



# LSU

FEBRUARY-MARCH 2010

COLLEGE OF BASIC SCIENCES

# E-NEWSLETTER

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The College of Basic Sciences *e-Newsletter* is distributed to all faculty and staff in the College and to campus administrators, alumni, and friends of the college.

If you know someone who should be receiving or would like to receive the *e-Newsletter* and is not, please send their contact information and e-mail address using the link below. Articles and ideas for the *e-Newsletter* should be sent to [bascdean@lsu.edu](mailto:bascdean@lsu.edu). Please include hyperlinks when possible.

*Thanks to all who provide the items for this newsletter.*

## NOTES FROM 336 HATCHER

### Dear Friends and Colleagues,

We are in the midst of tumultuous, challenging, and often confusing times. As you undoubtedly know, all non-tenure-track faculty, including instructors have recently been given notice of non-renewal. As Chancellor Martin has indicated, these notices are part of an unfortunate process to prepare for potential budget cuts in the coming year. The governor's budget, as well his recently announced proposal for changes in tuition policy, give me hope that we will be able to avoid the worst scenario. Nevertheless, LSU is still facing significant budget challenges. As we navigate this period of uncertainty, I hope that you will join me in thanking our instructors for the extraordinary contribution that they make to our academic programs. They are dedicated professionals and a vital component of our academic mission, now and into the future.

The College of Basic Sciences Policy Committee has been resurrected after a period of dormancy. Members of the Policy Committee are elected from their respective departments, and the committee serves as an independent group that represents the faculty and advises the dean on policy matters that are relevant to the college. Current members include: Jim Cronin and Joo Kim (BIOL), Erwin Poliakoff and John Pojman (CHEM), Jianhua Chen and Raj Kannan (CSC), Phil Bart and Laurie Anderson (GEOL), Oliver Dasbach and Neal Stoltzfus (MATH), and Phil Adams and Jim Matthews (PHYS). Phil has been elected chair of the committee. I encourage you to contact one of your representatives if you have issues that you would like them to consider.

Even though most of the news seems gloomy these days, it is nice to have something good to share. The College (including Math) generated a bit more than \$31M last year and through the first 7 months of FY 2009-10 we have collectively generated more than \$28M. CHEM, GEOL, and MATH have already exceeded last year's total funding, CSC and PHYS have almost equaled last year's funding, and BIOL is ahead of their pace of \$10M from last year. Well done!

Over the past several months I've been visiting with fellow deans Chris D'Elia (SCE), Rick Koubek (ENG) and Eli Jones (BUS) regarding a university-wide initiative that focuses on "energy and the environment." We are now in the process of formulating plans for a summit on energy and the environment that will take place next fall and will feature nationally prominent speakers on a variety of topics relative to this critically important topic. Rich Kurtz in particular has been working closely with associate deans in other colleges to bring the summit into focus. You'll be hearing more about this in the coming weeks and months, but please feel free to contact Rich or me if you have thoughts or ideas you would like to discuss.

Continued

Finally, the College of Basic Sciences Residential College boasted the top gpa among all residential colleges at LSU last fall. Hats off to our outstanding students, and to Chris Gregg and Jami Cates who have been working hard to provide a great living-learning experience to them. If you haven't yet done so, I encourage you to attend one of the BASCRC events this spring.

Regards, Kevin C.

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## KUDOS

### Seven BASC faculty were named AAAS Fellows:

- **Terry Bricker**, Moreland Family Professor of Basic Sciences (Biological Sciences)
- **Barry Dellinger**, Patrick F. Taylor Chair for the Environmental Impact of Hazardous Waste (Chemistry)
- **Jonathan Dowling**, Hearne Research Chair in Theoretical Physics (Physics & Astronomy)
- **Brooks Ellwood**, Robey H. Clark Distinguished Professor (Geology & Geophysics)
- **Mark Hafner**, DeSoto Parish Alumni Chapter Alumni Professor (Biological Sciences)
- **Kevin Smith**, LSU Foundation James C. Bolton Professor (Chemistry)
- **Steve Soper**, Dr. William L. and Patricia H. Senn, Jr. Endowed Professor (Chemistry)

At the annual LSU awards ceremony later this semester, **Fred Rainey** (Biological Sciences) and **Bradley Schaeffer** (Physics & Astronomy) will receive the **LSU Distinguished Faculty Award**. **Anne Grove** (Biological Sciences) and **Geoffrey Clayton** (Physics & Astronomy) will receive the LSU Alumni Association Faculty Excellence Award

**Jeff Blackmon** (Physics & Astronomy) has been elected to chair the Users' Executive Committee of the National Superconducting Cyclotron Laboratory and will represent the NSCL on the National User Facility Organization for 2010.

**Susanne Brenner** (Mathematics) recently spent a month as *Professeur Invité* at the Laboratoire Jacques-Louis Lions at the Université Pierre et Marie Curie in Paris.

**John Caprio** (George C. Kent Professor of Biological Sciences) developed technology that makes fishing lures [irresistible through stimulation of taste reflexes in fish](#).

**Mette Gaarde** (Physics & Astronomy) has been appointed to a 3-year term as a member of the Editorial Board for *Physical Review A*.

**Richard Gibbons** (Museum of Natural Science) announced the annual [Winter Bird Atlas](#) takes place January 10 through February 20, sponsored by the LSU Louisiana Bird Resource Center

**Mark Jarrell** (Physics and Astronomy/CCT) and colleagues received the [2010 Innovative and Novel Computational Impact on Theory and Experiment](#) (INCITE) award.

**Thomas Kutter** (Physics & Astronomy) and colleagues on the Tokai to Kamioka Long Baseline Neutrino Oscillation Experiment (T2K) have detected the first neutrino events generated by their newly built neutrino beam at the J-PARC accelerator laboratory in Tokai, Japan.

**Vince LiCata** (Biological Sciences) is part of a group promoting biodiversity through [arts education and modern culture](#). In addition, he has organized a Theatre Symposium for the 2010 Meeting of the American Association for the Advancement of Science (AAAS) titled "Science in the Theater."

**John Pojman** (Chemistry) is featured in "Science in Orbit," about the future of research on the International Space Station in [C&E News](#), (Feb. 1, 2010).

**Van Remsen** (McIlhenny Distinguished Professor and Curator of Birds/Biological Sciences and the Museum of Natural Science) participated in the [LPB special John James Audubon documentary](#) which premiered December 2, 2009.

**Victor Taveras**, (Postdoc/Physics & Astronomy and CCT) won the Bergmann-Wheeler prize of the International Society of General Relativity and Gravitation "for contributions to loop quantum cosmology and the development of a novel extension of loop quantum gravity." The International Society of General Relativity and Gravitation will formally present the award at a conference in Mexico City in July 2010.

**John Wefel** (Physics & Astronomy) is a member of the Astronomy and Astrophysics Advisory Committee (AAAC) that advises the NSF, NASA, and DOE on issues involving the three agencies within the fields of astronomy and astrophysics.

## NEW GRANT FUNDING NOTICES

### BIOLOGICAL SCIENCES

**Patrick DiMario**, “Nucleolar Protein Function in Cell Growth and Stress,” NSF, August 2009 through September 2013, \$434,167.

**Steven Hand** with Co-PI Michael Menze, “Mechanisms of Animal Desiccation Tolerance,” NSF, August 2009 through August 2012, \$600,000.

**Matthew Slocum** and Co-PI **William Platt**,” Task Order 1 (cooperative agreement #W81XWH-09-2-0031),” US Army Medical Research Acquisition Activity, September 2009 through September 2010, \$73,500.

### CHEMISTRY

**Robert Cook**, “Linking Molecular Level Interactions to Macroscopic Sorption Behavior of Agricultural chemicals to Soils via Surrogates,” USDA, September 2009 through August 2012, \$330,509.

**Leslie Butler** with Co-PI **Randall Hall**, “GOALI: Dynamic Tomography and Materials Simulations for Polymer Blends and H<sub>2</sub> Storage Materials,” NSF, September 2009 through August 2012, \$449,500.

**Brian Hales**, “GEM Fellow-Nyote Oliver,” National Consortium for Graduate Degrees for Minorities, August 2009 through May 2010, \$20,000.

**Andrew Maverick** and Co-PI’s **Megan Macnaughtan**, with **Vincent LiCata**, **Allison Joubert Richard** (Biological Sciences), “Purchase of Equipment of Polypeptide Synthesis, Purification and Analysis,” NSF, July 2009 through June 2012, \$105,402.

**Robin McCarley**, “Reductase Enzyme-responsive, Self-immolative Nanovehicles,” NIH, July 2009 through June 2010, \$325,000.

**Robin McCarley**, “Responsive Molecular Assemblies,” NSF, September 2009 through August 2010, \$484,997.

**David Spivak** and Co-PI **Evgueni Nesterov**, “New molecularly Imprinted Polymers with Significantly Enhanced Properties for Chemical and Biological Analyses and Separations,” NSF, September 2009 through August 2012, \$286,354.

**Steven Soper**, “Roche Proof of Concept Project,” Roche Diagnostics, October 2009 through January 2010, \$75,000.

**Donghui Zhang**, “CAREER: Well-Defined Cyclic and Linear Poly(alpha-peptoid)s and Their Block Copolymers: Synthesis, Characterization and Solution Self-Assembly,” NSF, 2010-2015, \$640,000.

**Isiah Warner** with Co-PI’s **David Spivak** and **Min Li**, “Analytical Studies Using Ionic Liquids,” NSF, September 2009 through August 2011, \$397,000.

**Isiah Warner** with Co-PI **Evgueni Nesterov**,

“International Materials for Solar Energy Conversion,” Northwestern University, August 2009 through July 2010, \$325,000.

### COMPUTER SCIENCE

**Gabrielle Allen** with Co-PI’s **Andrei Hutanu** and **Jinghua Ge** (CCT), “Strategies for Remote Visualization on Dynamically Congurable Testbed,” NSF, September 2009 through August 2011, \$299,447.

**Gabrielle Allen** with Co-PI’s **Tevfik Kosar** (CCT/CSC) and **Christian Ott** (CCT), **Peter Diener**, **Erik Schnetter** (CCT/Physics), “Collaborative Research: Community Infrastructure for General Relativistic MHD (CIGR),” NSF, October 2009 through September 2012, \$400,000.

**Supratik Mukhopadhyay**, “Vitamin C: A Deductive Framework for Generating Analyzers for C Programs,” NSF, July 2009 through July 2010, \$259,198.

**Thomas Sterling** and Co-PI **Daniel Katz**, “Increasing Student Participation in cluster Computing through IEEE Cluster 2009 Attendance,” NSF, July 2009 through June 2010, \$48,375.

**Brygg Ullmer** with Co-PI **Roderick Parker**, “Pilot: Tangible Interaction Kiosks: Integrating Physical/Digital Interaction and Visual Design to Support Creativity in K-12 Informal Science Education,” NSF, July 2009 through June 2011, \$199,711.

### GEOLOGY & GEOPHYSICS

**Gary Byerly** and Co-PI’s **Mattie Fleener** (Education) and **Frank Neubrandner** (Mathematics), Central Louisiana Academic Residency for Teachers (CART), Dept of Education – DOED, October 2009 through September 2014, \$7,982,088.

**Annette Engel** and Co-PI’s **Franz Hormes** and **Alexander Prange** (CAMD), “The speciation and behavior of sulfur gases in biogeochemical processes,” NSF, August 2009 through July 2013, \$278,154.

**Darrell Henry**, “Collaborative Research: REU Site Project—Evolution of the Precambrian rocks of Yellowstone National Park,” NSF, November 11, 2009 through October 2011, \$34,623.

### MATHEMATICS

**Blaise Bourdin**, “Applications of Variational Fracture: Enhanced Geothermal Systems,” NSF, June 2009 through July 2012, \$314,139.

**Susanne Brenner** and Co-PI **Michael Neilan** (Math/CCT), “Mathematical Sciences Postdoctoral Research Fellowship: Numerical Methods and Algorithms for the Optimal Mass Transport Problem,” NSF, July 2009 through June 2013, \$10,000.

**Patrick Gilmer**, “TQFT and Low Dimensional Topology,” NSF, June 2009 through July 2012, \$197,403.

**Nell Wood McAnelly** with Co-PI’s **Frank Newbrander** (Math/Inst. For Partnership in Education) with Elizabeth Lee Willis and Margaret-Mary Sulentic (Education - ETPP), “The LSU/SU Pilot Professional Development Project (PPDP) at Louisiana State University,” BOR, August 2009 through June 2010, \$311,378.

**Phuc Nguyen**, “Nonlinear harmonic analysis and partial differential equations of Lane-Emden and Riccati type,” NSF, August 2009 through July 2012, \$110,000.

**Marco Schlichting**, “Higher Grothendieck-Witt groups,” NSF, August 2009 through July 2012, \$179,825.

**Xiaoliang Wan**, “Stochastic Nonlinear data-reduction Methods with Detection & Prediction of Critical Rare Event,” DOE, September 2009 through September 2010, \$125,137.

## PHYSICS & ASTRONOMY

**Philip Adams**, “Quantum Transport in Thin Film Correlated Insulators,” DOE, August 2009 through July 2010, \$539,085.

**Jerry Draayer** with Co-PI’s K. Dimitrova Launey and Tomas Dytrych, “Taming the scales explosion in nuclear structure calculations,” NSF, September 2009 through August 2014, \$481,292.

**Jonathan Dowling**, “Quantum Sensor Theory, Design and Simulation,” Boeing, November through December 2009, \$20,000.

**Gabriela Gonzalez** with Co-PI’s **Joseph Giaime** and **Warren Johnson**, “Instrument Development and Data Analysis in LIGO,” NSF, August 2009 through July 2010, \$1,605,000.

**Robert Hynes**, “Black Hole and Neutron Star Binaries in the Galactic Bulge Survey,” NSF, May 2009 through July 2012, \$268,795.

**Ernie Sajo**, “Undergraduate Student Scholarships in Nuclear Education,” Nuclear Regulatory Commission, July 2009 through June 2011, \$200,000.

**Ernie Sajo** with Co-PI’s **Gregory Guzik**, **Michael Cherry**, Trylon Charalampopoulos, Muhammad Wahab, Keith Gonthier and Dimitris Nikitopoulos (Mechanical Engineering), “Curriculum Development in Health Physics and Nuclear Engineering,” Nuclear Regulatory Commission, August 2009 through August 2010, \$150,000.

Jerome Spivey (Chemical Engineering) with Co-PI’s Kerry Dooley, Gregory Griffin, John Flake and **Phillip Sprunger**, **Earl Ward Plummer** and **Richard Kurtz** (Physics/CAMD) along with Brooks Keel (Advanced Studies), “Computation catalysis and stomic-level synthesis of materials: building effective catalysts from

first principles,” DOE, June 2009 through July 2010, \$2,380,870.

## DEVELOPMENT HIGHLIGHTS

**Alice and Byrd Ball**: \$60,000 to the Ball Professorship in Physics & Astronomy

**Jim Raymond**: \$5,000 to the Dr. A. E. “Sandy” Sandberg Scholarship Fund

**Judith Schiebout**: \$5,046 to the Vertebrate Paleontology Research Fund

**Tom Taylor**: \$5,000 to the Tropical Bird Research Fund

**Armour C. Winslow**: \$7,500 to the Geology Summer Field Camp Fund and the Basic Sciences and Geology Development Funds

**BP Corporation**: \$6,000 to the Department of Geology & Geophysics

**The Curry Foundation**: \$15,000 for the LaSPACE Program Support Fund

**ExxonMobil Corporation**: \$11,000 to the Computer Science and Geology Development Funds

**Alta and John Franks Foundation**: \$600,000 to the John Franks Endowed Chair in Geology & Geophysics.

**Hess Foundation**: \$15,000 to the ADG Support Fund

**HTK Consultants**: pledged \$10,000 to the Geology Field Camp Renovations Fund.

## New Dean Circle Members

- Dr. Samuel K. Abshire, Haynesville, LA
- Dr. George L. Boudreaux, Covington, LA
- Scott & Susan Brodie-Spring, TX
- Dr. & Mrs. Bill Daly, Baton Rouge, LA
- Dr. & Mrs. Arlo Landolt, Baton Rouge, LA
- Dr. James V. Lange, Stone Mountain, GA
- Fred C. Meendsen, Jr.-Aledo, TX
- Dr. John W. Noble, Lake Charles, LA
- Dr. Armour C. Winslow, Metairie, LA

## COMINGS AND GOINGS

**Vermar Hargrove (Biological Sciences)** retired in January after serving the university for more than 27 years. She will continue to assist the department through June.

## IN MEMORIAM

**Richard Bruch**, Professor of Biological Sciences, passed away December 24, 2009.

## STUDENT NEWS

**Anna Zemlyanova** (student of Yuri Antipov) has been awarded a postdoctoral fellowship at the Mathematical Sciences Research Institute at Berkeley for the fall of 2010.

**Santiago Fortes** (student of Robert Lipton and Stephen Shipman) was awarded a postdoctoral research position at the California Institute of Technology.

**Jintao Cui** (student of Susanne Brenner) was awarded a postdoctoral position at the Institute for Mathematics and its Applications (IMA) at the University of Minnesota.

**Keep the good news coming to us!**

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## NEWSLINKS

The hyperlinks below direct your Internet browser to the web pages for the college's departments and the museum. News highlights also appear on the college's [Home Page](#):

[Biological Sciences](#)

[Chemistry](#)

[Computer Science](#)

[Geology & Geophysics](#)

[Mathematics](#)

[Physics & Astronomy](#)

[Museum of Natural Sciences](#)

## CALENDAR OF EVENTS

March 22	Choppin Honors Convocation	4:30	SC&E Rotunda
April 2 - 9	Spring Break (University Offices closed Friday, April 2)		
April 5	P&T Sample Packets due in Dean's Office for review		
April 9	P&T Packets due in Dean's Office (original only)		
April 14 - 16	Spring Invitational		
April 20	P&T Faculty Committee Meeting	TBA	346 Hatcher
April 21	P&T Chairs Committee Meeting	TBA	346 Hatcher
April 24	LSU Day	10:00 - 4:00	Campus Wide
April 30	Hall of Distinction Banquet	6:00 PM	Lod Cook
May 3	Faculty Evaluations due in Dean's Office		
May 5-9	Concentrated Study Period		
May 8	Classes End		
May 10-15	Final Exam Period		
May 21	LSU Commencement Ceremony	9:00 AM	PMAC
May 21	BASC Diploma Ceremony	12:30 PM	PMAC

The revised 2009-10 Academic Calendar. You can find the revised [calendar here](#).