                                      |           |             | 137,562| 0        | 137,562 |

<p>| Hart, J.D.                  |                                                                      |           |             |        |          |         |</p>
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SEC. 7.2 RESEARCH ACTIVITY - BY INDIVIDUAL 789
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**Wang, S.**

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- **Wehrly, T.E.**

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*** Total: All Faculty ***

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