

**NEWS/EVENTS**



▶▶ Read "LSU Studies Old Ice for Future Insights" in *The Advocate*

**Life Beyond the Ice**

**LSU Researchers Examine Organisms' Ability to Repair Their Own DNA**

Associate Professor of Biological Sciences Brent Christner and his colleagues have observed that while frozen, some single-celled organisms are capable of repairing their own DNA, even after exposure to doses of radiation that would prove fatal for a human being. The organisms, some of which are 30,000 years old, are stored in several hundred pounds off ice in a freezer of LSU's Life Sciences Building.

These findings are quite exciting especially for those studying the possibility of life on Mars. In an October 19 article published in *The Advocate*, Christner said it's not outlandish to assume that the same type of single-celled organisms that exist today in some of Earth's most extreme weather conditions could also exist on Mars — now a frigid planet with a surface temperature of about minus-50 degrees Celsius that is constantly being bombarded by cosmic radiation because of its thin atmosphere.

"It follows that if we are going to look for evidence of life on Mars, we shouldn't be looking for corpses," Christner said. "We should be looking for living organisms probably frozen and living beneath the planet's surface."

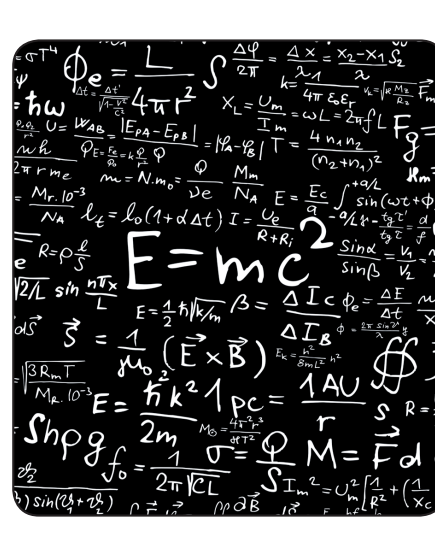


**Discovery's Science Channel Films LSU Geologists for 'Strip the City' Series**

A film crew with Discovery Communications' Science Channel filmed Sam Bentley, Billy and Ann Harrison Chair in Sedimentary Geology and director of the LSU Coastal Studies Institute, and his research team as part of the channel's popular "Strip the City" series. In this episode, the show will examine the constraints imposed by geology on the engineering of buildings and infrastructure in New Orleans.

During the taping, Bentley along with Kevin Xu from the LSU Department of Oceanography and Coastal Sciences and doctoral students Kevin Obelcz, Crawford White, Jill Banks, and Greg Keller, collected a 20 foot vibrocore then split and studied the core to answer questions about the history and geology of the area.

*The episode will air in January or February. We will keep you posted on the air date.*



**LSU Superfund Research Center Holds Annual Meeting in Baton Rouge**

The LSU Superfund Research Program (SRP) hosted the annual SRP meeting in Baton Rouge, October 15-17. More than 200 attended the meeting, which brought together researchers, trainees, and administrators supported by superfund programs at the University of Arizona, Boston University, Harvard, Brown, Duke, Michigan State, and other institutions. Participants also included representatives from partner agencies such as the U.S. Environmental Protection Agency and the Agency for Toxic Substances and Disease Registry. LSU President and Conference sessions focused on topics such as emerging contaminants and pollutant mixtures, environmental and health effects of halogenated pollutants, and arsenic and heavy metals. The event also included a poster presentation session for graduate students.

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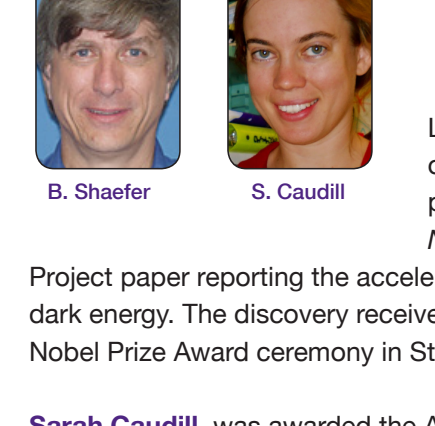


**Physics Department to Host 2014 Women in Physics Conference**

The LSU Department of Physics & Astronomy will host the 2014 Conference for Undergraduate Women in Physics, January 17 - 19. The conference will highlight career opportunities for physicists. Conference activities include tours of national laboratories, research presentations, discussion panels and numerous networking opportunities. Discussion panel topics will include applying for and succeeding in graduate school, how to get involved in undergraduate research, and the diversity of careers available to physicists.

The conference is one of eight conferences occurring simultaneously and organized through the American Physical Society.

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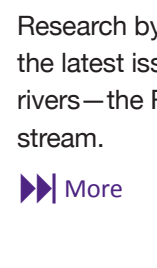
**LSU Community Celebrates Fall Fest 2013**

LSU held its 19th annual Fall Fest celebration on October 11. Fall Fest is the chancellor's official "Welcome" for new students, faculty, and staff and a "Welcome Back" for returning LSU family members. The Fest provides an opportunity for the LSU community to learn about different campus departments, enjoy free food and drinks, and celebrate the spirit of LSU.

▶▶ View highlights of Fall Fest 2013

*Left: Mathematics students April Chow, Ian Runnells, and Laura Johnson man the Mathematics Department table during Fall Fest 2013.*

**KUDOS**



**LSU Physicist, LIGO Member Recognized for Achievements in Research and Scholarship**

LSU's Office of Research & Economic Development presented **Bradley Schaefer**, professor of physics & astronomy, with the 2013 Distinguished Research Master Award. Schaefer has published more than 200 peer reviewed articles in prestigious journals, including eight in *Nature*. His research received international acclaim for his role in the Supernova Cosmology Project paper reporting the accelerated expansion of the universe due to a previously unknown form of energy now known as dark energy. The discovery received the 2011 Nobel Prize and Schaefer, who contributed to the discovery, was invited to the Nobel Prize Award ceremony in Stockholm, Sweden.

**Sarah Caudill**, was awarded the Alumni Association Distinguished Dissertation Award in Science, Engineering, and Technology, for her dissertation work which has led to the development of several approaches to detecting gravity waves. Such waves are predicted to occur as a consequence of highly energetic cosmic events, but are so weak at great distances that the waves have not yet been recognized. Caudill received a BS degree in physics from Stetson University and later moved to LSU to become a member of the international collaboration Laser Interferometer Gravitational-Wave Observatory. Her work has resulted in more than 27 publications with coauthors on the LIGO team.

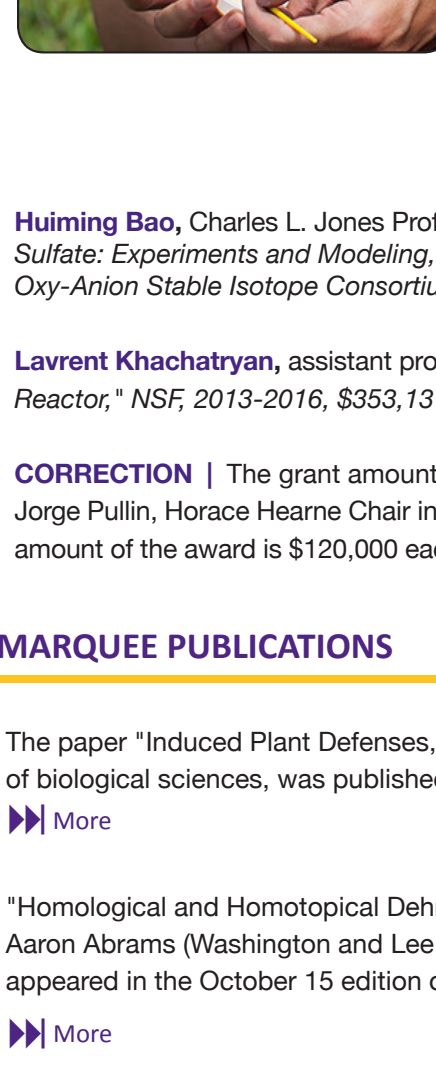


Research by **Peter Clift**, Charles T. McCord Endowed Professor of Geology & Geophysics, was featured in the latest issue of *The Economist*. The article, *Divided by Five*, examines the possibility that Asia's Five great rivers—the Red River, the Yangzi, the Irrawaddy, the Salween and the Mekong—were once a single powerful stream.



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**NEW FUNDING**

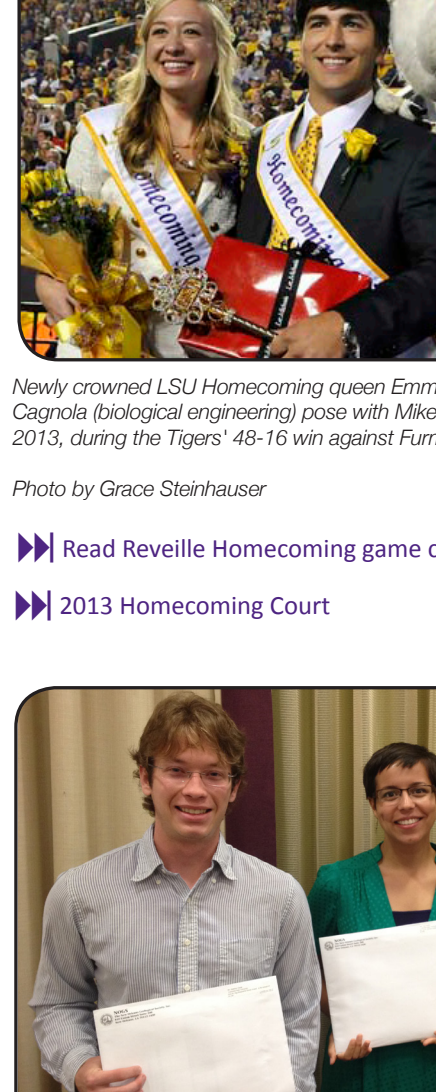


**Vicente Secures More Than \$2 Million Grant to Expand Biomedical and Behavioral Sciences Research Program**

Graca Vicente, Charles H. Barré Distinguished Professor of Chemistry, and director of the LSU Initiative for Maximizing Student Development (IMSD) Program, recently received more than \$2 million from the National Institute of General Medical Sciences (NIGMS) to fund phase three of the MSD program. Supported since 2004, the program aims to enhance diversity in the biomedical and behavioral sciences by providing research, training, academic development, and career opportunities. NIGMS, one of the National Institutes of Health in the U.S. Department of Health and Human Services, has funded the program through 2018. Initial phases of the program focused on undergraduates, however, phase three expands the program to include graduate students.

One hundred percent of the scholars in the program are minorities, said Vicente. "We need a higher representation of minorities and underrepresented groups in research and leadership positions, and that is why this program is important."

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**LSU Professor Awarded Prestigious NSF Grant**

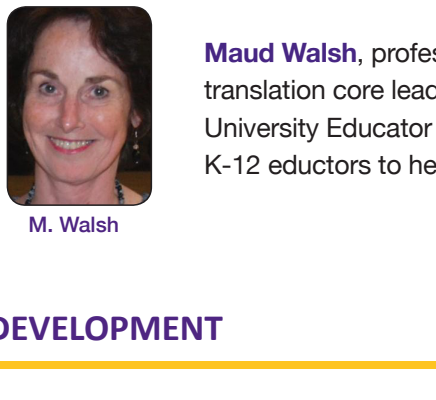
**Bret Elder**, LSU quantitative ecologist, has secured a five-year, \$883,000 grant from the National Science Foundation's Ecology and Evolution of Infectious Diseases program to explore the complex connections among the baculovirus pathogen, its host and the ecological community that contains them.

Fortunately for humans, baculovirus infections don't pose a threat to any creature with a backbone. But as remote as this insect pathogen may seem, Elder is uncovering deep mathematical patterns that undergird the spread of many infectious diseases. Elder can use the same suite of equations to describe epizootics in insect populations and epidemics in human populations.

▶▶ Read *Epidemic Patterns* by Jenny Linscott



**Huiming Bao, Charles L. Jones Professor of Geology & Geophysics, "Incorporation and Elimination of Molecular Oxygen Signaling in Sulfate: Experiments and Modeling," NSF-EAR, 2013 - 2016, \$348,244 AND "Acquisition and Upgrade of Research Equipment at Oxy-Anion Stable Isotope Consortium at Louisiana State University," NSF-EAR, 2013-2014, \$375,439.**



**Laurent Khachatryan, assistant professor of chemistry, "Pyrolysis of Lignin for Bio-Oil Under CO2 Laser Irradiation in the 'Wall-Less' Reactor," NSF, 2013-2016, \$353,137.**



**CORRECTION |** The grant amount for "*The Dynamics of Quantum Gravity: Symmetry Reduced Models*," an NSF grant awarded to Jorge Pullin, Horace Hearne Chair in Theoretical Physics, was mistakenly listed as \$120,000 in last month's e-newsletter. The correct amount of the award is \$120,000 each year for three years.

**MARQUEE PUBLICATIONS**

The paper "Induced Plant Defenses, Host-Pathogen Interactions, and Forest Insect Outbreaks" by **Bret Elder**, assistant professor of biological sciences, was published in the September 10 edition of the *Proceedings of the National Academy of Sciences (PNAS)*.

"Homological and Homotopical Dehn Functions are Different," by Pallavi Dani, assistant professor mathematics, and coauthors Aaron Abrams (Washington and Lee University), Noel Brady (University of Oklahoma), and Robert Young (University of Toronto) appeared in the October 15 edition of *PNAS*.

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**STAR SCHOLARS**



**Biological Sciences Major Crowned Homecoming Queen**

**Six Science Students Members of Homecoming Court**

Students in the College of Science did not go unnoticed during this year's homecoming celebration. **Emma Arceneaux**, a senior majoring in biological sciences, took the field during the halftime of the Furman vs LSU game as she was crowned the 2013 homecoming queen.

"It was so incredible, I don't even have words to describe it," Arceneaux said. In addition to Arceneaux, there were five other science majors on the homecoming court this year including, **Sarah Beth Theriot**, biological sciences; **Tuan Tran**, biological sciences with a double minor in psychology and chemistry; **Sara Hazlewood**, mathematics concentrated in secondary education; **Jacob Boudreaux**, double major in biochemistry and french; and **Gabriella Darden**, mathematics.

Four geology students were recognized and awarded scholarships with the New Orleans Geological Society (NOGS) Awards October 14.

**Lee H. Meltzer Graduate Scholarship - \$3000**

- Tara Jonell, PhD student

**George W. Schneider Sr. Memorial Scholarship - \$2500**

- Kathryn Denomme, PhD Student

**Jules & Olga Braunstein Memorial Scholarships:**

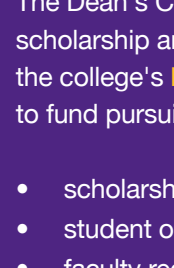
**Senior Award - \$2500**

- Matthew Smith

**Junior Award - \$2000**

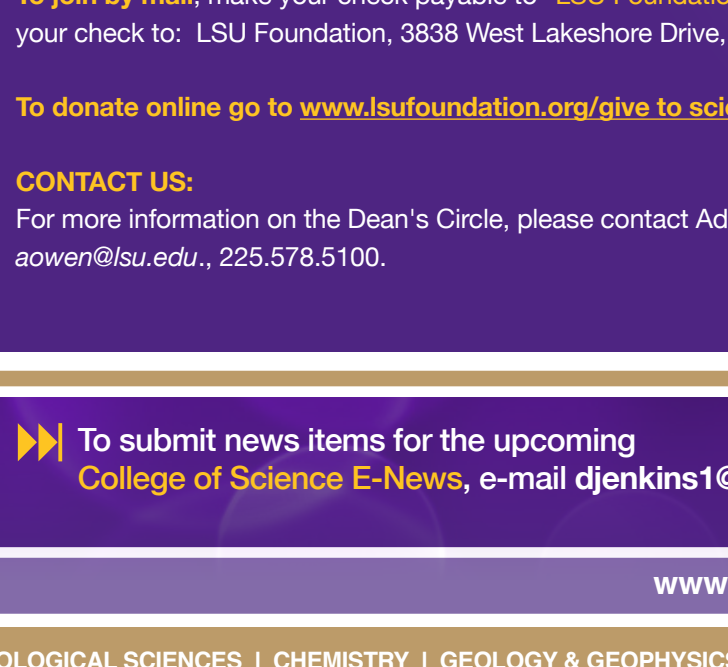
- James Emerson Smith IV

**ALUMNI**



**Maud Walsh**, professor of plant, environmental, and soil sciences and LSU Superfund Research Project research translation core leader, has been awarded the Louisiana Science Teachers Association's William Craig Outstanding University Educator Award. The award recognizes faculty who give back to their communities by reaching out to K-12 educators to help improve science education in the classroom. Walsh is a 1989 PhD graduate in geology.

**DEVELOPMENT**



**College Hosts Dean's Circle Dinner**

Nearly 100 alumni and friends of the College of Science filled the banquet hall of Juban's Friday, October 11, for the seventh annual Dean's Circle (DC) Dinner. The event began with a student poster presentation during the cocktail hour, followed by a brief address by LSU Provost Stuart Bell. Interim Dean Guillermo Ferreyra welcomed the guests and acknowledged the DC members for their continued support of the college's educational pursuits. Ferreyra also recognized some of the stellar students in attendance, including LSU Truman Scholar Catherine Fontenot and Goldwater Scholar Bruno Beltran.

The speaker for the evening was Prosanta Chakrabarty, assistant professor of biological sciences and curator of ichthyology for the LSU Museum of Natural Science. Chakrabarty shared his experiences exploring the caves of Australia in search of blind cavefishes and fishing the waters of Singapore, the Dominican Republic, the Yucatan Peninsula, Taiwan, and a host of other interesting sites throughout the world.



**Alumni Share Experiences During Medical Careers Night**

Dean's Circle members and LSU alumni Mel Triay, Mary Neal and Jim Lange offered students valuable insight into the preparation needed to pursue careers in medicine during the College of Science's Medical Careers Night held October 10 in Evangeline Hall. Each of the alumni have made extensive contributions to their field and were eager to encourage the next generation of medical professionals. Triay is a board certified anesthesiologist with 29 years experience. Neal, a retired obstetrician, was named one of the "Top Docs" by *Texas Monthly* magazine in 2007, and Lange is an accomplished research scientist with the Centers for Disease Control.



**ExxonMobil Gives \$65,000 to LSU Foundation**

Local ExxonMobil representatives presented the LSU Foundation with a \$65,000 gift on behalf of Exxon Mobil Corporation during an October 8 reception at the Club at LSU Union Square. The gift provides support to the colleges of Engineering and Science, the E. J. Ourso College of Business and LSU Career Services.

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**NEW DEAN'S CIRCLE MEMBERS**

The College of Science would like to welcome the newest members of the Dean's Circle. Thank you for your contribution to the exciting teaching and research activities in the College of Science.

- Dick and Cece Edwards, joined October 2013

▶▶ Click here for a complete list of DC members



**Support Research and Scholarship at LSU**

**Join the LSU College of Science DEAN'S CIRCLE**

The Dean's Circle (DC) is a loyal group of alumni and friends who share a passion for advancing scholarship and research at LSU. DC members are playing an ever-increasing role in supporting the college's **Formula for Excellence** Strategic Plan. Our DC provides the working capital needed to fund pursuits of the College including, but not limited to:

- scholarships for first-time freshmen to attend pre-college boot camps,
- student organizations and educational travel expenses,
- faculty recruitment and recognition activities, and
- development initiatives that build alumni and community relations.

Dean's Circle membership recognizes the generosity of alumni and friends who make annual gifts of \$1,000 or more to the Science Development Fund. Members enjoy invitations to events hosted by the college, including the annual Dean's Circle dinner and Hall of Distinction Ceremony, special communications from the dean throughout the year, and opportunities to meet and network with college leadership and other members.

To join by mail, make your check payable to "LSU Foundation-Science Dean's Circle" and mail your check to: LSU Foundation, 3838 West Lakeshore Drive, Baton Rouge, LA 70808

To donate online go to [www.lsufoundation.org/give-to-science](http://www.lsufoundation.org/give-to-science).

CONTACT US: For more information on the Dean's Circle, please contact Adrian Owen, [aowen@lsu.edu](mailto:aowen@lsu.edu), 225.578.5100.

▶▶ To submit news items for the upcoming College of Science E-News, e-mail [djenkins1@lsu.edu](mailto:djenkins1@lsu.edu) ▶▶ GIVE to the College of Science ▶▶ LIKE US on facebook