



COLLEGE OF SCIENCE

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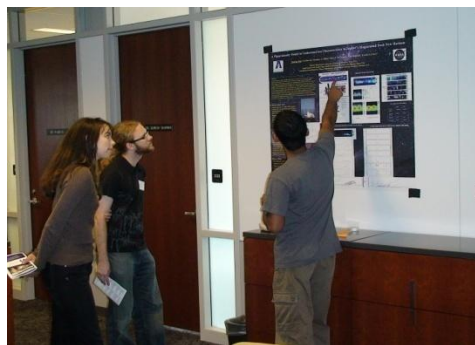
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Research Day 2008

The College of Science Research Day was held on October 3 to bring students, faculty and industry representatives together and experience the exciting progress made in research endeavors within the College. This event, held in the Chemistry & Physics building, was a resounding success with some 145 posters being presented by research groups from the six departments within the College. There were also interdisciplinary presentations originating from the Environmental and Earth Sciences program, from faculty collaborating in the Biology and Electrical Engineering departments and from campus-industry collaborations with HealthPoint Inc. in Fort Worth. The event began with the poster session which was followed with a keynote lecture given by Ron Wright from Congressman Joe Barton's office in Arlington. Mr. Wright gave a highly informative account of the history of scientific research in this country beginning with the path-setting work of pioneers like Benjamin Franklin and Thomas Edison. The talk was followed by a wine and cheese reception that provided the university researchers and visitors to the opportunity to discuss common interests and potential collaborations.

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Research Day Winners



1st Place: Roshan Perera, “Biopolymers Containing Unnatural Amino Acids”

Abstract

The standard genetic code for all living organisms encompasses the same 20 naturally occurring amino acid building blocks with the rare exceptions of selenocysteine and pyrrolysine. Although conventional site-directed mutagenesis allows substitutions among these natural amino acids, our ability to modulate protein structure and function remains quite limited. The genetic incorporation of additional (unnatural) amino acids into proteins has proven a powerful technique for investigating structure and function in biological systems.



2nd Place: Purnendu Dasgupta, “Simple & Versatile, Capillary Scale Absorbance and Fluorescence Detectors”

Abstract

Capillary scale (<1 mm diameter) detection techniques are desired for efficient and rapid analysis with minimum consumption of chemicals and reagents. The general problem with miniaturizing separation and detection systems is the necessary hardware. Few are available; what is available is expensive and often provides poor concentration sensitivity. We present capillary scale absorbance and fluorescence detectors.

Please visit the Research Day website at www.uta.edu/cos/researchday for more poster abstracts and honorable mentions.

Groundbreaking

UTA breaks ground on \$116 million Engineering & Science Building



On September 26 ground was broken for the Engineering Research Complex at the corner of Cooper and UTA Boulevard. This complex will include a new research building that will provide 240,000 square feet of space for Computer Science, Bioengineering and the College of Science. The College of Science will have about 65,000 square feet of space for research labs, offices, conference rooms, and classrooms. The research space is designed for faculty who can effectively collaborate with colleagues in Engineering and will include faculty from Biology, Chemistry and Biochemistry, Physics, Psychology (neuroscience) and Computational Mathematics. The building is expected to be completed by early 2011. [Click here for virtual tour.](#)

Distinguished Alumni



The College of Science is proud to announce that 1973 Psychology alumnus **Ron Jensen** is a recipient of the 2008 Distinguished Alumni Award. Ron is president of Control Products Corporation in Grand Prairie. Under his leadership CPC has amassed annual sales exceeding \$20 million and become an industry leader in interior lighting of airplane cockpits. Ron started working for CPC in 1972 when he was still a UT Arlington student.

A member of the Grand Prairie City Council since 2002, he has been honored twice by the Grand Prairie Chamber of Commerce, receiving the Public Service Award in 2004 and being named Man of the Year in 2007. He is a member of the Regional Transportation Council and Grand Prairie Sports Facility Development Corporation

and has served as president of Grand Prairie Rotary and chair of the Grand Prairie YMCA. He and his wife, Rebecca, live in Grand Prairie and have three children and three grandchildren.

The Alumni Association established the Distinguished Alumni Award in 1965. The annual Distinguished Alumni Awards recognize outstanding alumni for their individual achievements, contributions to their industries or professions, service to their community and demonstrated loyalty to The University of Texas at Arlington. If you would like to suggest someone for nomination for the Distinguished Alumni Award in 2009, please contact Shelly Frank in the College of Science at 817.272.1497 or shellyfrank@uta.edu.

Mary Jane Goad retires after 39 of service



Mary Jane Goad has retired as Assistant to the Dean of Science after 39 years of service. She served every dean in the history of the college. This past year she received a university Employee of the Year Award in recognition of her excellence. On October 23 many faculty and staff, including a good number of retirees, enjoyed a reception to honor Mary Jane. She received a stained glass window from the administrative assistants and a print of an original painting by William Pyburn, a former Biology professor, from the College of Science staff. Four of the seven deans she served (Meacham, Arnott, Cox, and Paulus) were present to provide a perspective on her career at UT Arlington. We wish Mary Jane many wonderful years of retirement.

Hadron Collider

Scientists sent the first beam of protons zooming at nearly the speed of light around the 17-mile Large Hadron Collider (LHC), located at the CERN laboratory near Geneva, Switzerland. The LHC is the world's most powerful particle accelerator. The University of Texas at Arlington built components for the ATLAS particle detector at the LHC and is the lead institution for the Southwest Tier 2 computing facilities that will analyze data from the giant detector. UT Arlington Professor of Physics Kaushik De is the computing operations coordinator for the ATLAS in the United States. [Read More](#)

Departments of Mathematics & Biology granted \$780,946 from NSF

Forty University of Texas at Arlington undergraduate math and biology students will receive financial assistance, mentoring, seminars, research experience and specially designed course work thanks to a \$780,946, five-year grant from the National Science Foundation (NSF). The grant is part of the NSF Undergraduate Training in Theoretical Ecology Research (UTTER) program.

The main objectives of the UTTER program are to enhance undergraduate education and training at the intersection of the biological and mathematical sciences and to better prepare program scholars to pursue graduate study and careers in fields that integrate the mathematical and biological sciences. The core of the UTTER activity is jointly-conducted, long-term research experiences for five interdisciplinary balanced teams of eight undergraduates from the Mathematics and Biology departments under extensive faculty and peer mentoring from both fields.

National Science Foundation Robert Noyce Teacher Scholarship Grant

The National Science Foundation (NSF) has awarded a \$750,000 Robert Noyce Teacher Scholarship Program grant to the College of Education and the College of Science at UT Arlington to support the training of new teachers. The Colleges will work with the Arlington, Dallas and Fort Worth Independent School Districts on the five-year project, placing the teacher candidates in early field experiences with mentor teachers in the three districts.

The NSF funding will allow the project to offer two-year, \$10,000 per year scholarships to nineteen undergraduate students seeking certification in Secondary Mathematics or Physical Science. In addition, the grant will allow for the support of eighteen post-baccalaureates seeking to switch careers into Secondary Math or Physical Science teaching. These returning students are eligible to apply for a one-year, \$10,000 scholarship. In exchange for the generous scholarship support, the newly trained math and physical science teachers will pledge to serve for at least two-years per year of scholarship support in a high-need school.

Project Principal Investigator Dr. Ann Cavallo from the College of Education (COEd) is collaborating on the project with Co-Principal Investigators Drs. Greg Hale, Assistant Dean of Science, Ramon Lopez, Professor of Physics, and James Epperson, Associate Professor of Mathematics. The UT Arlington project team is one of only 20 in the country from a pool of more than 100 applicants to be awarded a grant under this program.

Planning for the project will continue throughout the Fall and Spring of the 2008-2009 academic year, and scholarships will begin to be awarded for the Fall 2009 semester.

Faculty Highlights

- A paper by math professor Jianzhong Su and a UT Southwestern Professor will be a highlighted article in the October issue of *Journal of Neuroscience* . [Read Article](#)
- The University of Texas at Arlington is the lead institution for one of the Tier 2 centers in the United States. The university has devoted 1,000 processors and 500,000 gigabytes of storage to the project, says Kaushik De, a professor of physics at UTA and the center's coordinator. Read more at the following link <http://chronicle.com/weekly/v55/i03/03a01501.htm>
- The paper entitled "Repeated horizontal transfer of a DNA transposon in mammals and other tetrapods," written by Cedric Feschotte, John Pace, Clement Gilbert and Marlina Clark, all affiliated with the Biology department, will be highlighted in *Proceedings of the National Academy of Sciences*. [Read More](#) or <http://www.newscientist.com/article.ns?id=dn14992>
- Associate Professor of Biology Sophia I. Passy authored an article in The *Proceedings of the National Academy of Sciences USA* (PNAS) that showed algal coexistence in the stream benthos (the bottom-dwelling community) disobeyed the predictions of one of the most influential theories in ecology: the competition theory. [Read More](#)