

# DIMENSIONS *of* DISCOVERY



Photography by John Underwood; Acorn photograph by Steven Yang

## » Excellence in Research

### Welcome

**"Alone we can do so little; together we can do so much" — Helen Keller**

Teamwork is at the heart of much discovery today — not only among investigators but among other faculty and staff members who operate instruments, analyze data and help develop and support proposals. In this issue, we recognize faculty accomplishments (pp. 2-5), explore a core facility (p. 12) and help you navigate the proposal development process (pp. 8-9), both to inspire and inform your future explorations. ■

Nearly 200 Purdue faculty and staff gathered in November for the Excellence in Research Awards dinner, celebrating the accomplishments and contributions of Purdue's research community.

Among the honorees were faculty members who had received college or school awards for outstanding research in 2013, along with Seed for Success honorees — principal investigators and co-investigators garnering awards of \$1 million or more. Of the 163 principal investigators and co-investigators working on one of the 60 Seed for Success projects, 46 investigators earned their bronze acorn award in recognition of their contribution in acquiring a \$1 million dollar or more award for the first time.

As part of the ceremonies, Thomas Hertel, a Purdue University Distinguished Professor of Agricultural Economics, was honored with the inaugural Purdue University Research and Scholarship Distinction Award, and Andrew Weiner, the Scifres Family Distinguished Professor of Electrical and Computer Engineering, received the 2013 Herbert Newby McCoy Award. Purdue President Mitch Daniels presented the awards. Turn the page for more photos. ■





## Excellence in Research

### *Inside »*

- 1-3 Research in Excellence
- 4 Opportunities, Awards, Plans
- 6 Technology
- 8 University Resources for Proposals
- 10 Resources
- 11 New Publication
- 12 Core Spotlight
- 13 Sponsored Program Year-to-Date Activity
- 14 Events
- 16 Directory

Photography by John Underwood







For more information about this event, visit [www.purdue.edu/research/vpr/publications/excellence.php](http://www.purdue.edu/research/vpr/publications/excellence.php).



Find us on Facebook

[www.facebook.com/ResearchAtPurdue](http://www.facebook.com/ResearchAtPurdue)



## 'Giant' Molecules Win Purdue Professor the Hamburg Prize for Theoretical Physics

Chris Greene, a distinguished professor of physics, has won the 2013 Hamburg Prize for Theoretical Physics for his work on "giant" molecules.



Chris Greene

Greene was honored for his theory of an unusual binding mechanism in ultracold quantum gases and the existence of huge Rydberg molecules, electronically excited molecules that behave in unique ways and can exhibit exaggerated sizes. His prediction, published in 2000 with coauthors

Alan Dickinson and Hossein Sadeghpour, helped to trigger the experimental discovery of these unusual Rydberg molecules in 2008.

The prize, which is jointly awarded by Joachim Herz Stiftung and the Hamburg Centre for Ultrafast Imaging (CUI), includes \$53,444 and a research and teaching visit at the University of Hamburg.

"In being awarded the Hamburg Prize, Chris joins a very elite group of physicists who have made fundamental contributions to our understanding of quantum systems," says Andrew Hirsch, interim head of the Department of Physics at Purdue. ■

*Writer: Elizabeth Gardner is communications and marketing specialist for Purdue Marketing and Media.*

## CTSI Receives \$30 Million Grant Renewal

The Indiana Clinical and Translational Sciences Institute (CTSI), a partnership among Indiana University, Purdue University and the University of Notre Dame, has received nearly \$30 million from the National Institutes of Health to continue its mission accelerating research discoveries across Indiana and beyond.

The Clinical and Translational Sciences Award from the NIH's National Center for Advancing Translational Sciences renews the grant that established the Indiana CTSI five years ago, guaranteeing the institution will advance innovative health care programs and biomedical research into at least 2018.

The Indiana CTSI's mission is to act as a statewide laboratory to advance translational research — the practice of taking results from research labs and clinics into safe and innovative treatments and therapies used in medical practice. Since 2008, Indiana CTSI-funded researchers at the three partner universities have advanced discoveries in areas such as Alzheimer's disease, Parkinson's disease, autism, traumatic brain injury, polycystic kidney disease, and osteoporosis and osteoarthritis. ■



Gebisa Ejeta

Photography by Tom Campbell

## Ejeta is Appointed to U.N. Scientific Advisory Board

Distinguished professor of agronomy and World Food Prize laureate Gebisa Ejeta has been appointed to the U.N. secretary-general's newly created Scientific Advisory Board.

The appointment by U.N. Secretary-General Ban Ki-moon places Ejeta as the only agricultural scientist on the 26-member board. It is composed of internationally renowned scientists representing various fields of natural, social and human sciences.

The board will provide advice on science, technology and innovation for sustainable development to the secretary-general and executive heads of relevant United Nations organizations. Some key objectives will be to strengthen the link between science and policy and to ensure that the latest scientific findings are reflected in high-level policy discussions within the U.N.

"It is a great honor and responsibility to have the chance to work at the highest level of global science policy and diplomacy," Ejeta said. "I will try to be a good ambassador of agricultural sciences to uphold the indispensability of food and agriculture, and to impart that feeding humanity sustainably in the foreseeable and unforeseeable future is the ultimate responsibility of all nations. I hope to make a difference."

Creation of the board was among recommendations of a high-level panel, which prepared a report on global sustainability in advance of the U.N. Conference on Sustainable Development in Rio de Janeiro last year. ■

*Writer: Keith Robinson is news and public affairs coordinator for Agricultural Communication Service.*



Jonathan Wilker

## Purdue Professor Named PopTech Science Fellow

Head to your local hardware store and grab the strongest adhesives that you can find. Then place two objects under water and see if any of the glues will make them stick together.

That's impossible to do with glues in the marketplace today, says chemistry professor Jonathan Wilker, one of PopTech's science fellows for 2013. And yet, thrusting his hand into a bubbling tank of seawater in the Brown Laboratory of Chemistry, he pulls out a cluster of mussels stuck together, well, like glue.

By attaching themselves to each other and to rocks in the intertidal zone, the mussels help protect themselves from predators and shield themselves from the turbulence of ocean waves. But Wilker is not nearly as interested in *why they do it as to how* — with a powerful secretion that can bond to nearly any surface, including Teflon. His research lab investigates the adhesive qualities of mussels, barnacles, oysters and other marine life, with the idea of developing synthetic versions for products such as soft tissue glues and dental cements.

"There's a lot of applications you might be able to think of for a biologically produced adhesive, something that can set in a wet environment and something that makes really strong bonds to a surface," says Wilker. He shared some of his ideas at PopTech's annual conference this fall in Camden, Maine.

PopTech is a global community of innovators that helps promising scientists become more effective communicators and leaders. Fellows are chosen through an invitation-only nomination process and selection by the program's advisory board, which includes science and communications leaders and working scientists. Read more at <http://poptech.org>. ■

## Distinguished Professor Honored by BioCrossroads

BioCrossroads has honored Philip Low, the Ralph C. Corley Distinguished Professor of Chemistry, with the 2013 August M. Watanabe Life Sciences Champion of the Year Award.

The prestigious honor named in tribute to BioCrossroads' late first chairman is given annually to an individual or organization that has made or enabled unique achievements in the development and promotion of Indiana's life sciences research, educational or economic advancement.

"Phil Low has the remarkable combination of being a success in the academic halls, the research lab and the entrepreneur's office. His passion for bringing scientific discoveries to the market to improve health and well-being has enabled him to start four companies here in Indiana and to develop breakthroughs in the treatment of cancer," says David L. Johnson, president and CEO, BioCrossroads. ■

## Drug Discovery Center Joins Discovery Park

The Center for Drug Discovery has officially become one of the centers of Discovery Park, joining the Bindley Bioscience Center, Birck Nanotechnology Center, Burton D. Morgan Center for Entrepreneurship, Discovery Learning Research Center, Global Sustainability Initiative, Advanced Computational Center for Engineering and Sciences, the Oncological Sciences Center and the Regenstrief Center for Healthcare Engineering.

"The new center complements other large-scale interdisciplinary research efforts already underway at Discovery Park, because its members collaborate across areas such as biological sciences, nanotechnology and engineering," says Al Rebar, Discovery Park executive director and senior associate vice president for research. "We expect the affiliation with Discovery Park, including its core research facilities and access to entrepreneurial resources, to strengthen their efforts to improve human health."

Founded in 2012, the Center for Drug Discovery is designed to showcase the depth and breadth of Purdue's drug discovery programs to pharmaceutical companies and other entities. The center, which will be affiliated with the drug discovery building scheduled to open in spring 2014, will help coordinate responses to funding opportunities, offer educational and networking programs, and facilitate collaborations both within Purdue and outside the university, with a particular emphasis on clinical partners such as IU Health Arnett and the IU School of Medicine. ■

Photography by Vincent Walters



Philip Low, the Ralph C. Corley Distinguished Professor of Chemistry, works with chemistry doctoral student N. Achini Bandara in his Purdue research lab. (Purdue University Photo/Phillip Fiorini)

# nanoHUB.org

## New Center to Lead Purdue Efforts in Predictive Materials and Devices Development

The devices and technologies of the future will only be as good as the materials used to make them — and that's part of the problem. A new Purdue University research center hopes it can be a leader in finding solutions.

The Purdue Center for Predictive Materials and Devices (c-PRIMED) and its focus on modeling for materials engineering dovetails with the national Materials Genome Initiative (MGI). Announced by President Barack Obama in 2011, the federal initiative will concentrate on developing methods to double the speed and halve the cost of creating new advanced materials.

"c-PRIMED represents a continuation and a deepening of ongoing Purdue research efforts through nanoHUB.org," says Gerhard Klimeck, a professor of electrical and computer engineering. "Our efforts will focus on ways to accelerate the time it takes to introduce advanced materials to the marketplace for everything from airplane wings, solar cells and electronic devices to packaging that keeps food fresher. That's the dream behind c-PRIMED, and it's more attainable now."

The new Discovery Park center is led by Klimeck and Alejandro Strachan, a professor of materials engineering. Other related investments in this area include Conte, the nation's fastest university-owned supercomputer; and the Center for Prediction of Reliability, Integrity and Survivability of Microsystems (PRISM).

A named Purdue directorship honors Klimeck's leadership as the inaugural Reilly Director of the Center for Predictive Materials and Devices. Klimeck also is director of the Network for Computational Nanotechnology and its signature

nanoHUB.org online science and engineering gateway and Cyber Platform projects. His research focuses on creating atomic-scale models of future computer processor components and their quantum interactions.

Strachan is a leader in developing and validating computational methods for predicting the behavior of materials and their application in technology. He is deputy director at PRISM.

"Today I require a hundred experiments to learn something important about a material," Strachan says. "The question is: Can I do 10 experiments, 10 very well designed experiments instead of a hundred? That requires powerful computers, new simulation capabilities and a framework for decision-making that combines simulations with experiments." ■

*Writers: Phillip Fiorini is a senior writer/editor with Purdue Marketing and Media and Emil Venere is a writer/editor with Purdue Marketing and Media.*



Gerhard Klimeck

Photography by Vincent Walter





Photography by Patrick Finnegan

## Early Users Praise Conte, Purdue's Most Powerful Research Supercomputer Yet

Need is driving Professor Charles Bouman's move to powerful supercomputers like Purdue's new Conte community cluster. It also prompted Bouman's lab to be an active tester of Conte as ITaP Research Computing (RCAC) got the new supercomputer ready for all Purdue researchers this fall.

"We've been running things that would have taken months to run in a day," Bouman says. "It's been a huge enabling technology for us."

Bouman's lab focuses on new and improved ways to create images of fundamental processes captured by instruments ranging from CT, or computed tomography, scanners for medical purposes to synchrotron X-rays used, among other things, by materials scientists to explore how metals transition from liquid to solid.

"We're trying to get images where people couldn't previously," says Bouman, the Showalter Professor of Electrical and Computer Engineering and Biomedical Engineering.

Constructing those images — in four dimensions no less, three of space and one of time — requires processing huge amounts of data generated by the instruments, hence the need for high-performance computing.

Conte, now in full production, was the most powerful supercomputer for use by researchers on a single U.S. campus when benchmarked earlier this year. Conte's 580 nodes include Intel's new Xeon Phi accelerators and a total of 78,880 processing cores, by far the most in any Purdue research supercomputer yet.

Researchers whose codes can't yet take advantage of Phi acceleration don't pay for the Phis, but they can purchase the capability later if it becomes useful to them.

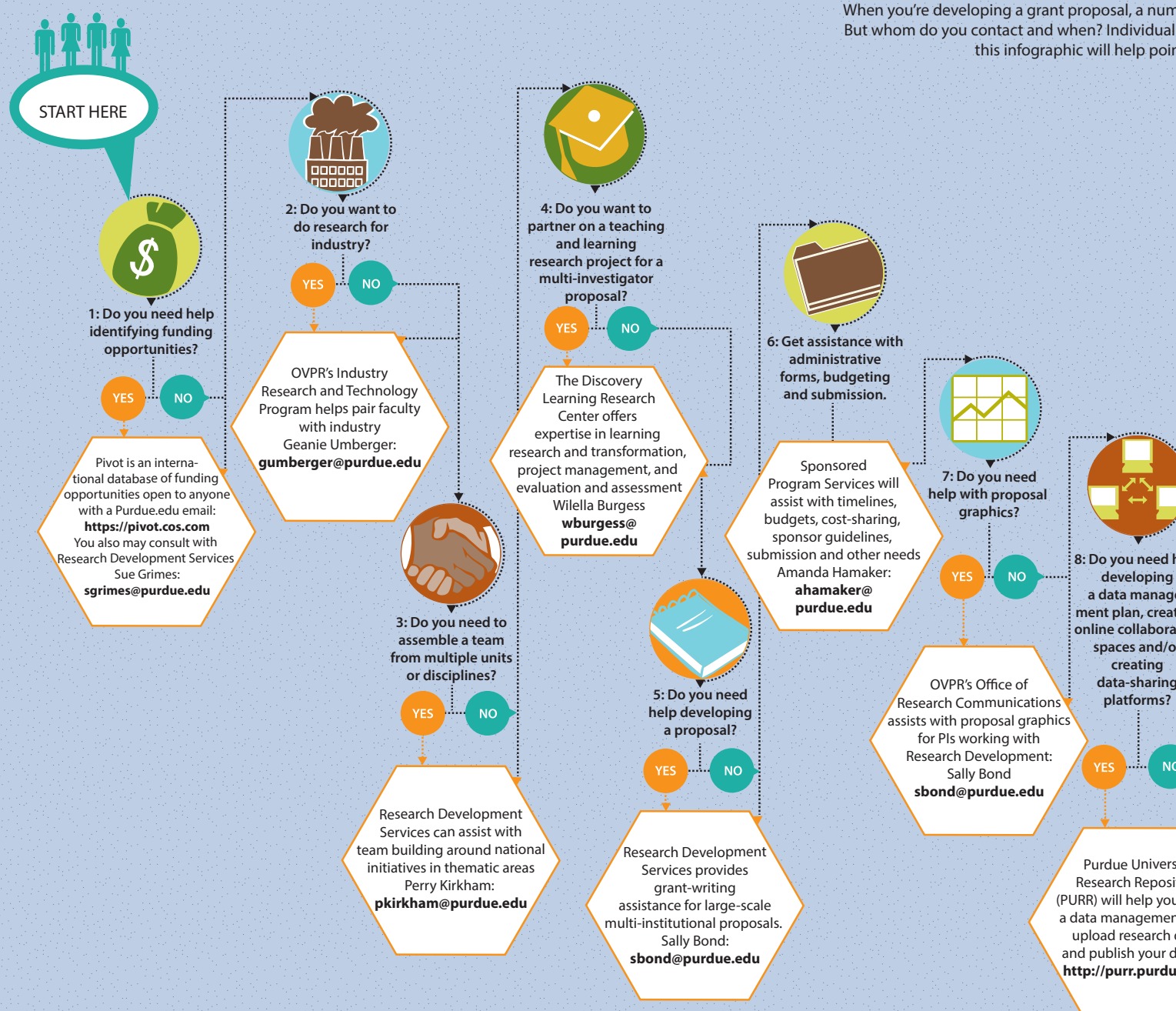
The Phis give Conte a six-fold increase in peak processing power over Purdue's Carter cluster, built in 2011. Both machines are part of Purdue's Community Cluster Program, which provides full-service installation, administration and maintenance so that researchers can concentrate on doing research rather than on running a high-performance computing system. Read more at [www.rcac.purdue.edu/userinfo/resources/conte](http://www.rcac.purdue.edu/userinfo/resources/conte). ■

*Writer: Greg Kline is a science and technology writer for Information Technology at Purdue (ITaP).*



## THE PROPOSAL PROCESS

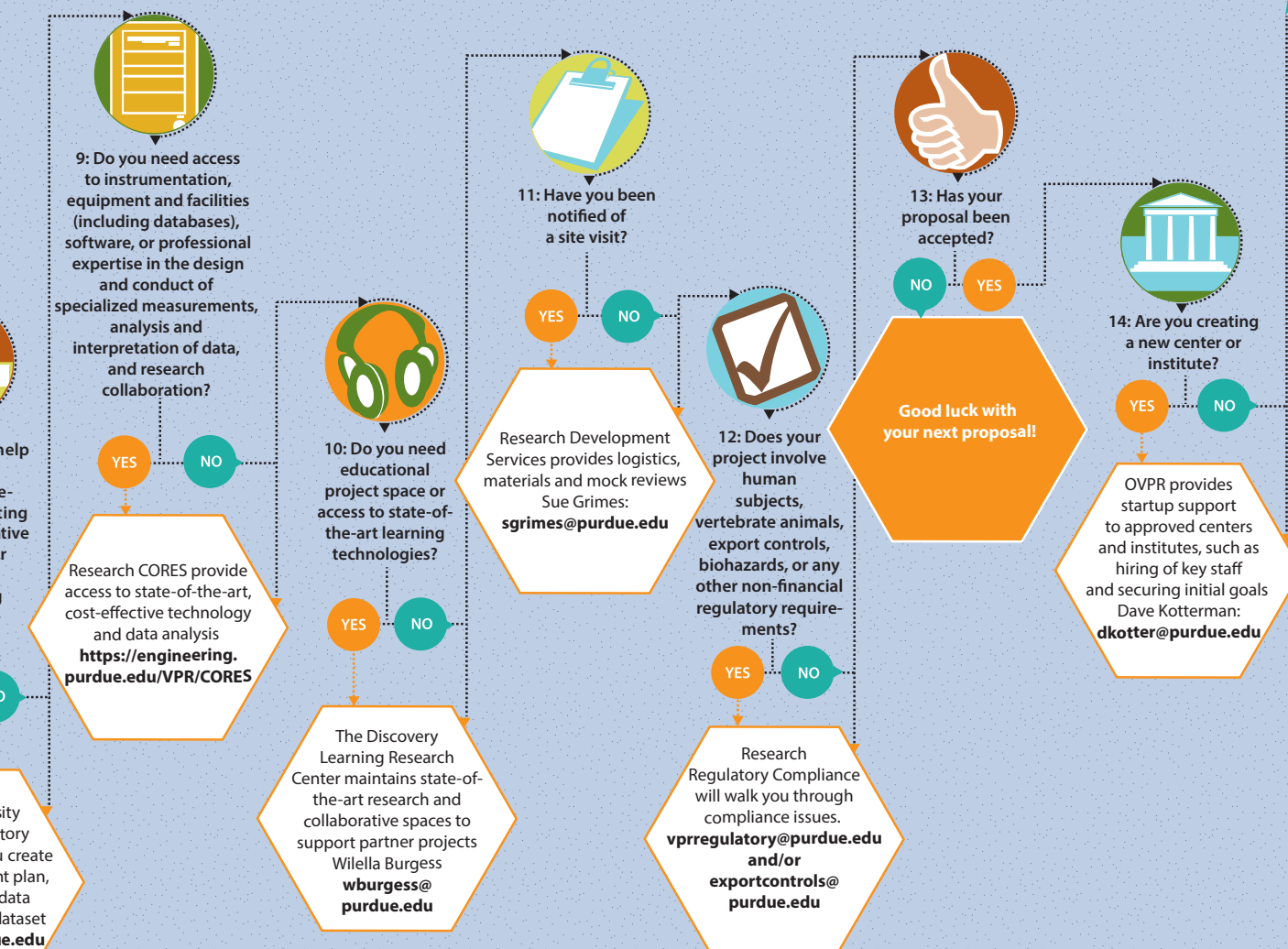
When you're developing a grant proposal, a number of questions arise. But whom do you contact and when? Individual offices at Purdue have the answers. This infographic will help point you in the right direction.





# PROCESS AT PURDUE

Number of entities at Purdue are here to assist you. Requirements and circumstances will vary, but we want you in the right direction.





## AgReliant Genetics, Purdue Ag Create Fund for Student Research

AgReliant Genetics and Purdue University have created a \$1 million endowment fund to support College of Agriculture graduate students conducting research in areas such as plant science, plant breeding and genetics, and soil sciences.

The AgReliant Genetics Endowment will be established through \$500,000 each from the company and from Purdue's Graduate Education Match program.

"With the ever-increasing population, it's critical that today's agricultural industry invests in the research being conducted by tomorrow's agricultural leaders," says Craig Newman, president and chief executive of AgReliant Genetics and a Purdue alumnus.

"Purdue's College of Agriculture is world-renowned, and we are honored to work with such a reputable institution to further the research and development of new innovations."

Preference for funding will be given to graduate students conducting research in plant sciences, plant breeding and genetics, and soil sciences and to students in the agronomy department. Students in horticulture, entomology, botany and plant pathology, as well as other academic departments involved in relevant areas of research, also will be considered for funding. ■

Writer: Keith Robinson is news and public affairs coordinator for Agricultural Communication Service.



## New Guidelines for Researchers in STEM Education

A lot has been changing over at the National Science Foundation's Directorate for Education and Human Resources. Gone are several grant opportunities that you may be familiar with (such as TUES, REESE, RDE and GSE). To replace them, NSF has introduced new competitions such as the CAUSE program (Catalyzing Advances in Undergraduate Science Education), and the REAL program (Research on Education and Learning). Several other familiar programs, such as DRK-12 and AISL, continue to be supported though with revised solicitations.

In addition to shifts in programming, NSF and the Department of Education have joined forces to enhance the efficiency and effectiveness of both agencies' STEM education research and development programs. The result of their efforts has been released in the publication *Common Guidelines for Education Research and Development* ([www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf](http://www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf)) and an associated FAQs document ([www.nsf.gov/pubs/2013/nsf13127/nsf13127.pdf](http://www.nsf.gov/pubs/2013/nsf13127/nsf13127.pdf)).

The Common Guidelines grew out of a Joint Committee of the Department of Education and the National Science Foundation to establish cross-agency guidelines for improving the quality, coherence, and pace of knowledge development in STEM education.

The report defines the types of ED- and NSF-funded research that relate to the development and testing of interventions and strategies designed to increase learning. It also specifies how those types of research relate to one another and describes the theoretical and empirical basis needed to justify each research type. The report presents a broad framework through which researchers can gain understanding of the funding priorities for STEM education research as well as determine how their work fits into the larger picture of funding sizes, types and outcomes.

For example, the document provides descriptions of research types, including foundational, early stage, exploratory, design and development, efficacy studies, and scale up projects. An additional appendix provides common guidelines for each type; these guidelines outline strategies for addressing key sections of proposals such as significance of the research, project outcomes, research plans and assessment.

So what does this mean for Purdue researchers? Recent solicitations made by NSF, including those for DRK-12 (due December 6, 2013), AISL (due January 14, 2014), the REAL program (due January 10, 2014), and Improving Undergraduate STEM Education (due February 4, 2013) make reference to the Guidelines document, implying that PIs must demonstrate their familiarity with these new recommendations to present competitive proposals.

Keep up to date with the latest information about the EHR directorate at <https://www.nsf.gov/dir/index.jsp?org=EHR>. ■

Writer: Lynne Dahmen is a senior proposal coordinator in the Office of the Vice President for Research



## Responsible Conduct of Research Training Required for NIFA Awards

Recently, the National Institute of Food and Agriculture (NIFA) within the U.S. Department of Agriculture (USDA) adopted requirements for training in the Responsible and Ethical Conduct of Research (RCR). Though the underlying concept of training is similar to other agencies; the details of RCR requirements are unique to NIFA. Please be aware that new or amended NIFA awards with agency-specific terms and conditions dated February 2013 or later incorporate this requirement.

RCR training is required for all personnel on a NIFA award including faculty, staff, and students. Unlike other agencies, NIFA requires principal investigators to complete the online training to fulfill the requirement.

Purdue utilizes the external Collaborative Institutional Training Initiative (CITI) program for online RCR training courses. Training courses can be accessed from any location with internet access and may be broken up into as many sessions as needed. NIFA expects principal investigators to keep records of their training. You will need to retain a copy of the completion certificate generated by the CITI program.

Please be aware of this sponsor-specific training requirement. Directions for this training are found on the OVPR website. Feel free to direct any questions to [vprreregulatory@purdue.edu](mailto:vprreregulatory@purdue.edu). ■

*Writer: Ianthe Bryant Gawthrop is director of Research Regulatory Compliance in the Office of the Vice President for Research.*

## New Opportunities in Industry Sponsored Research

Faculty now have the flexibility to select contract terms that best fit the scope of the project with the industrial sponsor. Those contract terms can range from standard research terms as have been used in the past to new options allowing the sponsor more control over intellectual property and publications. Staff from the Office of the Vice President for Research, Sponsored Program Services, and Office of Technology Commercialization will provide consultative assistance for faculty to help select the best contract option based on the scope of work. The selection of the appropriate contract terms will be a faculty led decision, not a sponsor decision.

The new contract options will include additional fees the sponsor must pay in exchange for the added value these options provide. Those fees include an intellectual property fee ranging from 5-10% of the project cost and the fully calculated uncapped F&A fee (also known as indirect costs or overhead) of 64.75% in place of the current 54% rate.

Staff are making a number of campus presentations to further explain the details of these changes. Look for announcements of dates, times and locations of those presentations. Additional information is also available at [www.purdue.edu/business/sps/contractmgmt/General\\_Info/appliedresearch.html](http://www.purdue.edu/business/sps/contractmgmt/General_Info/appliedresearch.html). Or you may contact either of the following individuals for more information:

Jeff Kanable at [jkanable@purdue.edu](mailto:jkanable@purdue.edu), 494-1059 or Geanie Umberger at [gumberger@purdue.edu](mailto:gumberger@purdue.edu), 496-3723. ■

## VPR Releases Annual Report for 2012-13 Academic Year



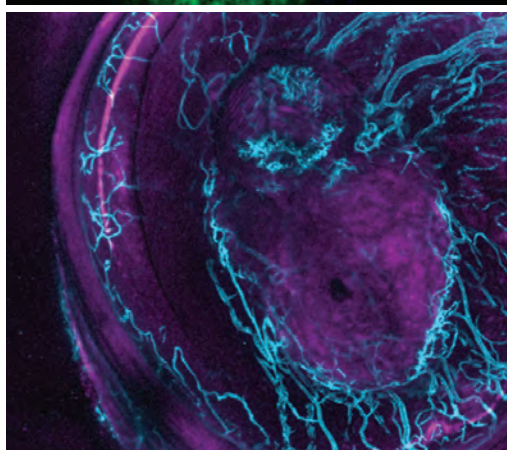
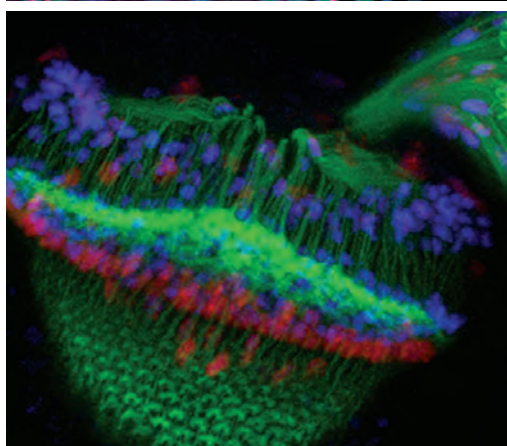
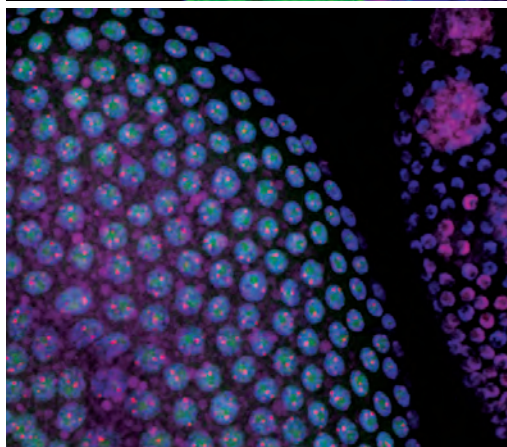
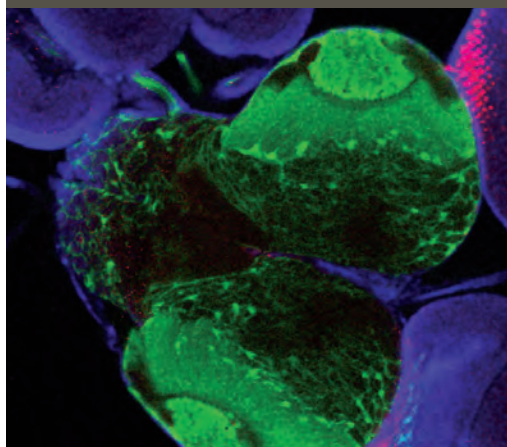
As a land-grant university of the 21st century, Purdue University is dedicated to making the world a better place. Working in concert with other researchers and policy makers around the globe, our faculty members and students are improving quality of life, enhancing sustainability, promoting emerging technologies, and advancing education and engagement. Their successes are highlighted in the Office of the Vice President for Research's annual report, *Research that Changes the World*.

During the 2012-13 fiscal year, Purdue University expended \$621 million on sponsored research. Funding sources included private industries, the National Science Foundation, several federal government departments and state and local grants.

Scan the QR code to read the annual report on your mobile device. Or visit [www.purdue.edu/research/vpr/publications/annual\\_rep.php](http://www.purdue.edu/research/vpr/publications/annual_rep.php).

To request a paper copy, please contact Cindy Larson in the Office of Research Communications at [cindylarson@purdue.edu](mailto:cindylarson@purdue.edu) or 494-6792. ■





## Bindley Bioscience Center Imaging Facility

To enhance the breadth and capabilities of biological imaging at Purdue, the Bindley's light microscopy and animal imaging facilities have partnered with the electron microscopy facility in the College of Agriculture. This partnership, called the Multi-Scale Imaging Center (MUSIC), provides a single venue for most types of biological imaging and enables synergistic imaging technologies. For more information on light microscopy & animal imaging, contact Aaron Taylor, [abtaylor@purdue.edu](mailto:abtaylor@purdue.edu), 496-3148

### Biomolecular Screening and Drug Discovery

Searching for compounds to produce new or better drugs is like looking for the "needle in a haystack," with inefficient screening for identification and characterization of effective new drug compounds directly impacting the cost of drug development (now estimated at \$800 million to \$1 billion). The Biomolecular Screening and Drug Discovery (BSDD) facility develops high content approaches to very rapidly assess tens of thousands of compounds using multiple techniques. Evaluation of several features more efficiently identifies compounds with potential to be effective new pharmaceuticals. BSDD expertise provides researchers with capabilities to create new approaches to discover biological, synthetic, and natural compounds that can lead to new drugs. Scientific approaches include drug design and synthesis with novel chemistries; nanomaterials for tagging and imaging drugs and their effects; and metabolomic/proteomic profiling for evaluating response of cells to drugs.

Graduate and undergraduate students from many departments, including chemical engineering, chemistry, medicinal chemistry & molecular pharmacology, computer science, and biological sciences, commonly participate in research within the BSDD. BSDD's established collaborations with several scientific groups and technology partners represent important opportunities for both on and off campus partners. Collaborative partners have their materials and ideas tested on a large scale, while academic researchers can gain access to materials and information. These collaborations have already produced patented items. The facility is also open to test new company products and instruments. One of BSDD's future goals is to recruit partners for the development of the recombinant antibody technology.

Capabilities include

- » high-speed robotic instruments to test thousands of compounds daily
- » computer libraries to house huge numbers of compound databases
- » assay development with high-resolution imaging to increase information gained from each screening run
- » computational systems to enable real-time, complex data selection of most relevant data for analysis
- » collections of expression vectors and bacterial strains
- » quality analysis of proteins
- » web-based flow chart of vectors and protocols
- » scientific and technical assistance

For more information on electron microscopy: Christopher J. Gilpin, [gilpin@purdue.edu](mailto:gilpin@purdue.edu), 494-7750. ■



## >> Sponsored Program Year-to-Date Activity

### Awards by Sponsor

July, 2013 to October, 2013

SPONSOR	FY2014 (Jul 2013-Oct2013)		FY2013 (Jul2012-Oct2012)		% Change	
	NO.	\$ AMOUNT	NO.	\$ AMOUNT	NO.	\$ AMOUNT
National Science Foundation	136	39,634,044	140	30,682,512	-3%	29%
Dept. of Health and Human Services	95	12,964,061	82	12,735,628	16%	2%
Dept. of Defense	63	7,729,191	78	8,776,853	-19%	-12%
Dept. of Energy	46	7,513,989	45	10,978,934	2%	-32%
Dept. of Agriculture	62	11,881,226	74	12,976,055	-16%	-8%
National Aeronautics and Space Administration	39	2,708,073	44	4,821,871	-11%	-44%
Other Federal	35	9,828,867	36	4,472,417	-3%	120%
Dept. of Education	8	1,920,915	17	2,726,321	-53%	-30%
Environmental Protection Agency	11	589,674	11	830,025	0%	-29%
Dept. of Transportation	9	672,325	2	373,878	350%	80%
Agency for International Development	8	1,932,877	7	517,260	14%	274%
<b>Total Federal</b>	<b>512</b>	<b>\$97,375,241</b>	<b>536</b>	<b>\$89,891,753</b>	<b>-4%</b>	<b>8%</b>
Industrials and Foundations	612	24,327,105	547	19,093,456	12%	27%
State/Local Governments	47	3,682,602	39	4,332,420	21%	-15%
Purdue Research Foundation/ Purdue University	453	13,783,647	214	3,112,485	112%	343%
Foreign Governments	20	2,919,371	23	1,998,390	-13%	46%
<b>Total Non-Federal</b>	<b>1,132</b>	<b>\$44,712,726</b>	<b>823</b>	<b>\$28,536,751</b>	<b>38%</b>	<b>57%</b>
<b>Total Purdue System-wide</b>	<b>1,644</b>	<b>\$142,087,967</b>	<b>1,359</b>	<b>\$118,428,503</b>	<b>21%</b>	<b>20%</b>

Data provided by Sponsored Program Services

A comprehensive monthly awards list, including search and sort capabilities, is available online. Please visit the OVPR website at [www.purdue.edu/research/vpr/](http://www.purdue.edu/research/vpr/) or scan the QR code at right to view on your mobile device.



## DECEMBER 2013

### Call for Abstracts: 2014 Purdue Conferences — Compressors, Refrigeration/Air Conditioning, and High-Performance Buildings

- » **When** Abstracts due December 20, 2013
- » **Contact** Kim Stockment, [herlconf@purdue.edu](mailto:herlconf@purdue.edu), 494-6078
- » **Website** <https://engineering.purdue.edu/HerrickConf>

The 22nd International Compressor Engineering Conference, the 15th International Refrigeration and Air Conditioning Conference and the 3rd International High Performance Buildings Conference will be held July 14-17, 2014, on the Purdue campus. Abstract submission is currently open via ConfTool. To learn more about the proposed session topics, short courses and submission deadlines, visit [www.engineering.purdue.edu/Herrick/Events](http://www.engineering.purdue.edu/Herrick/Events).

## JANUARY 2014

### Hub Hero Challenge

- » **When** January 8-10
- » **Where** Young Hall
- » **Contact** Nikki Huang, [nikki@purdue.edu](mailto:nikki@purdue.edu), 494-0524
- » **Website** <http://hubzero.org/hubhero>

The HUBzero Foundation is sponsoring a 3-day event using the power of HUBzero platform to build new web applications. Selected applicants will create a new component by extending HUBzero's core functionality. HUBzero programmers will provide training on the various aspects of the platform development, as well as HUBzero coding best practices. They will also be available for any help needed to build the projects. Best projects will be awarded at HUBbub 2014: The HUBzero Conference!

### Call for Papers: Twentieth Germanic Linguistics Annual Conference (GLAC-20)

- » **When** Abstract submission deadline: January 15, 2014
- » **Contact** Conference organizers John Sundquist, [jsundqui@purdue.edu](mailto:jsundqui@purdue.edu), or Mary Niepokuj, [niepokuj@purdue.edu](mailto:niepokuj@purdue.edu)
- » **Website** [www.conf.purdue.edu/landing\\_pages/glac20/](http://www.conf.purdue.edu/landing_pages/glac20/)

GLAC is the annual conference of the Society for Germanic Linguistics (SGL), an organization serving the broad community of scholars teaching and researching in Germanic linguistics and philology. The 20th Germanic Linguistics Annual Conference (GLAC-20) will take place May 2-3, 2014 on Purdue's campus. Faculty, graduate students and independent scholars are invited to submit abstracts for 20-minute papers on any linguistic or philological aspect of any historical or modern Germanic language or dialect, including English (to the Early Modern period) and the extraterritorial varieties.

### How to Use NIH Data for your Strategic Advantage

- » **When** January 21, 11:30 a.m.-1 p.m.
- » **Where** Stewart Center, Room 310
- » **Contact** Perry Kirkham, [pkirkham@purdue.edu](mailto:pkirkham@purdue.edu)
- » **Website** [www.purdue.edu/research/vpr/rschdev/events.php](http://www.purdue.edu/research/vpr/rschdev/events.php)

This NIH workshop will cover strategies for analyzing and utilizing NIH award data and advisory council information. This information can be useful in understanding how to position future proposals, research collaborations, and upcoming (not-yet-released) calls for proposal. Time will also reserve some time to answer general questions about NIH in general or specific institute strategies as well as grantsmanship issues. Registration is required and will be available on the OVPR website one month prior to the workshop. Lunch is included.

## FEBRUARY 2014

### Siemens Energy Day

- » **When** February 3, 8:15 a.m.-2:30 p.m.
- » **Where** Purdue Memorial Union, South Ballroom
- » **Contact** Jill Wable, 494-1610
- » **Website** [www.purdue.edu/discoverypark/energy/events/view.php?id=1420](http://www.purdue.edu/discoverypark/energy/events/view.php?id=1420)

The Energy Center is hosting campus experts from Siemens to foster research and technical interactions. Lectures and panel discussions will focus on the future of energy business and the research needs and technical challenges in fossil energy. The event targets both undergraduate and graduate students for recruitment by Siemens through this networking opportunity and poster session.

### NIH Wrap-Up: Updates and Frequently Asked Questions

- » **When** February 11, 11:30 a.m.-1 p.m.
- » **Where** Stewart Center, Room 314
- » **Contact** Perry Kirkham, [pkirkham@purdue.edu](mailto:pkirkham@purdue.edu)
- » **Website** [www.purdue.edu/research/vpr/rschdev/events.php](http://www.purdue.edu/research/vpr/rschdev/events.php)

This NIH workshop is the final in a series in which we will revisit institute missions, submission strategies, review and summary statement implications, and grantsmanship issues. The focus will be on commonly asked questions and misconceptions about the NIH, and updates on budget and scientific program changes. Registration is required and will be available on the OVPR website one month prior to the workshop. Lunch is included.





### 27th Annual Burton D. Morgan Business Plan Competition

- » **When** February 18, 8 a.m.- 9 p.m.
- » **Where** Burton D. Morgan Center for Entrepreneurship, Room 121
- » **Contact** Bambrah Miller, [bambrah@purdue.edu](mailto:bambrah@purdue.edu), 494-1335
- » **Website** [www.purdue.edu/discoverypark/entrepreneurship/programs/competition/bdmcompetition/](http://www.purdue.edu/discoverypark/entrepreneurship/programs/competition/bdmcompetition/)

The Burton D. Morgan Business Plan Competition aims to stimulate the entrepreneurial spirit on the Purdue University Campus. Student teams participating in undergraduate and graduate divisions develop business ideas into a full business plan, culminating in formal business plan presentations in front of a panel of expert judges. Created in 1987, it's the third oldest business plan competition in the United States, and one of the most prestigious offering \$100,000 in total prize money.

### Discovery Learning Research Center Showcase & Symposium and Ten-Year Anniversary Celebration

- » **When** February 18
- » **Where** Hall for Discovery and Learning Research, DLR 131 (Large Learning Studio) and DLR 134 (Atrium)
- » **Contact** Chris Ramsey, [learningcenter@purdue.edu](mailto:learningcenter@purdue.edu), 494-4555
- » **Website** [www.purdue.edu/discoverypark/learningcenter/SandS/MainPage.php](http://www.purdue.edu/discoverypark/learningcenter/SandS/MainPage.php)

These events will highlight the mission of the DLRC and help STEM researchers better understand how the DLRC can partner with them to enhance their STEM research and proposals. A closing reception is intended to showcase major achievements from the center of the past ten years and exciting new projects.

### Working with Industry, Patents & Licensing, and Business Start-Ups

- » **When** February 25, 11:30 a.m.-1 p.m.
- » **Where** Stewart Center, Room 202
- » **Contact** Sue Grimes, [sgrimes@purdue.edu](mailto:sgrimes@purdue.edu)
- » **Website** [www.purdue.edu/research/vpr/rschdev/events.php](http://www.purdue.edu/research/vpr/rschdev/events.php)

This workshop will discuss industry partnerships, technology transfer and business development. Geanie Umberger, assistant vice president for research, will discuss the unique concerns and considerations faculty face when working with industry partners as well as the resources in place at Purdue to help faculty develop these relationships.

Libby Hart-Wells, assistant vice president for research, associate director of the Burton D. Morgan Center for Entrepreneurship, and director of the Office of Technology Commercialization, will present on patents, licensing and commercialization of technology, including business startups. Faculty will also receive an overview of Purdue's resources related to business development and technology commercialization.

**MARCH 2014**

### TEDxPurdueU 2014: Daring Greatly

- » **When** March 7, 1- 6 p.m.
- » **Where** Loeb Playhouse, Stewart Center
- » **Website** <http://tedxpurdueu.com>
- » **Tickets** [www.convocations.org/portfolio/tedxpurdueu-3-7-14/](http://www.convocations.org/portfolio/tedxpurdueu-3-7-14/)

Tickets are on sale now for TEDxPurdueU 2014, which will bring together Purdue faculty, students and alumni from the top of many diverse fields and schools of thought — including history, science, technology and human relations — to promote collaborative, interdisciplinary learning. The independently organized event is modeled after TED, a non-profit that hosts events featuring the world's most fascinating thinkers and doers.

### Purdue Series on Corporate Citizenship and Ethics — Featuring Perry Chen, Creator and CEO of Kickstarter

- » **When** Thursday, March 27, 7 p.m.
- » **Where** Loeb Playhouse, Stewart Center
- » **Contact** Tim Newton, [tnewton@purdue.edu](mailto:tnewton@purdue.edu), 496-7271

The Purdue Series on Corporate Citizenship and Ethics is the result of a unique collaboration between the Purdue University College of Education and the Krannert School of Management. Speakers chosen from a variety of disciplines will investigate the various aspects of business ethics and the role citizens play in corporate ethics, providing a well-rounded overview of the effects of corporate ethics upon business, the economy, and society as a whole. All events are free and open to the public. This presentation features Perry Chen, the creator and CEO of Kickstarter, a funding platform for creative projects — everything from films, games, and music to art, design and technology. ■

→|| OFFICE OF THE VICE PRESIDENT FOR RESEARCH

Hovde Hall  
610 Purdue Mall  
West Lafayette, IN 47907-2040

## >> Research Services Directory

- » General Information & Questions; 494-9806
- » Vice President for Research; 494-6209; Richard Buckius, rbuckius@purdue.edu
- » Discovery Park; 496-6625; Alan Rebar, rebar@purdue.edu
- » Research Core Facilities; 496-1938; Jeff Bolin, jtb@purdue.edu
- » Cost Sharing; 494-0702; Mary Millsaps, millsaps@purdue.edu
- » Internal Competitions; 494-4231; Marietta Harrison, harrisom@purdue.edu
- » Industry Research and Technology Programs; 494-0743; John Schneider, jas@purdue.edu
- » Research Development: Workshops, Competitions; 494-5858; Sue Grimes, sgrimes@purdue.edu
- » Research Development: Proposal Coordination/Writing; 496-1985; Sally Bond, sbond@purdue.edu
- » Research Integrity; 494-3996; Peter Dunn, pedunn@purdue.edu
- » Research Regulatory Compliance; 494-7458; Ianthe Bryant-Gawthrop, ibg@purdue.edu
- » Research Quality Assurance; 496-6653; Michael Szczepanski, mikes@purdue.edu
- » Conflict of Interest; 496-1763; Voichita Dadarlat, voichi@purdue.edu
- » Export Controls; 494-1852; Michael Reckowsky, mreckowsky@purdue.edu
- » Protection of Research Subjects; 496-3824; Howard Zelaznik, hnzela@purdue.edu
- » Human Subjects; 494-5942; Kristine Hershberger, kh@purdue.edu
- » Animals; 494-7206; Lisa Snider, ldsnider@purdue.edu
- » Biohazards; 494-1496; Bob Golden, rwgolden@purdue.edu

### **Award Information**

- » Sponsored Program Services; 494-1055; [www.purdue.edu/sps](http://www.purdue.edu/sps)
- » Proposal Information, Transmittal to Agency; 494-6204; [proposal@purdue.edu](mailto:proposal@purdue.edu)

### **Technology Commercialization**

- » Patent & Copyright Information; 588-3475; Elizabeth Hart-Wells, [otcip@prf.org](mailto:otcip@prf.org)

**Co-editors** » Pam Burroff-Murr, [burroff@purdue.edu](mailto:burroff@purdue.edu); Angie Roberts, [akroberts@purdue.edu](mailto:akroberts@purdue.edu)

**Layout** » Linda A. Howell, [lahowell@purdue.edu](mailto:lahowell@purdue.edu)

**Proofing** » Cindy Larson, [cindylarson@purdue.edu](mailto:cindylarson@purdue.edu)

**Contributing Writers** » Elizabeth Gardner, Ianthe Bryant-Gawthrop, Lynne Dahmen, Phillip Fiorini, Greg Kline, Angie Roberts, Keith Robinson, Emil Venere

**Photography** » Thomas Campbell, Patrick Finnegan, John Underwood, Vincent Walter, Steven Yang

**Read Dimensions of Discovery online at** » [www.purdue.edu/research/vpr/publications](http://www.purdue.edu/research/vpr/publications)

© 2013 Purdue University. All rights reserved. *Dimensions of Discovery* is published four times a year by the Office of the Vice President for Research. Comments welcome. Send email to [burroff@purdue.edu](mailto:burroff@purdue.edu).

Purdue University is an equal opportunity affirmative action employer.

**Distribution** » *Dimensions of Discovery's* mailing list includes faculty, research scientists and postdoctoral associates, as well as administrators and staff with responsibilities related to sponsored programs. If you would like to be on the mailing list, please email Linda Howell at [lahowell@purdue.edu](mailto:lahowell@purdue.edu) or Pam Burroff-Murr at [burroff@purdue.edu](mailto:burroff@purdue.edu).