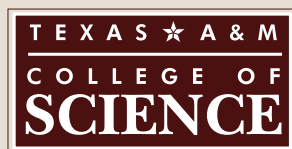




**SCIENTIFIC  
DISCOVERY  
REPRESENTS THE  
GREAT FRONTIER OF  
THE 21ST CENTURY.**

*A fundamental approach to solving today's complex problems is the foundation of the College of Science's discoveries and research to benefit mankind.*



<http://www.science.tamu.edu>

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## Real-World Research

*An Overview of Research in the College of Science*

Through five departments and many interdisciplinary centers and institutes, the College of Science advances discovery and solves real-world problems while producing the next generation of scientific leaders and providing technical innovation and service to the world.

### DOORWAYS TO DISCOVERY

At Texas A&M, our faculty and students are driven by the spirit of discovery and committed to pushing back the boundaries of knowledge. In Fiscal Year 2008, the University's 2,600 faculty conducted nearly 4,000 externally sponsored projects, generating a record \$582 million in annual research expenditures.<sup>1</sup> The College of Science alone is responsible for \$42.4 million<sup>2</sup> of that research, including \$6.1 million in indirect cost return<sup>1</sup> that is reinvested in new and continuing projects.

### DEPARTMENTS OF DISTINCTION

In Calendar Year 2008, the College's total research funding amounted to \$42.4 million.<sup>2</sup> Our departments are leaders in generating funding and proven results that enhance our international reputation for excellence.

- Biology holds a \$5 million NIH grant for biological clocks research, an area where we are world renowned.
- Chemistry is ranked 15th by the National Research Council and seventh in total research and development expenditures nationwide.
- Two-thirds of Mathematics faculty have NSF grants, fueling our rise to 13th nationally among public university departments in research funding
- Physics is a partner in the \$550 million Giant Magellan Telescope.
- Statistics is in the top 15 departments worldwide for total research output (*Canadian Journal of Statistics*).

### PHENOMENAL FACULTY

The College of Science boasts two of A&M's three Nobel laureates, four National Academy of Sciences members, half of A&M's distinguished professors, eight of its 32 University Faculty Fellows, and its only Searle Scholars. Many faculty are CAREER, NYI, and Sloan awardees. This year we made our final hires under A&M's five-year faculty reinvestment plan for one of the largest percent gains University-wide.

### EXCEPTIONAL FACILITIES

The College features vast opportunities and resources to help faculty and students excel in their academic and research efforts. The College and its departments are home to 14 centers and institutes as well as many specialized laboratories and active research groups dedicated to conducting and promoting targeted, interdisciplinary research and teaching. For more about focus areas and specific units, visit <http://www.science.tamu.edu/research/centers/>.

### UNIQUE UNDERGRADUATE OPPORTUNITY

Our undergraduates are exposed to challenging research opportunities designed to enhance their academic experiences and better prepare them for advanced studies or careers in science. As seniors, many are mentored by faculty researchers as Undergraduate Research Fellows or Research Scholars—paid positions with some projects. Three departments also offer paid summer Research Experiences for Undergraduates programs funded by the National Science Foundation.

### INTERDISCIPLINARY EXCELLENCE

Because the search for answers requires an increasingly interdisciplinary approach, we are forging collaborations that break traditional barriers, combine

uncommon skills, and produce unique results. Here are just a few examples of our success to date:

**Bioinformatics:** This National Cancer Institute-funded, post-doctoral training program housed in Statistics is building bridges between life and computational sciences as it analyzes the relationship between diet and cancer risk.

**Biological Clocks:** As part of a five-year, \$5 million National Institutes of Health grant, a group of Biology researchers is using the newest genetic techniques to study biological clocks in organisms from bacteria to mammals.

**Cyclotron:** This U.S. Department of Energy-supported institute is a major technical and educational resource for Texas and the nation. In addition to educating students in accelerator-based science and technology, it brings in \$1 million annually in external use and testing.

**Inorganic Chemistry:** This program, one of the strongest nationwide, includes structure and bonding in molecules, catalysis, and theoretical chemistry of inorganic molecules and solids.

**Neuroscience:** This program brings together faculty from five Texas A&M departments to study the brain and its impact on behavior. To date, nearly 50 faculty members are involved.

**Quantum Optics:** This world-class group looks at problems that span the gamut of quantum physics and engineering. Their insights are used in diverse areas, ranging from quantum computers to biological applications.

**Functional Genomics:** These researchers apply the power of modern analytical methods to study protein structure, identification, and function to chart the results of physiological characteristics and responses in living systems.

**Theoretical Physics:** This group conducts fundamental research to build a theoretical framework to advance our understanding of condensed matter, nuclear, high energy, atomic, and atmospheric physics, and quantum optics.

## HELPFUL RESOURCES

### VICE PRESIDENT FOR RESEARCH

This office oversees research activities for the entire campus and coordinates related efforts with other Texas A&M University System components. It also administers several externally funded grant programs as well as competitive development funds. For more information, go to <http://vpr.tamu.edu>.

### TEXAS A&M RESEARCH FOUNDATION

This nonprofit corporation provides a central location for information about government and extramural foundation funding sources, proposal preparation and processing assistance, and grant and contract negotiation. For additional details, visit <http://rf-web.tamu.edu/>.

### COUNCIL OF PRINCIPAL INVESTIGATORS

This elected group represents principal investigators from each Texas A&M college and A&M System agency and is committed to continuous research and graduate studies environment improve-

ment. To learn more, go to <http://cpi.tamu.edu/records.html>.

### SIGMA XI

This organization was founded to recognize, encourage, and promote scientific research at Texas A&M and to honor its community of science scholars. Members are nominated and elected on the basis of noteworthy achievement in pure and applied science. To learn more, go to <http://sigmaxi.tamu.edu/>.

### OFFICE OF TECHNOLOGY COMMERCIALIZATION

The Texas A&M University System Office of Technology Commercialization (OTC) serves as industry's connection to A&M innovation. On average, the OTC files a patent application every other day and executes one license agreement per week. In addition, it ranks among the top 10 nationwide in the number of licenses executed annually with small businesses. For more information, visit <http://otc.tamu.edu/>.

### TELL ME MORE!

To learn more about research and related funding opportunities and activities in the College of Science, contact:

**Dr. Michael Hall**  
Executive Associate Dean  
(979) 845-7361  
[hall@science.tamu.edu](mailto:hall@science.tamu.edu)

## ABOUT THE COLLEGE

*The College of Science at Texas A&M University takes great pride in providing the highest quality science education, scholarly research, and technical expertise to the people and industries of Texas and the nation. Through five departments and many interdisciplinary centers and institutes, we advance discovery and solve real-world problems while producing the next generation of scientific leaders and technologies and playing a key role in helping Texas A&M succeed in its mission to become one of the nation's top 10 public institutions by the year 2020.*

## QUICK FACTS

- Five departments (Biology, Chemistry, Mathematics, Physics, Statistics)
- 29 degree programs—12 bachelor's, 8 master's, 9 doctorates
- 2,258 undergraduate majors
- 279 tenured/tenure-track faculty (14% of total)
- \$42.4 million/year in research
- ~50% of A&M distinguished professors
- U.S. leader in minority & female Ph.D.s
- Teach 20% of total A&M semester credit hours

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<sup>1</sup> 2007. "Profile," Office of the Vice President for Research, Texas A&M University.

<sup>2</sup> 2008. "College of Science Annual Report," Office of the Dean, College of Science, Texas A&M University.