



Department of Biochemistry and Biophysics

Bio/Bio News – March 2015

BIO/BIO FACULTY IN THE NEWS

DR. MARY BRYK NAMED ELATE FELLOW AT DREXEL

The development of world-class talent in the growing fields of science, technology, engineering, and math (STEM) is critical to America's global leadership. Although they represent only 24 percent of the STEM workforce, women earn on average 33 percent more when they work in these high-growth fields.

A faculty member of the Department of Biochemistry and Biophysics at Texas A&M University, is joining the cause to raise awareness of the importance of developing female talent in STEM fields. Dr. Mary Bryk, an associate professor of Biochemistry and Biophysics, was recently announced as a 2014-15 ELATE at Drexel Fellow. ELATE at Drexel is an elite, one-of-a-kind professional development program for women in the academic STEM fields.



As an ELATE fellow, Dr. Bryk participates in classroom lessons and activities, online instruction and discussion, and on-the-job application at Texas A&M. The fellowship concludes with the completion of an Institutional Action Project, developed in collaboration with Texas A&M Provost Dr. Karen Watson.

"We are extremely excited to launch a new year of the ELATE program with this extraordinary group of women," said Diane Magrane, executive director of Drexel's International Center for Executive Leadership in Academics and ELATE fellowship director. "The deans and provosts that have committed to mentoring these women through this intensive year-long process recognize the importance of developing diverse leaders within their institutions. This bodes well for the future of academic STEM leadership."

Dr. Bryk joined the Texas A&M's Department of Biochemistry and Biophysics in 2002. Since her arrival, she has directed a research lab where she, along with her team of students and trainees, investigate how the complex structures acquired by eukaryotic chromosomes regulate the expression of genes and integrity of genetic material. Her research program has garnered support from the National Institutes of

Health, the American Cancer Society and the American Heart Association.

Becoming an ELATE fellow is not the first time Dr. Bryk has emerged as a leader, nor will it be the last. "After serving on several university committees, I realized that I enjoy working with our administrators, and I believe it is very important for faculty to have a voice in university decisions," Dr. Bryk said.

Dr. Bryk is currently the chair of the Texas A&M Council of Principal Investigators after serving two terms as a representative of the faculty of the College of Agriculture and Life Sciences in 2009 and 2012.

In the spring of 2012, Dr. Bryk was awarded an ADVANCE Administrative Faculty Fellowship, through the Texas A&M University ADVANCE Center, funded by the National Science Foundation (NSF). This fellowship allowed her to hold a part-time appointment in the provost's office, where she was instrumental in preparing the reports for Texas A&M's reaccreditation with the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC). She also helped develop and implement the assessment plan for the Texas A&M University Quality Enhancement Plan, Aggies Commit.

Working under Provost Karen Watson and Vice Provost Pamela Matthews, has been a life-changing experience for Dr. Bryk. "The leadership skills possessed by these women, commitment, integrity, ability to communicate effectively, ability to delegate, and sense of humor, inspired me to step out of my comfort zone to make a contribution to the university," she said.

Though Dr. Bryk has no plans to give up her research program, she does plan to further her career in administration if the opportunity arises. "From my experiences as an Administrative Faculty Fellow," she said, "I have learned that the work and the sense of accomplishment associated with university service fulfill me much more than I ever imagined they would."

BIOCHEMISTRY & BIOPHYSICS ANNUAL RECRUITING SYMPOSIUM - 2015

The 22nd Annual Biochemistry & Biophysics Recruiting Symposium, sponsored by the Biochemistry Graduate Association (BGA), was held February 27-28. 25 prospective students, guests of the Department and BGA, visited with faculty and students of the Department, and enjoyed two full days of activities while visiting Texas A&M University.

The activities for the students included, an opportunity to meet with faculty from the Biochemistry Department, a tour of the Biochemistry Department, and of the Texas A&M University campus; dinner in the homes of sponsoring faculty and interactions with current Grad Students.

Each year, as part of introducing the prospective students to the exciting research in the Department, the Annual Biochemistry/Biophysics Research Competition is held. All graduate students working for a faculty member with an appointment in the Department of Biochemistry & Biophysics were eligible to compete in the contest. The first phase of the competition involved the submission of abstracts, which were reviewed by a panel of judges. Students whose abstracts were selected as finalists were contenders in the competition. Each speaker was allotted a total of 15 minutes for his/her presentation and audience questions. Departmental support for BGA sponsored events throughout the year, helps ensure that the annual competition will continue.

The winners of the Research Competition are:

1st Place – **Yuan Yang**, 5th year Grad Student in the laboratory of Dr. Tatyana Igumenova. Yuan received a cash prize of \$500, and a certificate for her presentation titled, *"Dual role of the intrinsically disordered V5 domain in intra- and inter-molecular interactions of PKC α ."*



2nd Place – **Yi Chen** – 5th year Grad Student in the laboratory of Dr. Ryland Young. Yi received a cash prize of \$300, and a certificate for her presentation titled *"The role of antiholin R111 in T4 Lysis Inhibition."*



3rd Place – **Daniel Shoup**, 6th year Grad Student in the laboratory of Dr. Hayes Rye. Daniel received a cash prize of \$200, and a certificate for his presentation *"Burst Analysis Spectroscopy Reveals Disaggregation by Molecular Chaperones Is Controlled by the Internal Structure of Non-Native Protein Aggregates."*



In conjunction with the Research Competition each year several other awards were presented during the Competition.

The highest student award - The John Mack **Prescott Award** is presented to an outstanding student who has opened new areas of research. The award recognizes outstanding senior graduate students in their research accomplishments, in the Department of Biochemistry & Biophysics at Texas A&M University. This award has been named for a former faculty of the Department of Biochemistry & Biophysics, John Mack Prescott, Ph.D. The recipient of this prestigious award for 2015 is Jeremy Weaver from the Hays Rye Laboratory.



The **BGA Faculty Award** was presented to Dr. Ryland Young, who is presently on sabbatical in California. Adriana Hernandez, Grad student in the Young Lab received the award for Dr. Young, in his absence.

A special award **Toni-Ann Mistretta Award**, recognizes a graduate student for their role in the enhancement of graduate student life, was awarded to Dan Browne from the laboratory of Dr. Tim Devarenne.



Congratulations to Sarah Hartman, 2nd year Grad Student in the laboratory of Dr. Jennifer Herman, recipient of the **Graduate Teaching Award**. Robert Koenig, a senior graduate student, in the laboratory of Dr. Greg Reinhart, received the **Graduate Research Award**. The awards were presented during the award ceremony at the Research Competition.

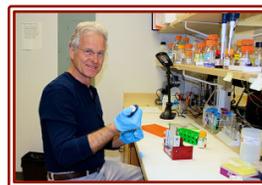


The **BGA Staff Recognition Award** was presented to Mr. Rafael Almanzar, Senior Graduate Academic Advisor I, for the Department of Biochemistry & Biophysics. Rafael has served as Advisor for the Biochemistry Graduate Program since February of 2014.



PROTEIN CHEMISTRY LAB DIRECTOR PROMOTES RESEARCH AND EDUCATION

Seventeen years ago, Dr. Larry Dangott was focused on his research career and had little interest in teaching. A decade later, he realized with surprise, that mentoring students had become his favorite part of his job as a senior research scientist. His work as a mentor, collaborator, and scientist recently helped earn him a Vice Chancellor's Award in Excellence for Technical and Programmatic Staff.



Dangott directs the Protein Chemistry Laboratory in the Department of Biochemistry and Biophysics. The lab is partially funded by the Office of the Vice Chancellor for Research. For researchers throughout The Texas

A&M University System, the facility provides top-notch technologies and technical assistance for analyzing proteins, large biological molecules that perform a wide range of roles in living cells.

"Before coming to Texas A&M, I was in a rarefied atmosphere where I didn't have the responsibility to interact with undergraduates," Dangott says. His previous position was at Harvard Medical School, in Boston. "Coming to A&M, here we are in this wonderfully varied environment."

Serving as a mentor

Dangott now mentors both undergraduates and graduates. He sits on thesis committees. He gives lectures annually in several courses in the College of Agriculture and Life

Sciences and the College of Veterinary Medicine. He also leads weeklong boot camps on using modern molecular biology technologies.

Dangott and his assistant, Mrs. Jinny Johnson, meet the many students who stream through the lab looking for help on a variety of research projects in Biochemistry, Biophysics, or Genetics.

“We sometimes develop projects with students alongside their major professor,” Dangott says. “As a result, we form relationships with these students that can last an entire undergraduate or graduate career. That’s what I find most rewarding.”

One undergraduate Dangott remembers most fondly is Pilar Roper-Foo, a Genetics major who joined the lab as a dishwasher and eventually became an undergraduate researcher. Dangott helped her develop a project to better understand how horses produce sperm. Roper-Foo visited a herd of horses, harvested tissue, and analyzed the types of proteins that horse testicles produce. Her project won a prize at an undergraduate research competition in May 2009. A few years after graduating, she became a high school biology teacher and won an award as the best science teacher in her district.

“We take a small part of the credit for that achievement and we’re proud of her,” Dangott says. “We believe in a science-educated citizenry.”

Making connections

While directing the lab, Dangott has continued to do his own research. His recent work addresses questions on the molecular biology of reproductive cells. For example, he studies the structure and function of proteins that help sperm reach an egg in the female reproductive system. He also develops new methods to study protein structure and function. He is an author on 58 research articles, as well as a book chapter.

He has become a collaborator and a co-author to many of his lab’s clients, who value his ability to solve critical research problems, offer suggestions, and interpret data.

Dangott is proud of the collaborations he has created with and between other people. “The lab helps develop relationships,” Dangott says. “Because we know so many people, we try to make connections and try to push collaborative work. We nurture relationships between students and between labs.”

Posted in Agriculture & Life Sciences, March 4, 2015 by Angel Futrell

By: Olga Kuchment



**REMINDER! WELLNESS EXAM
DON'T PUT IT OFF**

To continue your eligibility for the lower premium of the Wellness Exam Incentive program for the plan year beginning September 1, 2015, you will need to complete your annual

wellness exam by June 30 2015!

Complying has become easier! Catapult Health is scheduling Free Onsite Preventive Checkups – but you must schedule your appointment – log on to www.TimeConfirm.com/TAMUBCS to set up your appointment

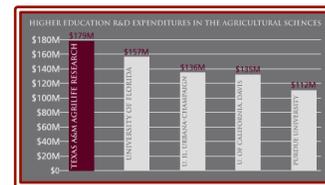
This onsite visit with a licensed healthcare provider will serve as your annual [Wellness Exam](#). Your results will be securely sent to your personal physician. If you do not have a personal care provider, Catapult will assist you with finding one.

Don't put it off, appointments are limited at this time, so schedule yours now; June 30 will be here soon!

TEXAS A&M AGRILIFE RESEARCH RETAINS NO. 1 RANKING IN AGRICULTURAL RESEARCH EXPENDITURES

Higher Education R&D Expenditures in the Agricultural Sciences, data from the [National Science Foundation](#)

Texas A&M AgriLife Research was ranked No. 1 in agricultural sciences expenditures for fiscal year 2013, the latest year for which figures are available, according to the National Science Foundation.



The ranking marks the second year in a row the agency has topped almost 200 universities nationwide, according to Dr. Craig Nessler, AgriLife Research director at College Station. AgriLife Research, part of the Texas A&M University System, accounted for more than \$179 million of the more than \$3.35 billion spent on agricultural research by more than 35 U.S. universities, surpassing the University of Florida, University of Illinois-Urbana-Champaign, University of California-Davis and Purdue University in the top five positions.

Prior to 2012, AgriLife Research had totaled the third or fourth highest expenditures.

Turf grass in the green house at the Texas A&M AgriLife Research and Extension Center in Dallas. (The A&M AgriLife Research photo by Kathleen Phillips)

“It’s gratifying to see that we rank No. 1 again, because this is a measurement of the outstanding work our scientists do to positively impact the lives of Texans, our fellow citizens across the nation and people worldwide with important scientific discoveries in agriculture and natural resources,” Nessler said. “In an era when research budgets have been cut, we continue to attract funding to support our work to advance agriculture.”

The National Science Foundation – created in 1950 by Congress “to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national

defense” – annually measures the total research spending in several categories, including agriculture.

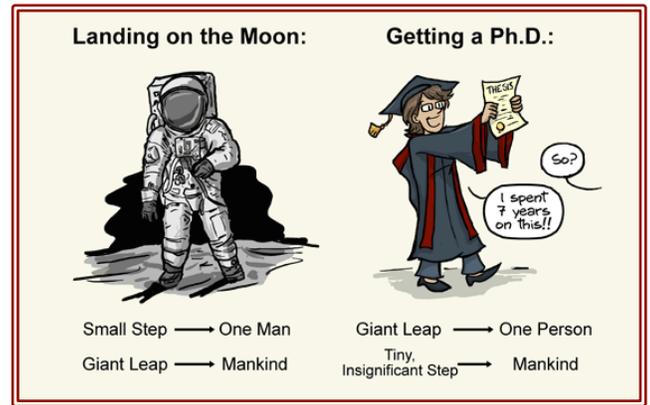
“AgriLife Research is a model and an asset for the entire System,” said John Sharp, chancellor of The Texas A&M University System. “The agency has a successful, innovative approach to securing funds that enable our scientists to concentrate on their projects, thus making our world a better place.”

AgriLife Research officials said the increased funding is up from \$176.4 million the previous reporting period and is \$22 million higher than No. 2 ranked University of Florida.

Writer: Kathleen Phillips, 979-845-2872, ka-phillips@tamu.edu
Contact: Dr. Craig Nessler, 979-845-8486, cnessler@tamu.edu

UPCOMING EVENTS IN BIO/BIO

Faculty Meeting, N127, 3:30 PM	TBD
Spring Break, Faculty & Staff	March 18-20
Graduating Seniors Reception, 3PM	May 14
COALS Commencement, 9AM	May 15
Faculty/Staff Holiday, Memorial Day	May 25



We, in the Department of Biochemistry & Biophysics, Congratulate our grad students on completing their course of study, and receiving their Ph.D.s. Hang in there Grads – you’re going to make it! Thank you for your camaraderie and perseverance - your hard work will definitely be rewarded – a **Giant Step** for each Graduate!