



# RESEARCH TRACKS

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## Baylor faculty earn competitive research funding

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### Zhenrong Zhang, Physics

Dr. Zhenrong Zhang, an assistant professor in the Department of Physics, has received a \$100,000 grant from the American Chemical Society's Petroleum Research Fund to study a process by which petroleum products are turned into chemicals like ethylene and propylene, which are used to produce a variety of industrial materials and other chemicals.

"Ethylene and propylene are very expensive to produce because of the low yield of current conversion methods," Dr. Zhang said. "If current methods could be improved, it would be possible to produce ethylene and propylene more efficiently, which would lower the costs of the chemicals they help produce."

Dr. Zhang and her team will use Baylor's scanning tunneling microscope to visualize the process of turning petroleum into ethylene and propylene, and determine which stages in the process are holding back yield.

"If we know which step is rate limiting, we can improve the design of catalysts to improve yields,"

she said. "Our research is intended to give guidelines for what part of the process is most important."

### Jon Singletary, Social Work

Dr. Jon Singletary, associate professor in the School of Social Work, and Jeremy Everett, director of the Texas Hunger Initiative (THI), have received a grant from the ConAgra Foundation to support the THI in its research on promoting food security.

In addition to supporting community assessments like those profiled in the 2010 *Research* magazine, the \$100,000 grant also provides funds for evaluation of a summer meals delivery model currently operating in Dallas.

The goal of the assessment is to help sponsors and vendors expand children's access to food during the summer while maintaining the financial integrity of the organizations.

Dr. Singletary, Mr. Everett and their team hope to develop a sustainable model for summer food delivery which sponsors can implement nationwide.

## Internationally renowned physicist joins Baylor faculty

Internationally renowned physicist and member of the National Academy of Sciences, Marlan O. Scully, Ph.D., who is best known for his work in theoretical quantum optics, has been named Distinguished Research Academician of Science and Engineering at Baylor University.

Scully, who will establish a new experimental lab within the Baylor Research and Innovation Collaborative (BRIC), has made outstanding research accomplishments over his long career in the areas of quantum optics, laser physics and bioengineering. He wrote definitive textbooks on quantum optics and laser physics and has published his research in more than 700 articles in professional journals such as *Nature* and *Science*. He has also written for popular venues like *Scientific American* and *Physics Today*.



“Dr. Scully is truly a Renaissance researcher,” said Truell Hyde, vice provost for research. “His knowledge and research interests span many fields, and we look forward to his continued research contributions here at Baylor.”

In addition to his membership in the National Academy of Sciences, Scully is a member of the Academia Europa, the Max Planck Society, and the American Academy of Arts and Sciences, among others.

“I am excited to become part of the Baylor community and explore the theological and philosophical implications of quantum mechanics, entropy and statistical time,” said Scully. “Baylor is a unique, academically excellent Christian university, and I look forward to working with fellow researchers as Baylor reaches the next level of research excellence.”

Scully is the Herschel Burgess Chair and Distinguished Professor in the department of physics at Texas A&M and the director of its Center for Theoretical Physics. For the past decade, he has held a professorial position at Princeton.

### Mark your calendars

## Internal grant deadline reminder

The OVPR would like to remind faculty of the deadlines to apply for internal grant funding through the Faculty Research Investment Program (FRIP), Young Investigator Development Program (YIDP), University Research Committee (URC) and Undergraduate Research & Scholarly Achievement (URSA) programs.

Applications for the FRIP, YIDP, and URSA programs are due on February 8, 2012. The deadline for the URC program is February 29, 2012.

[Click here](#) for more information about each of these programs.

To begin the application process, contact your department's assigned [OSP coordinator](#).



### Policy Update

## OVPR clarifies limited submission procedures

Some funding opportunities place limits on the number of applications that may be submitted by a single institution.

When an opportunity contains this limitation, the OVPR is responsible for selecting the proposals which will be certified to represent Baylor with a full proposal.

Previously, the OVPR had set individual procedures and deadlines and created individual application materials for each limited submission opportunity. The new procedure sets a uniform internal deadline six weeks prior to the sponsor's deadline and provides a single application process for all limited submission opportunities.

The OVPR maintains a list of currently active limited submission opportunities, but faculty are encouraged to make the office aware of any opportunities which are not yet listed.

[Click here](#) to view the new procedure, or [click here](#) to view the list of limited submission opportunities.

## OVPR creates new research funding website



The Office of the Vice Provost for Research has unveiled a new website to assist faculty in locating and applying for research funding.

The new site brings together information about internal and external grants to provide prospective investigators with a single source of information.

Damon Crisman, manager of electronic research administration, said the site is intended to serve as a resource for faculty members at all

stages of the proposal process, from searching for funding to preparing an application, to working with OSP to prepare for submission.

“The site has basic information on the logistics of submitting a proposal,” he said, “and there are also a number of sample resources like videos and samples of proposals written to specific funding agencies.”

[Click here](#) to visit the new research funding website.

## Lab safety spotlight

### U.S. Chemical Safety Board releases video on the dangers associated with university research

The U.S. Chemical Safety Board has released a new video on the potential hazards associated with laboratory research at academic institutions.

“Experimenting with Danger” is a 24-minute video focused on three serious accidents: the death of a lab assistant in a flash fire at UCLA in 2008; the accidental poisoning death of a Dartmouth professor in 1997; and an injury suffered by a Texas Tech graduate student in 2010.

Dr. Pat Farmer, chair of the Department of Chemistry & Biochemistry, said the video underscores the need for training and oversight in academic research labs.

“I believe that the teaching of safe practices in the laboratories must be a fundamental part of our curriculum,” he said.

“We are ahead of the curve at Baylor,” he continued, “in that we already have in place a rigorous program of training, inspections, reporting, investigation, and establishing safe and prudent practices. As our efforts expand in our pursuit of tier one research university status, we will continually evaluate and improve upon our safety and training protocols.”

The video serves as a reminder of the importance of laboratory safety precautions in preventing serious



injury or death.

Faculty are encouraged to watch the video and to use it as a resource for students and staff in university laboratories. [Click here](#) to view the video.

## BRIC Updates

### BRIC leaders make presentation on strategic plan

The Office of the Vice Provost for Research and representatives from Perkins+Will, the BRIC architects, recently provided two presentations at the Society of College and University Planners (SCUP) Southern 2011 Regional Conference in San Antonio.

Utilizing the vision established in the BRIC Strategic Plan, the presentations shared the challenging funding roadmap and how officials

were able to strengthen the vision through collaboration with a private university, public technical college, local industry, and local municipality partnerships.

The presentation highlighted these groups' common goals of cultivating strong research, industry, workforce training, and technology development to bring economic advancement for the Central Texas region.



## Federal Grants

Opportunity Title	Due Date
<a href="#"><u>NASA - Land-Cover/Land-Use Change for Early Career Scientists</u></a>	12/01/2011 (NOI)
<a href="#"><u>NIH - Education Research in Sleep Health and Sleep-Circadian Biology (R25)</u></a>	01/02/2011 (LOI)
<a href="#"><u>NSF - Tectonics</u></a>	01/06/2012
<a href="#"><u>NEH - America's Media Makers: Production Grants</u></a>	01/11/2012
<a href="#"><u>NSF - Secure and Trustworthy Cyberspace (Limited Submission)</u></a>	01/11/2012 (Internal)
<a href="#"><u>NSF - Innovation and Organizational Sciences (IOS)</u></a>	02/02/2012
<a href="#"><u>USDA - Nanotechnology for Agricultural and Food Systems</u></a>	02/22/2012 (LOI)
<a href="#"><u>NIH - Research on Children in Military Families: The Impact of Parental Military Deployment and Reintegration on Child and Family Functioning (R21)</u></a>	02/16/2012

## Foundation Grants

Opportunity Title	Due Date
<a href="#"><u>Wenner-Gren Foundation - International Collaborative Research Grants</u></a>	12/01/2011
<a href="#"><u>Spencer Foundation - Relation Between Education and Social Opportunity</u></a>	12/02/2011
<a href="#"><u>Brady Education Foundation - Research &amp; Program Evaluations in Early Education</u></a>	12/16/2011
<a href="#"><u>Robert Browne Foundation Afterschool Matters Initiative - Edmund A. Stanley, Jr. Research Grants</u></a>	12/31/2011
<a href="#"><u>McKnight Endowment Fund for Neuroscience - McKnight Scholar Awards</u></a>	01/03/2012
<a href="#"><u>Leakey Foundation for Research Related to Human Origins - Research Grants</u></a>	01/05/2012

## Questions?

If you'd like to apply for these or other specific opportunities, contact your department's assigned **OSP coordinator**. For questions about searching for funding or setting up funding alerts, contact **[Blake Thomas](#)** at 254-710-3153.