Research Review

Office of the Vice President for Research ◆ Purdue University

Supporting and Funding Research in the Social Sciences, Arts, and Humanities

by Suzanne Black

It doesn't take an NMR machine to detect irony in a passage of literature, nor a mass spectrometer to study NGOs. Humanists, social scientists, and artists do, however, require support for their research. Two presentations at the September 6 orientation for new faculty focused on external and internal funding for researchers in the College of Liberal Arts (CLA).

Leigh Raymond, associate professor of political science in the CLA, provided his perspective on the "Experiences of a (not so) New Faculty Member." The Associate Director of the Purdue Climate Change Research Center, Raymond has received support from the Environmental Protection Agency (EPA), National Science Foundation (NSF), and the U.S. Geological Survey (USGS). His presentation focused on the benefits of receiving external funding, as well as strategies for locating funding sources, making use of unfunded proposals, and building successful collaborations.

Raymond opened by noting that interest in external funding varies widely across the CLA. Such support can have important benefits, such as the ability to buy out teaching, recruit top graduate students, and advance one's research agenda. He stressed that researchers should not "overlook small opportunities. 30K can sometimes be a lot in social science."

Raymond advised his audience to "start early, start small" and "be compelling." It's particularly important to stay informed about one's area of research; specifically, one should be aware of the types of projects that are supported. Faculty should think carefully about useful reviewers of their work and manage their "risk/reward ratios": "Be careful about investing lots of time on something with a 5 percent chance of funding."

Even if a proposal doesn't receive funding, it can still prove useful. Writing the proposal forces the investigator to "take two weeks and sketch out a three-year research plan." Good reviews offer useful criticism, while even "weird reviews" offer guidance about aspects of the project that would benefit from clarification.

Purdue offers exciting opportunities for interdisciplinary work. Good interdisciplinary collaborations, Raymond believes, are long-term, bottom-up undertakings where all parties stay true to their individual research agendas. It's important to find partners who respect and understand other disciplines' norms and their collaborators' theoretical interests: "they should appreciate your work and understand it. You don't want someone who just 'needs a public policy person on this grant.'"

Raymond closed his talk with the advice to "chase great ideas, not funding opportunities. Focusing on the ideas first allows one the space to make them as compelling and innovative as possible. Good ideas, in my experience, will eventually find funding."

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Read the *Research Review* online at:
http://www.purdue.edu/research/vpr/publications/researchreview.shtml

Purdue is an equal access/equal opportunity university.

Jon Harbor Joins the Office of the Vice President for Research

Jon Harbor takes on a new position at Purdue as associate vice president for research for centers and institutes. His responsibilities include oversight of Purdue's existing centers and institutes and the development of new and emerging centers and institutes. He also will oversee areas of research development and will continue the work begun on establishing the University's research infrastructure or "cores." In addition to his position in the Office of the Vice President for Research, Harbor has taken on the role as interim director for Discovery Park's Discovery Learning Center, a university-wide center focused on interdisciplinary research in education, and has a faculty appointment in the Department of Earth and Atmospheric Sciences.

Harbor returns to Purdue after serving as dean of the College of Liberal Arts and Sciences at the University of Colorado at Denver and Health Sciences Center.

Jon Harbor's record at Purdue is distinctive, and included appointments as head of the Department of Earth and Atmospheric Sciences, as well as associate dean for research and interim associate dean for graduate education for the College of Science. Harbor was also a founding co-director of the Discovery Learning Center. In 2000, he was selected for Purdue's top recognition for teaching, the Murphy Teaching Award, and elected a Fellow of the Purdue University Teaching Academy. He was a Fulbright Senior Scholar between 2000-2001 at the University of Canterbury and the University of Auckland in New Zealand.

Harbor first came to Purdue in 1994 as a professor of environmental geosciences and later received a courtesy appointment in curriculum and instruction in 2001. His research interests include land use change and water resources, glacial processes, and environmental education research. Harbor has published widely in environmental science and education research, and has received research funding from a wide variety of sources, including the National Science Foundation, the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, the U.S. Department of Education, the U.S. Geological Survey, and NASA.

In 1990, Harbor earned his PhD in geological sciences from the University of Washington in Seattle. His master's in geography is from the University of Colorado at Boulder, while he received his bachelor's degree in geography from the University of Cambridge (U.K.). ◆

Research Review Distribution

Campus mailing addresses are provided by Personnel Services. Faculty member departures or campus address changes should be submitted to Personnel Services via your department's business office. Duplications are sometimes unavoidable due to the cross references in some mailing lists.

Faculty who are not receiving this newsletter and wish to be added to the mailing list should contact Linda Howell at 46458 or **lahowell@purdue.edu**. ◆

Importance of NSF Broader Impacts Review Criterion

by Christine King

"Having served on a range of review panels, I cannot emphasize enough the importance of a well thought out broader impacts section for proposals. Typically there is no shortage of proposals that are excellent in the core of what is proposed; what often separates excellent proposals that don't get funded from those that do is the quality of the broader impacts that the work will have."
— Jon Harbor, Associate Vice President for Research, Purdue University

Recently, the National Science Foundation (NSF) issued a Dear Colleague letter focused on the second, and often less understood, of its two review criteria. While most faculty are clear on how their proposals will respond to the first criterion, Intellectual Merit, the second, Broader Impacts, often is more difficult to understand and to include in a proposal. A Dear Colleague letter from Peter March, director, Division of Mathematical Sciences at NSF, provides helpful examples of the kinds of activities that could fulfill this second requirement.

- **Advance discovery and understanding while promoting teaching, training, and learning,** for example, by training graduate students, mentoring postdoctoral researchers and junior faculty, involving undergraduates in research experiences, and participating in the recruitment, training, and professional development of K-12 mathematics and science teachers.
- **Broaden participation of under-represented groups,** for example, by establishing collaborations with students and faculty from institutions and organizations serving women, minorities, and other groups under-represented in the mathematical sciences.
- **Enhance infrastructure for research and education,** for example, by establishing collaborations with researchers in industry and government laboratories, developing partnerships with international academic institutions and organizations, and building networks of U.S. colleges and universities.
- **Broaden dissemination to enhance scientific and technological understanding,** for example, by presenting results of research and education projects in formats useful to students, scientists and engineers, members of Congress, teachers, and the general public.
- **Benefits to society** may occur, for example, when results of research and education projects are applied to other fields of science and technology to create startup companies, to improve commercial technology, to inform public policy, and to enhance national security.

The complete Dear Colleague letter may be found at **http://www.nsf.gov/pubs/2007/nsf07046/nsf07046.jsp**. Additionally, resources may be available through the Office of the Vice President for Research (OVPR) and/or Discovery Park to assist faculty in clarifying this component of proposals. ◆

Christine King is director of research development services.

Social Sciences, Arts, and Humanities — continued from page 1

Associate Dean of the CLA Thomas Berndt addressed "Support for Faculty Research in the Humanities and the Arts." Dean Berndt contrasted funding in the sciences with that in the humanities and arts, comparing the NSF's proposed 6.4 billion dollar budget with those of the National Endowment for the Humanities ($141 million) and National Endowment for the Arts ($128 million).

He then reviewed the types of support needed by humanists and artists and discussed some of the University and CLA funding available to new faculty members. Artists and humanists travel to exhibits, conferences, and archives. They also need support for dissemination of their work (the costs of reprinting quotations and mailing manuscripts or artwork can be significant) and time to create new art and new knowledge.

CLA faculty can obtain travel, library, and research incentive grants; new assistant professors can arrange for course releases, and tenured faculty can spend a semester engaged in major projects. More specifically, all University faculty can apply to the Purdue Library Scholars Grant Program and CLA faculty can apply for Research Incentive Grants, the CLA Research and Discovery Support Program, and four Faculty Development Centers. More detailed information about the College's internal grants can be found on the web at **http://www.cla.purdue.edu/faculty/funding/grants**.

Faculty seeking funding in the liberal arts also should consider the PRF awards, The Kinley Trust, and receiving e-mail funding alerts from the Community of Science. Links to all these resources may be found on the Web site of the Office of the Vice President for Research at **http://www.purdue.edu/research/vpr/index.shtml**. ◆

Suzanne Black is grant writer for the Office of the Vice President for Research.

NIH Roadmap Workshop: Epigenetics

Wednesday, October 24
8:45 a.m. – 1:30 p.m.
Room 314, Stewart Center

In 2002, Elias A. Zerhouni, M.D. convened a series of meetings to chart a "roadmap" for medical research in the 21st century. The purpose was to identify major opportunities and gaps in biomedical research that no single institute at the National Insitutes of Health (NIH) could tackle alone but that the agency as a whole must address, to make the biggest impact on the progress of medical research. The newest version of the Roadmap will attempt to inform human health through mapping and understanding epigenetics, which is the study of changes in the regulation of gene activity and expression that are not dependent on DNA sequence. There is clear recognition that epigenetic mechanisms affect stem cell differentiation and organogenesis, and have been implicated in susceptibility to certain cancers.

In recognition of the unique strengths present in the state of Indiana, and at Purdue in particular, related to epigenetics basic and translational research, the Office of the Vice President for Research (OVPR) and the Bindley Biosciences Center of Discovery Park are hosting a workshop to map a strategy to focus and direct Purdue's research and technology efforts in epigenetics. Three invited speakers will help researchers refine goals in this area:

- **Jared Ordway**, senior scientist at Orion Genomics, served on an NCI panel that led to the selection of epigenetics as a current focus of the NIH Roadmap. Ordway will be discussing the current and the future technologies essential to driving epigenetics forward.
- **K. C. Donnelly,** professor and head of the environmental and occupational health department, Texas A & M University, will address the potential use of the refugee population living in the highly contaminated industrial sector of Sumgayit, Azerbaijan for epigenetic research on human populations and possible collaboration with the Texas A&M Superfund Basic Research Program.
- **Fred Tyson**, Ph.D. program administrator, environmental epigenetics, National Institute of Environmental Health Science (NIEHS), will present the institutional mission of the NIEHS with respect to environmental influences on epigenetics outcomes, including the specific strategies involved in the NIH Epigenetic Roadmap initiatives.

To attend this event, scheduled for Wednesday, October 24, in Room 314 Stewart Center, please register at **www.purdue.edu/research/vpr/events.shtml**. The workshop begins with coffee at 8:45 a.m., includes lunch provided by the OVPR, and is scheduled to end at 1:30 p.m. Participants are encouraged to indicate particular interest areas related to epigenetics, using the areas provided on the registration form. Also, those indicating their interest in providing a poster presentation will be contacted with further information.

Please contact Perry Kirkham at **pkirkham@purdue.edu** if you have questions about the content of this event. For registration questions, please contact Mary Ryker at **mlryker@purdue.edu**.◆

NIH Nano Health Initiative Workshop

Thursday, December 6
Room 214, Stewart Center

The Office of the Vice President for Research (OVPR) is hosting a workshop featuring two program officers from the National Institutes of Health.

- **Belinda Seto**, Deputy Director, National Institute of Biomedical Imaging and Bioengineering (NIBIB), will present on the topic of imaging and future initiatives of the NIBIB.
- **David Bradshaw**, National Institute of Environmental Health Sciences (NIEHS), program administrator for the Center for Risk and Integrated Sciences with specific responsibilities in systems biology, proteomics and nanotechnology applications, will address nanotechnology initiative development efforts within the NIEHS and across the NIH, with a special emphasis on environmental health implications of nanotechnology.

Both presenters will provide an overview of their respective institutes and of the NIH culture. For new investigators and trainees, they will discuss the NIH system.

Further information about this event, including specific times, will be available in the November issue of *Research Review*. Registration will be available at **www.purdue.edu/research/vpr/events.shtml**. ◆

Peer Reviewers Requested

As part of the ongoing effort of the Office of the Vice President for Research (OVPR) to support researchers in proposal development, the office is compiling a list of faculty willing to pre-review proposals to be submitted to federal agencies. Although many researchers have mentors and peers to do such review, the OVPR is particularly looking for faculty who have been federal program officers or who have regularly served as reviewers for one or more agencies. Those willing to serve in this capacity would occasionally be contacted by the OVPR to review a proposal for which a principal investigator has requested this service.

For those willing to serve in this capacity, please send an e-mail to that effect to Christine King at **hcking@purdue.edu**. Responses should identify those agencies and programs with which the respondent has experience, and whether as a reviewer or as a program officer. This information will help the OVPR identify the most appropriate person to critique and offer suggestions for a specific proposal. ◆

Office of International Programs

Asian Initiative Announces Two Grant Opportunities for Fall 2007

Purdue's Asian Initiative, together with the Office of International Programs, announces two grant opportunities for Purdue faculty collaborating with partners in India and China. Both grant programs are designed to foster and develop ties between Purdue and its Asian counterparts in the areas of: research collaboration; international student recruitment; study abroad opportunities; alumni relations; and development. Below is a brief description of each grant, preceded by a link to the corresponding RFP.

Asian Initiative Research (AIR) grants <**http://www.ippu.purdue.edu/resource/AIR2007-08RFP.pdf**> are designed to support faculty in the development of research collaborations with strategic partners in India and China. Grants will be in the range of $5,000 - $10,000 to support activities that produce early, tangible results with the potential to attract significant outside funding and support.

Visiting Indian and Chinese Scholars (VICS) grants <**http://www.ippu.purdue.edu/resource/RFPVisitingIndianChineseScholars.pdf**> were created to bring to the West Lafayette campus high-caliber scholars from strategic institutions in China and India for a period of up to one semester. The goal of this program is to stimulate substantive, world-class research collaboration between Purdue and Chinese and Indian institutions, and to strengthen faculty and student exchange with these institutions.

Links to the RFPs for these two programs can also be found via Purdue's Office of International Programs: **http://www.ippu.purdue.edu/aid/**. Hard copies of the RFPs have been distributed to all West Lafayette faculty through campus mail.

For additional questions about these programs, or to schedule a meeting to discuss proposal ideas prior to submission, please contact Matthew Sikora, Asian Initiative Coordinator at 47552 or **mvsikora@purdue.edu**. ◆

Human Research Protection Program

Nuts & Bolts Orientation Videoconference Workshop

Thursday, October 18

12:30–2 p.m. (Central Daylight Time)

- Calumet Campus, GYTE Annex, Room 119
- Purdue North Central Campus, TECH, Room 134

1:30–3:00 p.m. (Eastern Daylight Time)

- West Lafayette Campus, Stewart Center, Room 209

This Nuts and Bolts Workshop is for personnel interested in conducting human subjects research. This is an educational requirement for new principal investigators but is no longer a requirement for other research personnel, although they are encouraged to attend. Contact Reatha Walls at **rlwalls@purdue.edu** for more information. Registration is required and may be completed at: **http://dagon.admin.purdue.edu/nutbolt/user_registration.php**. ◆

Purdue-Led Network Awarded $18.25 Million NSF Grant to Grow Users, Translate Nanoscience into Nanotechnology

by Phillip Fiorini and Steve Tally

Purdue University's Network for Computational Nanotechnology has received a five-year, $18.25 million grant from the National Science Foundation to support the U.S. National Nanotechnology Initiative with expanded capabilities and services for computer simulations.

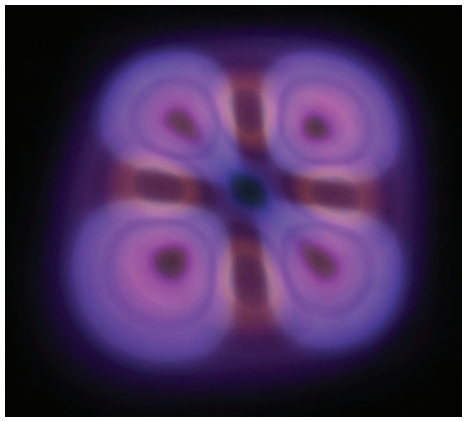
The national network was launched in 2002 with $10.5 million from NSF to develop sophisticated, high-powered computational tools that allow scientists from Boston to Beijing to advance nano-related research simply by using their desktop computers.

"This additional funding will help us expand these sophisticated computational tools to researchers, educators and even industry," said network director Mark Lundstrom, Purdue's Scifres Distinguished Professor of Electrical and Computer Engineering. "With the help of our five partner universities, we are growing beyond our roots in nanoelectronics to new areas such as nanofluidics, nanomedicine, nanophotonics and applications of nanoscience to the environment, energy, the life sciences and homeland security."

The project is based in Purdue's Discovery Park and includes partners at the University of California at Berkeley, the Molecular Foundry at Lawrence Berkeley National Laboratory, University of Illinois at Urbana-Champaign, Norfolk State University, Northwestern University and the University of Texas at El Paso.

Mihail "Mike" Roco, the NSF's senior adviser for nanotechnology, said the project shows that the NSF is committed to working with the U.S. educational system and research institutions to ensure this nation fulfills the promise of nanotechnology and that its societal benefits are broadly and equitably distributed.

"The Network for Computational Nanotechnology at Purdue has become a leading knowledge open-source organization in the world, with a focus on nanoscale understanding, predictive simulations and education," Roco said. "It is an 'integrator' of disciplines, experts, networking capabilities, and areas of application around the same nanoscale principles and tools. The network also aims to be a model for creating simulations that go well beyond the field of nanotechnology. The network has reached out to other universities to build experimental tools that have become the benchmark for equipping researchers committed to advancing emerging nano-info-bio technologies."



This is an image of a quantum dot produced by a simulation using the nanoHUB. Quantum dots are the basis of the new, energy-efficient, long-lasting, ultrabright light-emitting diodes (LEDs). (Image by Wei Qiao, David Ebert, Makerk Korkusinski, Gerhard Klimeck)

The face for this global network is the nanoHUB, a free, Internet-based science gateway used by more than 3,000 national and international researchers and educators every month. In addition to online simulation services, the site's menu includes courses, tutorials, seminars, podcasts, user reviews of tools and content, and discussions on the topics of nanoelectronics, nanomedicine and nanomaterials, as well as facilities for global collaboration.

Use of the Web site has increased fivefold the past two years, pushing current traffic to more than 25,000 users. In the last 12 months, 5,700 users have run more than 220,000 simulations with 50 available simulation tools. Another 80 non-network affiliated researchers have cited the nanoHUB in their publications.

These simulations describe the tiniest, nearly atomic-scale building blocks of nanodevices as well as components that are visible to the naked eye. At the same time, these multiscale simulations are key to using nanotechnology research to design diagnostic devices for medicine, sensors for homeland security, environmental monitoring and other potential applications.

"The nanoHUB has proven to be an extremely valuable tool for education and research," said H.S. Philip Wong, a professor of electrical engineering at Stanford University. "We used the simulation tools on the site for homework exercises and mid-term exams. And the nanoHUB's staff has been very responsive in supporting our class activities in a professional manner."

The site gives scientists and students access to resources that they would otherwise have to install and deploy themselves on their personal computers, said Gerhard Klimeck, a Purdue professor of electrical and computing engineering who leads the nanoHUB project.

"Beyond just accessibility, true usability of simulation tools and tutorials by non-specialists and our ability to deploy many tools rapidly have been the key elements to success," Klimeck said. "Our 'hub' is different from other portal technologies, which typically require significant rewrites of the science software for Web deployment. We can host sophisticated simulation engines on the Web as-is or develop powerful new interfaces in just days with our Rappture toolkit."

Current hot topics on the site include carbon nanotubes, nanotransistors, nanoelectronics and quantum dots. And Lundstrom and Klimeck say gateways focused on other disciplines, such as pharmacy, cancer and medical research, will be launched in the near future using the same technology.

"This project has been a real team effort at Purdue," Lundstrom said. "The College of Engineering, Information Technology at Purdue, and the Office of the Vice President for Research have worked side-by-side with us. We've benefited greatly by being part of Discovery Park and by our partnerships with the Birck Nanotechnology Center, the Cyber Center, and the e-Enterprise Center as well as the College of Science and Purdue's Computing Research Institute." ◆

Steve Tally is senior marketing and communication specialist for Discovery Park and Purdue University News Service.

First Session of President's Leadership Class Meets at Discovery Park

by Phillip Fiorini

Members of this year's President's Leadership Class are gaining insight into research opportunities available to undergraduate students at Purdue University and the role Discovery Park plays in fostering collaborations among faculty, students and researchers across multiple disciplines.

At their first official class this semester on August 29, the 30 members of the Presidents' Leadership Class toured Discovery Park laboratories in the Bindley Bioscience and Birck Nanotechnology centers.

They also heard presentations about faculty expectations for student success from William Oakes, an associate professor of engineering education and director of Engineering Projects in Community Service; and Gabriela Weaver, associate professor of chemistry and director of the Center for Authentic Science Practice in Education (CASPiE) at Purdue.

New Purdue President France A. Córdova attended the class and was joined by her husband, Chris Foster, who is director of Discovery Park's K-12 science, technology, engineering and mathematics education programs.

The President's Leadership Class held its first class of the semester at Discovery Park, meeting President France Córdova and hearing presentations about leadership and campus research opportunities on campus for undergraduate and graduate students. Pictured, from left, are Candiss Vibbert, associate director for Discovery Park Engagement; Purdue freshmen and President's Leadership Class members Allias Jones and Tyler Reynolds; and Tim Sands, director of Discovery Park's Birck Nanotechnology Center. (Purdue News Service Photo by Phillip Fiorini).

Purdue students Akshay Thomas and Kay Pezzanite also talked about their recent research projects completed through the Discovery Park Undergraduate Research Initiative, which is led by the park's Discovery Learning Center.

Alan Rebar, executive director of Discovery Park, welcomed the class to Discovery Park and gave a presentation on how the park is helping Purdue deploy its interdisciplinary focus on major research projects to address grand challenges in areas ranging from health care, alternative energy and nanotechnology to life sciences, entrepreneurship and cyberinfrastructure.

The President's Leadership Class, which was launched in 2000, consists of 30 newly admitted first-year students. Participants were selected for the class based on academic merit, leadership breadth, roles in high school, service activities, and awards and recognitions. ◆

Discovery Park Undergraduate Research Internship

Would you like exceptional undergraduates participating in your research?

The Discovery Park Undergraduate Research Internship (DURI) program is accepting proposals for research projects for the Spring 2008 semester.

What is the DURI program?

DURI involves Purdue undergraduates in the cutting-edge interdisciplinary research environment of Discovery Park. The program offers 50 internships per academic semester at the West Lafayette campus, funded through the Discovery Learning Center.

Why should you consider DURI?

- Select interns to help advance your research from a pool of highly talented and motivated students.
- Mentor undergraduate students by fostering the exchange of ideas and creating new research opportunities.

How do you submit your proposal?

View additional information (including sample projects) and use the simple form to submit your project proposal online: **http://www.purdue.edu/dp/duri.**

If you have any questions, please contact Amy Childress, Intern Coordinator, Discovery Learning Center at 63590 or **childres@purdue.edu.** ◆

Phillip Fiorini is senior marketing and communication specialist for Discovery Park and Purdue University News Service.

Purdue Center Receives $2.45 Million Grants for Healthcare Research

by Phillip Fiorini

The Regenstrief Foundation will fund research projects at Purdue to apply engineering principles to improve cancer care, telehealth and patient scheduling.

The Indianapolis-based foundation, which helped launch Purdue's Regenstrief Center for Healthcare Engineering in 2005, will invest $1.35 million in a joint Cancer-Care Engineering project involving Purdue, Indiana University and the Veterans Affairs Hospital. The project brings together oncologists, health service researchers, engineers, biologists and others in the war on cancer.

The Regenstrief Center at Purdue also will receive $1.1 million to research a more systematic approach to patient scheduling to reduce no-shows at hospitals and clinics.

As part of the second grant, Purdue researchers will design a national telehealth model to treat patients in rural and underserved areas who suffer from chronic illnesses. That grant also includes funding for managing databases related to these projects.

"These issues affect our lives daily and directly impact how healthcare is delivered in this nation," said Purdue President France A. Córdova. "This expanded partnership between Purdue and the Regenstrief Foundation gives us the tools needed to make a difference in healthcare."

Leonard J. Betley, Regenstrief Foundation president, said he views this new funding as an investment that will equip physicians, nurses, medical staff and researchers with a blueprint for improving how healthcare providers treat their patients.

"In less than three years, Purdue's Regenstrief Center has successfully leveraged its initial $3 million in funding from the Regenstrief Foundation into $23 million in the form of sponsored research, strategic partner support and endowment funding," he said. "These projects build on Purdue's expertise in systems engineering, science and information technology as this nation seeks solutions to the grand challenges in healthcare."

The projects are:

• **Cancer-Care Engineering:** Using colorectal cancer data, this team will create tools to help improve prevention, treatment and care of those with cancer. Clinical data will be used to refine statistical and engineering simulation models to predict how to treat and possibly prevent cancer.

Chemical engineering professor Joseph Pekny and medicinal chemistry and pharmacology professor Marietta Harrison of Purdue are leading this project at Purdue.

• **Telehealth:** This project, led by Purdue communications professor Bart Collins, advances research to treat patients with chronic illnesses by integrating remote monitoring technologies with primary-care delivery systems. Telehealth uses communication technologies via the Internet and videoconferencing to help treat patients.

This research team will create analytic models that combine a patient's diagnostic information and data from home telehealth tracking factors to monitor and treat patients with chronic illnesses more effectively and affordably.

• **Patient scheduling:** Led by Purdue biomedical engineering professor Mark Lawley, an expert in systems modeling and control, the project will research patient behavioral patterns so providers can implement more effective and reliable scheduling methods. The goal is to improve clinic access by reducing appointment waits and physician time lost because of patient no-shows.

"The Regenstrief Center is successfully deploying engineering principles in the areas of healthcare precisely in order to free practitioners — doctors, nurses and support personnel — to spend their time with patients and to focus their attention on patient concerns," Regenstrief Center director Steven Witz said. ◆

Company Fundraising Boot Camp Series

October 8-9
9 a.m.–5 p.m.
Burton D. Morgan Center for Entrepreneurship, Room 121

As part of ongoing Company Fundraising Boot Camp series offered by Discovery Park, experts from Purdue and industry will outline what it takes to start your own company.

Day one will feature presentations on sources of capital, with testimonials from Purdue faculty.

Day two will focus on presentation skills and coaching sessions for participants. A networking lunch also will be provided. Workshop is free and open to the public. To register or to get more information, contact Sue Grimes, 4-5858, **sgrimes@purdue.edu**. ◆

Discovery Lecture Series

Global Business Development in Life Sciences

November 8
9 a.m. to 5 p.m.
Ross-Ade Pavilion

Discovery Lecture Series event, titled "Global Business Development in Life Sciences," will include keynote lecture at 12:30 p.m. by leading life sciences venture capitalist Stephen Burrill, chief executive of California-based Burrill and Co., and a talk on technology commercialization by Purdue President France A. Córdova. David Johnson, president of BioCrossroads, will moderate a panel discussion at 2:30 p.m. on life sciences intellectual property and the world markets. The morning session includes the Kauffman Campus Initiative workshop on equipping the next-generation of entrepreneurship leaders. Ted Ashburn, senior director of corporate development at pharmaceuticals giant Genzyme Corp., and Michael Kurek, partner at Biotechnology Business Consultants LLC, will lead the Kauffman workshop. The daylong Discovery Park event is being offered in collaboration with BioCrossroads, the Ewing Marion Kauffman Foundation and Lilly Endowment. Tours of Discovery Park and the Purdue Research Park also are planned. For registration information, go to **http://www.purdue.edu/dp/dls**. ◆

McCoy Distinguished Lecture

From Earth's Atmosphere to Planetary Engineering of Mars: An Adventure in Chemistry

Joseph S. Francisco
William E. Moore Distinguished Professor of Earth and Atmospheric Sciences and Chemistry, Purdue University

Wednesday, October 10
3:30 p.m.
Fowler Hall, Stewart Center
Reception follows at 4:30 p.m.
West Foyer, Stewart Center

On Earth, greenhouse gases contribute to atmospheric global warming, but on Mars they make it possible to engineer the atmosphere to make the planet capable of supporting life. We will review the chemistry of chlorofluorocarbons and discuss design strategies for their benign environmental use on Earth and their planetary engineering use on Mars.

Annual Showalter Trust Competition

Submissions for this year's Showalter Trust Competition are requested. The proposals are for one year with a project period of July 1, 2008–June 30, 2009.

All guidelines, procedures, and instructions are available on the Office of the Vice President for Research Web site at **http://www.purdue.edu/research/vpr/funding/showalter.html**.

The Showalter Will specifies that the following areas of research would have priority for funding:

- Air and water pollution research;
- Research in the field of biochemistry;
- Research for the control and prevention of disease;
- Research for development of new technologies in food production;
- Research in medical and biophysical instrumentation, including the adaptation of the modern computer in the measurement of biological processes, in the collection, recording, analysis, and interpretation of data.

Also specified in the Will is a directive that no funds may be used to finance any research in psychiatry, sociology or social studies.

Each college or school is requested to submit a list of short research abstracts (1-2 pages, including the title and investigator) for consideration of Showalter funding to Rhonda Hostetter, Office of the Vice President for Research, Hovde Hall, by October 19, 2007. ◆

Record High Sponsored Program Awards Received for 2006-07

Purdue's total sponsored program funding hit an all-time high of $301,179,569 million dollars for the academic year 2006-07, a 15.3 percent increase over last year's award totals. Faculty, students and staff involved in research at Purdue are to be commended for this extraordinary accomplishment.

During the academic year 2006-07, Purdue researchers from all campuses submitted more than $1.37 billion in proposal requests to federal and non-federal agencies.

The following table offers a summary of the sources of the awards received by Purdue.

FY 06	$261,387,673
FY 07	$301,179,569
Increase	**15.2%**

Sponsored Awards by Academic Unit 2006-2007 Data

School/College	Count	Amount
Agriculture	979	$66,120,039
Consumer & Family Sciences	121	13,442,365
Education	50	2,257,288
Engineering	856	77,027,031
Liberal Arts	119	7,805,088
Management	32	1,966,995
Pharmacy, Nursing, Health Sciences	159	40,269,945
Science	430	52,284,621
Technology	52	2,925,829
Veterinary Medicine	96	4,993,956
Discovery Park (non-distributed)	54	7,387,410
Other	70	15,736,861
Subtotal West Lafayette	3,018	$292,217,428
Subtotal Regional Campuses	113	$8,962,141
Total Systemwide	3,131	$301,179,569

Summary of Awards FY 2007

Federal	$169,727,705	56.4%
Industrial/Foundations	$104,499,064	34.7%
State/Local Government	$20,579,464	6.8%
PRF/Purdue	$4,925,206	1.6%
Foreign Government	$1,448,130	0.5%
Grand Total	$301,179,569	100.0%

Seed for Success Awards

In 2003, the Seed for Success Awards were established by former Provost Sally Mason and Vice President for Research Charles O. Rutledge to recognize faculty members who have attracted an individual sponsored research grant to Purdue University in excess of one million dollars. Faculty members are honored at a luncheon and presented with the Seed for Success Award consisting of a bronze acorn engraved with their name. A tree is planted in a grove on campus.

Seed for Success winners were honored by Interim Provost Victor L. Lechtenberg and Vice President for Research Charles Rutledge at a September luncheon.

Honorees include the following:

Encouraging Regional Trade with Hermetic Storage for Cowpea in West and Central Africa — Joan R. Fulton (PI), Natalie J. Carroll, James M. Lowenberg-DeBoer, Lisa J. Mauer, Larry L. Murdock, Barry R. Pittendrigh

Structure-Function Studies of Alpha- and Flaviviruses — Richard J. Kuhn (PI), Jue Chen, Wen Jiang, Michael G. Rossmann

Louis Stokes Alliance for Minority Participation Indiana: Phase II — Beverly Davenport-Sypher (PI), Z. George Hong, Sharron K. Jenkins, Pamella P. Shaw

Upward Bound Program — Joseph I. Flores (PI)

Multimodal Tests of Spoken Word Recognition for Adults and Children — Karen I. Kirk (PI), Brian F. French, Joyce A. Hawkins

Classroom Links to Vocabulary and Phonological Sensitivity Skills — Douglas R. Powell (PI), Karen E. Diamond

Kauffman Collegiate Entrepreneurial Initiative 2006 — Alan H. Rebar (PI), Joseph F. Pekny

Novel Bioconjugates as Probes of Estrogen Receptors — Ross V. Weatherman (PI)

Botanical Center for Age-Related Diseases-Year 8 — Connie M. Weaver (PI), David Elmore, Richard D. Mattes, George P. McCabe, Charles R. Santerre, David J. Waters

Advanced Geopositioning Research & Analysis Support — James S. Bethel (PI), Edward M. Mikhail, Jie Shan

Advanced Passive Infra-Red Signature Reduction Research with Application to Suppression Systems for Aircraft — Stephen D. Heister (PI), Jay P. Gore, Charles L. Merkle, Scott E. Meyer

Communicative Disorders — Laurence B. Leonard (PI)

Third-Generation Reusable Launch Vehicle Technology — William E. Anderson (PI), Stephen D. Heister, Robert P. Lucht, Charles L. Merkle, Steven P. Schneider

Natural Inhibitors of Carcinogenesis — Mark S. Cushman (PI), Ching-Jer Chang, Bruce A. Craig

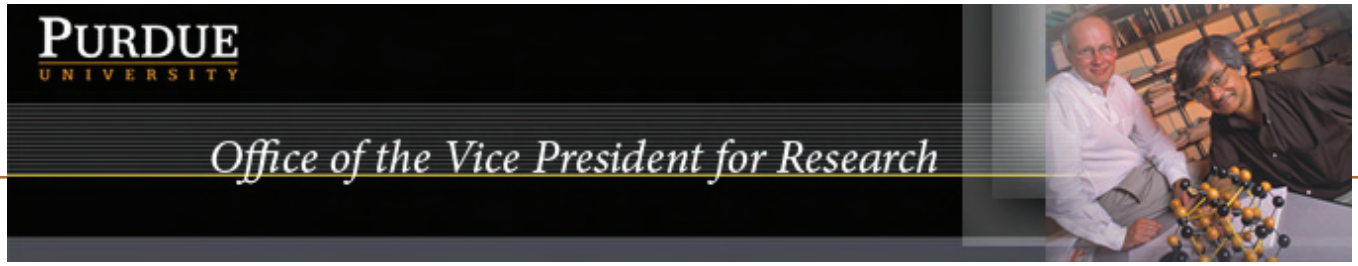
Advancing Afghan Agriculture Alliance — Kevin T. McNamara (PI)

Tunable and Reconfigurable Optical Negative-Index Materials with Low Losses —Vladimir M. Shalaev (PI)

Development of the www.EcoliCommunity.org Information Resource — Barry L. Wanner (PI), Walid G. Aref, Michael R. Gribskov, Daisuke Kihara

Advancing Afghan Agriculture Alliance — Kevin T. McNamara (PI), James M. Lowenberg-DeBoer

NIRT/GOALI: Development of a Multiscale Hierarchical Nanomanufacturing Tool — Xianfan Xu (PI), Okan K. Ersoy, Minghao Qi, Arvind Raman ◆



Vice President for Research Web Site Gets New Look

www.purdue.edu/research/vpr

An updated web presence for the Office of the Vice President for Research (OVPR) was released on the Internet on September 6.

One of the primary functions of the Web site is to assist faculty in their search for research funding and with the development of winning proposals. The Web site also serves as a resource for information on research oversight and compliance regulations, as well as, frequently referred to policies and procedures. In addition, OVPR staff contact information is easily accessible to help facilitate with the start-up of new centers and institutes or to work with faculty members and representatives from outside the university in developing collaborative partnerships.

The left navigation menu includes links to:

- **Research Administration** — Applicable regulations, federal laws and certain policies of the University are located under Research Administration. Links to the Human Research Protection Program, Care and Use of Animals, Biohazards and rDNA, Radiation/Lasers, Controlled Substances, and Export Control, and Conflict of Interest are all found under the Research Administration link.
- **Research Development** — Faculty seeking assistance in the development of proposals including project coordination and grant writing for large multidisciplinary grants will find helpful resources identified under Research Development.
- **Funding Opportunities** — Links to email alerts and search engines for finding research funding from external sources as well as University resources are located here.
- **Private Sector Partnerships** — Faculty, staff and visitors to the OVPR Web site will find assistance with the promotion and facilitation of creating partnerships between Purdue University and the private sector.
- **Policies & Procedures** — Policies and procedures that faculty should be familiar with in their development of research proposals, such as University cost sharing, the proposal deadline policy, facilities and administration costs, limited submission procedures and deadlines, and intellectual property are located here.
- **Centers Support** — The creation of new centers and institutes is encouraged at Purdue and Centers Support is a new link on the Web site. You will find assistance with the startup of interdisciplinary research centers and institutes under this link.

Other features on the site include a link to Purdue's recognized Centers and Institutes, Discovery Park, and Sponsored Program Services. In addition, an events page for proposal workshops and conferences sponsored by the OVPR, a faculty expertise web page which includes the Purdue University Research Expertise (PURE) database and the Community of Science Expertise Profiles (COS) database are available for easy access. Access to OVPR newsletters and reports can be found under the Publications link. Finally, a selection of Helpful Links to other University offices can be found on the home page.

The intent of the new navigation and design system is to assist you in your efforts to secure sponsored program funding and in forging new partnerships in research. Please don't hesitate to contact Pam Burroff-Murr by phone, 49-63381 or email at **burroff@purdue.edu** with comments or suggestions for the OVPR Web site.

The Web site address to the OVPR home page continues to be **www.purdue.edu/research/vpr.** Please update your bookmarks for other favorites on the site. ◆

Top Science Journalists to be Honored at Purdue November 7-9

by Elizabeth Gardner

Purdue University will honor leading science journalists from around the world during the second annual Science Journalism Laureates Program November 7-9.

The journalists also will interact with the Purdue community. The laureates will meet with students, alumni and faculty to discuss new frontiers of science and technology and changes in the field of science communication.

"The science writer plays a vital role in our society by translating research discoveries into something the public can understand," said Jeffrey Vitter, the Frederick L. Hovde Dean of the College of Science. "It is like the old saying, 'If a tree falls in the forest and there is no one to hear it, does it make a sound?' If a researcher makes a breakthrough discovery and the decision-maker cannot understand it, the impact is lessened.

"By honoring leaders in the science-writing field, Purdue is making a call to all universities to showcase the importance of this field."

The laureates will participate in a public town hall meeting in the commons of the Lawson Computer Science Building the morning of November 8. That afternoon, the laureates will address the campus during a public convocation. These events are *free and open to the public*.

Public Town Hall Meeting
Time TBA
November 8
Lawson Computer Science Building commons

"This program highlights the importance of sharing knowledge and the need for scientists and communicators to work together," said interim Purdue Provost Victor Lechtenberg. "It is a topic paramount to a research university such as Purdue and crucial for the future success of our students. I would encourage Purdue faculty to make arrangements for their students to attend these events."

The founding laureates also will return to Purdue to join the 2007 laureates for this year's program. The founding laureates are:

- **Clive Cookson,** science editor for the *Financial Times* of London.
- **David Ewing Duncan,** science journalist for *Discover*, *National Geographic* and PBS's Nova.
- **Joel Garreau,** journalist and editor for the *Washington Post*.
- **Simon Grose,** science and technology editor for the *Canberra Times*.
- **Moira Gunn,** host of National Public Radio's Tech Nation and BioTech Nation.
- **Joan Leach,** science communications program at the University of Queensland.
- **Sabine Louet,** news editor of *Nature Biotechnology*.
- **Apoorva Mandavilli,** senior news editor of *Nature Medicine*.
- **Nuala Moran,** editor of science and business and correspondent for *BioWorld*.
- **Jason Pontin,** editor in chief of *Technology Review* and columnist for the New York Times.
- **Jeff Young,** senior editor of the *Chronicle of Higher Education*.

At press time, the details of the program were still being finalized. For more information about the Science Journalism Laureates Program, visit:**http://www.sciencejournalismlaureates.net** ◆

Elizabeth Gardner is science writer for Purdue University News Service.

August 2007 Projects Funded

Abramowitz, Harvey and **Seager, Thomas P.**; mechanical engineering, civil engineering, from Indiana Department of Environmental Management, $120,240, "MSW Characterization Study for Indiana."

Adams, Douglas E.; mechanical engineering, from Simulex, $87,041, "Uncertainty Quantification in Large-Scale, Agent-Based Simulations."

Adams, Douglas E.; mechanical engineering, from Cummins, Inc., $258,416, "Leakage Path Localization in Cast Iron Block Fluid Circuits Using Airborne and Acoustic Frequency Response Array Modeling and Testing."

Adams, Douglas E.; mechanical engineering, from Universal Technology Corporation, $50,300, "Development of Acoustic Vibration and Wave Propagation Method for Damage Detection and Localization in Complex Structures."

Adams, Douglas E.; mechanical engineering, from Simulex, $59,959, "Uncertainty Quantification in Large-Scale, Agent Based Simulations."

Agrawal, Rakesh; **Venkatasubramanian, Venkat** and **Reklaitis, Gintaras V.**; chemical engineering, from U.S. Department of Energy, , $180,000, "New Design Methods and Algorithms for High Energy-Efficient and Low-Cost Distillation Processes Amendment 2."

Anderson, William E.; aeronautical & astronautical engineering, from National Aeronautics and Space Admininistration, $30,000, "Advanced Propulsion Systems Testing for Optimized Designs."

Applegate, Todd J.; animal sciences, from Michigan State University, $140,171, "Source Reduction and Mitigations Stategies for Air Emissions From Turkeys, Laying Hens, and Growing Cattle."

Atallah, Mikhail J. and **Mills, Juline E.**; computer science, hospitality & tourism, from National Science Foundation, $100,000, "CT-ISG: Improving the Privacy and Security of Online Survey Data Collection, Storage, and Processing – Amendment 1."

Bagchi, Saurabh and **Chappell, William J.**; electrical & computer engineering, from Em Net LLC, $288,647, "CSONET: A Distributed Wireless Networked Control System For Combined Sewer Overflow Abatement."

Bakker, Eric; chemistry, from National Institutes of Health, $137,931, "Instrumental Control of Ion-Selective Electrodes."

Bashir, Rashid and **Mao, Chengde**; Birck Nanotechology Center, from PHS-NIH National Institute of Biomedical Imaging & Bioengineering, $180,961, "RNA Nanomotor Based Active Devices for Biology and Medicine." (a Discovery Park award — Birck Nanotechology Center.)

Bertino, Elisa; **Bagchi, Saurabh**; **Martino, Lorenzo D** and **Moidu, Khalid**; computer science, electrical & computer engineering, computer & information technology, from National Science Foundation, $450,000, "IPS: Security Services For Healthcare Applications."

Bhargava, Bharat; computer science, from Institute for Information Infrastructure Protection, $150,000, "Collaborative Attacks In Wireless Networks."

Birch, Deborah I.; Student Services, from U.S. Department of Education, $304,624, "Talent Search Project."

Blatchley, Ernest R. and **Li, Jing**; civil engineering, from National Swimming Pool Foundation, $135,954, "Combined Application of UV Radiation and Chlorine for Recreational Waters: Synergistic Effects and Field Monitoring."

Boushey, Carol J.; **Craig, Bruce A.**; **Delp, Edward J.**; **Ebert, David S.** and **Lutes, Kyle D.**; foods & nutrition, statistics, electrical & computer engineering, computer & information technology, from PHS-NIH National Cancer Institute, $451,739, "Improving Dietary Assessment Methods Using the Cell Phone and Digital Imaging."

Boushey, Carol J.; **Craig, Bruce A.**; **Delp, Edward J.**; **Ebert, David S.** and **Lutes, Kyle D.**; foods & nutrition, statistics, electrical & computer engineering, computer & information technology, from PHS-NIH Nattional Institute of Diabetes and Digestive and Kidney Diseases, $305,000, "Improving Diet Assessment in Adolescents."

Boutin, Mireille; electrical & computer engineering, from National Science Foundation, $131,159, "Efficient Methods for Automatic Recognition with Application to Target Identification."

Bowen, Brenda B.; earth & atmospheric sciences, from National Science Foundation, $30,858, "Collaborative Research: the Evolution of Extremely Acid Lakes and Groundwaters in Western Australia."

Bowen, Brenda B.; earth & atmospheric sciences, from American Chemical Society, $40,000, "Evaluating the History of Eolian and Interdune Fluid-Sediment Interactions and Mass Transfer in An Acid and Redox Influenced Diagenetic System."

Breur, Gert J. and **Van Sickle, David C.**; veterinary clinical science, basic medical sciences, from Biomet Inc., $88,340, "*In vivo* Regenerex Bone Chamber Model Study."

Byrn, Stephen R.; **Carvajal, Teresa M.**; **Pinal, Rodolfo**; **Sojka, Paul E.**; **Wassgren, Carl R.** and **Morris, Kenneth R.**; industrial & physical pharmacy, mechanical engineering, from Camp, Inc., $300,000, "Camp Proposal 2007 ... Tablet Pan Coating Continuation Studies ... Roller Compaction."

Camberato, James J.; agronomy, from Monsanto Company, $6,000, "Academic Yield Trial with Roundup RReady2Yield Soybeans."

Carpita, Nicholas C.; botany & plant pathology, from U.S. Department of Energy, $114,000, "Identifying the Catalytic Components of the Maize Mixed-Linkage Beta-Glucan Synthase Amendment 2."

Carrell, Anthony J.; field extension educators, from National 4-H Council, $13,200, "Base — Before and After School Experience."

Chandrasekar, Srinivasan; industrial engineering, from National Science Foundation, $26,750, "Collaborative Research: Nanostructured Alloys with Unprecedented Properties/ NSF Award 0626047."

Chandrasekar, Srinivasan and **Sullivan, John P.**; Center for Advanced Manufacturing, from National Science Foundation, $150,000, "GOALI: Micro/Meso Scale Characterization of Interface Phenomena in Environmentally Clean Machining." (a Discovery Park award — Center For Advanced Manufacturing)

Chaturvedi, Alok R.; management, from National Science Foundation, $325,000, "CSR–CSI: Composing Large-Scale Synthetic Environments Through Self-Assembly Of Heterogeneous Simulations."

Notice Regarding the Projects Funded

The Projects Funded list is generated by Sponsored Program Administration. Questions concerning the information contained in the Projects Funded section of the *Research Review* should be directed to Julie Jang at 63678 or **jangj@purdue.edu**.◆

Chiu, George T.; mechanical engineering, from Indiana Department of Workforce Development, $3,000, "Indiana Workforce Development Grant — Harrison High School."

Clemens, James C.; biochemistry, from Alfred P. Sloan Foundation, $45,000, "Research Fellowship in Neuroscience."

Collodi, Paul; animal sciences, from PHS-NIH National Institute of General Medical Sciences, $359,828, "Zebrafish ES Cell Lines for Targeted Mutagenesis."

Coppoc, Gordon L.; medical education, from IU School of Medicine, $1,711,091, "Indiana University School of Medicine — Lafayette."

Corson, Lynn A.; Center for Environment, from Apex Precision Technologies, $1,000, "Technical Assistance Agreement Multi-Sponsored." (a Discovery Park award — Center for Environment)

Corson, Lynn A.,; Center for Environment, from American Composites Manufacturers Association, $60,054, "Low Emissions Gel-Coat Application (LEGA) Screening Related To the March 2007 Resin Formulation Screening Evaluation for Styrene and VOC Emissions." (a Discovery Park award — Center for Environment)

Corti, David S.; chemical engineering, from American Chemical Society, $90,000, "A New Picture of Homogeneous Bubble Nucleation In Superheated Liquids."

Cramer, William A.; biological sciences, from PHS-NIH National Institute of General Medical Sciences, $256,908, "Structure-Function of Hetero-Oligomeric Integral Membrane Proteins."

Crossley, William A.; **Sullivan, John P.** and **Weisshaar, Terrence A.**; aeronautical & astronautical engineering, from Nextgen Aeronautics, Inc., $30,000, "Innovative Reconfigurable Wing Designs for Future Short Take-Off and Landing Aircraft."

De Hoop, Maarten V.; mathematics, from National Science Foundation, $379,745, "CMG-Collaborative Research: Multi-Scale (Wave Equation) Tomographic Imaging with USArray Waveform Data."

Delgass, W. N.; chemical engineering, from American Chemical Society, $90,000, "Mechanistic Understanding of Au and Au Alloy/Ts-1 Propylene Epoxidation Catalysts."

Delp, Edward J.; electrical & computer engineering, from Motorola, Inc., $29,966, "Mobile Video Indexing."

Easterday, Kelly L.; field extension educators, from University of Nebraska-Lincoln, $10,000, "Commodity Marketing Education: Assisting Women to Increase Farm Profitabilty while Decreasing Price Risk."

Eigenmann, Rudolf; electrical & computer engineering, from National Science Foundation, $80,000, "CSR-AES: Adaptive Optimization for Dynamically Discovered Hardware and Software Resources."

Elliott, Stephen J.; industrial technology, from UPEK Inc., $4,187, "Fingerprint Sensor Enrollment."

Engel, Bernard A.; agriculture & biological engineering, from Indiana University-Purdue University Indianapolis, $125,000, "Integration of Water Quality Tools and Information to Reduce Nonpoint Source Water Pollution."

Farlee, Lenny D.; **Mckenna, James R.** and **Woeste, Keith E.**; forestry and natural resources, from Hardwood Forestry Fund, $3,900, "Hardwood Forestry Fund — Hardwood Tree Improvement and Regeneration Center."

Farnsworth, Richard L. and **Engel, Bernard A.**; forestry & natural resources, agriculture & biological engineering, from Environmental Protection Agency, $36,000, "An Ecological/ Environmental Decision Model for Watershed Management."

Field, William E.; agriculture & biological engineering, from Cooperative State Research Service, $180,000, "Indiana Agrability Project."

Finke, Linda M.; health science administration, from Indiana Family Health Council, Inc., $112,172, "Lafayette Street Family Health Clinic - Title X."

Francisco, Joseph S.; chemistry, from University of California — Los Angeles, $31,520, "Quantum Chemical and Chemical Kinetics Calculations of Sulfur and Sulfur Exchange Reactions Related to Mass-Independent."

Frankel, Steven H.; mechanical engineering, from National Science Foundation, $82,739, "Collaborative Research: Subgrid-Scale Mixing Models For Large Eddy Simulation Of Turbulent Flames."

Friedman, Alan M.; biological sciences, from Dartmouth College, $106,175, "Integration Of Multimodal Experiments For Protein Structure Amendment 2."

Garimella, Suresh V. and **Groll, Eckhard A.**; mechanical engineering, from National Science Foundation, $15,000, "10th Annual Colloquium on International Engineering Education Travel."

Gazo, Rado; forestry and natural resources, from U.S. Forest Service, $468,400, "Purdue University Hardwood Scanning Center Development."

Gerber, Corey K.; agronomy, from Pioneer Hi-Bred International, Inc., $3,600, "Crop Diagnostics Training — Summer 2007."

Gerber, Corey K.; agronomy, from Indiana Certified Crop Advisors, $3,000, "Crop Diagnostic Training - Summer 2007."

Ghosh, Arun K.; medicinal chemistry & molecular pharmacy, from University of Illinois at Chicago, $297,865, "Design and Synthesis of SARS Protease Inhibitors."

Greenan, James P.; curriculum & instruction, from Indiana Department of Workforce Development, $25,000, "Leadership Development Program in Career Majors and Academies."

Guo, Peixuan; veterinary pathobiology, from PHS-NIH National Institute of General Medical Sciences, $26,274, "Structure and Function of phi29 Hexameric pRNA - Revision."

Hall, Mark C.; **Charbonneau, Harry** and **Hazbun, Tony R.**; Bindley Bioscience Center, from Showalter Trust, $60,000, "Cell Cycle Regulatory Functions of the 14-3-3 Protein Family." (a Discovery Park award in Bindley Bioscience Center.)

Hambrusch, Susanne E.; **Hoffmann, Christoph M.**; **Hosking, Antony L.**; **Haugan, Mark P.** and **Kais, Sabre**; computer science, physics, chemistry, from National Science Foundation, $446,000, "CPATH CB: Computing Education In Science Context."

Handwerker, Carol A.; **Slamovich, Elliott B.** and **Stach, Eric A.**; materials engineering, from National Science Foundation, $490,000, "GOALI: Nanoparticle-Enable Printing of Large-Area Electronic Hierarchical Systems."

Heber, Albert J. and **Lim, Teng Teeh**; agriculture & biological engineering, from Ohio Fresh Eggs, LLC, $102,705, "Measurements of Ammonia Emissions and Effects of Alternate Feed at Layer Facilities."

Hertel, Thomas W.; agricultural economics, from Environmental Protection Agency, $180,000, "Dynamic Global Economic Modeling of Greenhouse Gas Emissions."

Hirleman, E. D.; mechanical engineering, from National Science Foundation, $49,995, "IREE Conference 2007 Being Held; October 30 – November 1, 2007 at Purdue University."

Hogenesch, Harm; veterinary pathobiology, from The Jackson Laboratory, $52,460, "CPDM: Cloning a Gene that Regulates Eosinopil Function."

Hogenesch, Harm; veterinary pathobiology, from Dow Agrosciences, $46,726, "Investigation of Immune-Stimulating Characteristics of a Plant Cell Produced Influenza Vaccine."

Hoover, William L.; forestry & natural resources, from U.S. Forest Service, $28,775, "National Timber Tax Website — Hoover."

Hosking, Antony L.; computer science, from National Science Foundation, $30,000, "CSR-AES Collaborative: Encore/J: Transparently Recoverable Java for Resilient Distributed Computing."

Howell, Kathleen; aeronautical & astronautical engineering, from National Aeronautics & Space Admininistration, $30,000, "Mission Design Architectures for Lunar Relay Satellite Systems."

Hunt, Greg J.; entomology, from Forest Service, U.S., $10,890, "Population Connectivity of Spruce Budworm as a Function of Distance and Landscape Patterns."

Ishii, Mamoru; nuclear engineering, from Glenn Research Center, $60,000, "Study of Two-Fluid Model and Interfacial Area Transport in Microgravity Condition."

Ivantysynova, Monika; mechanical engineering, from Sauer-Danfoss Co., $183,811, "Computer Aided Design and Optimization Tool for Bent Axis Axial Piston Machines."

Ivantysynova, Monika; agriculture & biological engineering, from Sauer-Danfoss Co., $81,353, "Block Bore Tribology Robust Engineering Simulation."

Iyer, Ananth V.; School Of Management, from Indiana Department of Transportation, $112,181, "Understanding the Impact of INDOT Projects on Automotive Industry Cluster Logistics Costs: A Case Study of the Honda Plant."

Jacobs, Douglass F. and **Seifert, John R.**; forestry & natural resources, from U.S. Forest Service, $10,000, "Oak and Hickory Regeneration in Existing Clearcuts on the Hoosier National Forest."

Janes, David B.; Birck Nanotechology Center, from National Science Foundation, $58,448, "NIRT: Molecule/Semiconductor Heterostructure Device." (a Discovery Park award — Birck Nanotechology Center.)

Jiang, Keyuan; computer information technology, from Univerbal Com Inc., $1,042, "Bilingual Technical Assistance — Phase II."

Jiang, Yi; building construction & management technology, from Indiana Department of Transportation, $100,000, "Contract Time Optimization Methodologies for Highway Construction Projects."

Jiao, Dan; **Balakrishnan, Venkataramanan** and **Koh, Cheng-Kok**; electrical & computer engineering, from National Science Foundation, $415,000, "A Hierarchical Matrix Framework for Electromagnetic-Based Analysis and Design of Next Generation ICS."

Johnson, William G.; botany & plant pathology, from Michigan State University, $17,500, "Educating Growers About Glyphosate Stewardship."

Kenttamaa, Hilkka I.; chemistry, from ExxonMobile Research Engineering Company, $85,000, "ExxonMobile Research."

Kim, Chang H.; veterinary pathobiology, from U.S. Army Medical Research Acquisition Activity, $111,013, "Mechanism of Suppressor T Cell Recruitment into Breast Cancer."

Koltick, David S. and **Kim, Yeong E.**; physics, from Naval Surface Warfare Center — Dahlgren Division, $41,315, "Proto Type Demonstration Using Neutron-Gamma Technology to Detect, Identify, and Locate Hazardous Materials in Sealed Containers, Admendement 4."

Konieczny, Stephen F.; biological sciences, from Phi Beta Psi Sorority, $58,300, "Identification of Cell Lineages Involved in Pancreatic Ductal Adenocarcinoma Progression."

Krane, Matthew J. and **Johnson, David R.**; materials engineering, from National Science Foundation, $300,000, "Control of Transport Phenomena to Enable the Production of Tiai Single Crystals."

Krupke, Christian H. and **Bledsoe, Larry W.**; entomology, from Syngenta Seeds, Inc., $10,000, "MIR604 Efficacy In Refuge Strategies."

Kulatunga, N. A. and **Sundararajan, Rajeswari**; electrical & computer engineering technology, from American Electric Power Service Corp., $46,505, "High Frequency Response of Fuses for American Electric Power Corporation."

Lacount, Douglas J.; medicinal chemistry & molecular pharmacology, from Northwestern University, $49,996, "Yeast Two-Hybrid Analysis of Plasmodium Falciparum VTS and Hsp40 Binding Partners."

Lawley, Mark A.; **Muthuraman, Muthukumar** and **Sands, Laura P.**; industrial engineering, nursing, from National Science Foundation, $459,335, "GOALI: Patient Scheduling for Primary Care Clinics: Theory and Implementation."

Lawson, Sharon M.; field extension educators, from Crawford City Council for a Drug-Free Community, $250, "Project Lead."

Lebanon, Guy; statistics, from National Science Foundation, $371,625, "IPS: Decision Theoretic Approaches to Measuring and Minimizing Customized Privacy Risk."

Lebreton, James M.; psychological sciences, from Wayne State University, $10,645, "Alcohol's Role in Etiology of Sexual Assault Perpetration in a Community Sample."

Lee, Gil U.; Birck Nanotechology Center, from Sensera Inc, $30,000, "Early and Rapid Analyzer (ER-A) for the Diagnosis of Heart Attacks." (a Discovery Park award — Birck Nanotechology Center.)

Lee, John G.; agricultural economics, from Agricultural Research Service, $22,500, "Socio-Economic Assessment of Conservation Effects in the St. Joseph River Watershed."

Lelievre, Sophie A. and **Doerge, Rebecca W.**; basic medical sciences, statistics, from Susan G. Komen Breast Cancer Foundation, $300,000, "Focus on Apocal Polarity to Develop Breast Cancer Prevention Strategies."

Leok, Melvin; mathematics, from National Science Foundation, $163,743, "LTB:Generalized Variational Integrators for Large Scale Scientific Computation."

Lin, Xiaojun; electrical & computer engineering, from National Science Foundation, $72,100, "NOSS: Collaborative Research: Energy-Efficient Distributed Sensor Network Control — Theory to Implementation."

Linton, Richard H.; College Of Agriculture administration, from Agricultural Research Service, $1,516,306, "Detection and Control of Foodborne Hazards 2004-09."

Liu, Judy; civil engineering, from Indiana Department of Transportation, $29,000, "Evaluation of Fiber-Reinforced Polymer (FRP) Decks for Bridge Rehabilitation."

Liu, Xiaoqi; biochemistry, from PHS-NIH Center for Scientific Review, $153,663, "Functional Studies Of PLK1 and its Interacting Proteins."

Lowenberg-Deboer, James M.; international programs in agriculture, from Michigan State University, $5,500, "West Africa Regional Facilitator.."

Lowenberg-Deboer, James M.; **Mcnamara, Kevin T.**; **Bordelon, Bruce P.**; **Foster, Ricky E.**; **Hirst, Peter M.**; **Oseto, Christian Y.**; **Van Scoyoc, George E.** and **Weller, Stephen C.**; international programs in agriculture, horticulture & landscape architecture, entomology, agronomy, from Foreign Agricultural Service, $32,827, "Afghan Faculty Exchange Program."

Lu, Chang; Bindley Bioscience Center, from Wallace H Coulter Foundation, $237,551, "Fluidic Electroporation Devices for Large Volume Genetic Modification of Cells." (a Discovery Park award — Bindley Bioscience Center.)

Lynam, Donald R.; psychological sciences, from University Of Kentucky, $20,133, "Center for Drug Abuse Research (CDART)."

Lyrintzis, Anastasios S.; aeronautical & astronautical engineering, from U.S. Department of Education, $170,508, "Fellowship Program in Aeronautics and Astronautics — Action 1."

Machaty, Zoltan and **Cabot, Ryan A.**; animal sciences, from PHS-NIH National Institute of Child Health and Human Development, $72,911, "Regulation of Capacitative Calcium Entry in Porcine Oocytes."

Mann, Rebecca L.; educational studies, from Lumina Foundation, $26,100, "Lumina — Dual Credit and International Baccalaureate Opportunities in Indiana."

Mannering, Fred L.; civil engineering, from Indiana Department of Transportation, $100,000, "Safety Impacts of Design Exceptions."

Mannering, Fred L. and **Sinha, Kumares C.**; civil engineering, from Indiana Department of Transportation, $75,000, "Travel Time Reliability."

Mapa, Lakshman B.; manufacturing engineering technology & supervision, from UGN, $8,904, "Implementation of Packaging for Upcoming Automotive Model Launch at UGN Facilities."

Mattes, Richard D.; **Campbell, Wayne W.**; **Daniel, James R.** and **McCabe, George P.**; foods & nutrition, College of Science administration, from National Institutes of Health, $225,129, "Food Rheology and Feeding in Lean and Obese Humans."

McClure, James E.; mathematics, from National Science Foundation, $168,000, "Applications of Homotopy Theory."

McCullough, Robert G.; anthropology, from Indiana Department of Natural Resources, $10,000, "Public Archaeology at Strawtown Koteewi Park, September 2007."

McCullough, Robert G.; anthropology, from Indiana Department of Natural Resources, $44,358, "Archaeological Survey and Assessment of Clark County Indiana."

Merwade, Venkatesh M.; civil engineering, from Indiana Department of Transportation, $103,354, "Unit Hydropgraph Parmeter Determination for Indiana Watersheds."

Michler, Charles H.; forestry and natural resources, from U.S. Forest Service, $91,001, "Hardwood Tree Improvement and Regeneration Center."

Mobley, Amy R. and **Boushey, Carol J.**; foods & nutrition, from State of Indiana, $50,000, "Indiana's Food for the Hungry."

Mobley, Stacey L.; **Sands, Laura P.** and **Tao, Weiguo A.**; foods & nutrition, nursing, biochemistry, from Showalter Trust, $75,000, "Novel Proteomic Approaches for Early Detection of Metabolis Syndrome in Obese Adults."

Morgan, Mark T.; food sciences, from Prove It LLC, $25,877, "A Process for Printing Activity to Food Contact Surfaces."

Mosier, Nathan S. and **Sedlak, Miroslav**; agriculture & biological engineering, from Eli Lilly and Company, $53,323, "Stability of Kamoran in DDGS Production and Processing."

Mroczek, Daniel K.; child development & family studies, from PHS-NIH National Institute on Aging, $346,291, "Personality and Well-Being Trajectories In Adulthood."

Nauman, Eric A.; mechanical engineering, from Trask Trust Fund, $40,000, "Tissue-Engineered Interfaces for the Musculoskeletal System — Noninvasive Ligament and Tendon Repairs."

Nielsen, S. S.; food science, from Michigan State University, $33,238, "Enhanced Bean Utilization in the U.S. and Central America."

Niyogi, Devdutta S.; agronomy, from University of Colorado, $55,036, "Integrated Regional Climate Study with Focus on Landuse-Land Cover Change and Associated Changes in Hydrological Cycles."

Novak, Julie C.; nursing, from Indiana Tobacco Use Prevention and Cessation Trust, $106,870, "Smokefree Workplace Ordinance Implementation In West Lafayette, Indiana."

Oconnell, Kathleen L.; health science administration, from Indiana State Department of Health, $70,000, "Indiana Suicide Prevention Coalition."

Oconnell, Kathleen L.; health science administration, from Affiliated Service Providers of Indiana Inc., $2,500, "Disaster Behavioral Health District 3."

Ogg, James G.; earth & atmospheric sciences, from National Science Foundation, $124,800, "Collaborative Research: an Astronomical-Calibrated Time Scale for the Mesozoic Era."

Ohm, Herbert W.; agronomy, from Agricultural Research Service, $60,000, "Identification of Wheat Genes Encoding Essential Components of Resistance to Fusarium Head Blight."

Olszewski, Lynn T.; nursing, from Indiana Area Health Education Center Program, $16,500, "Insight Youthcorps Implementation in Northwest Indiana."

Pai, Vijay S.; **Brown, Cordelia M.**; **Lu, Yung-Hsiang**; **Midkiff, Samuel P.** and **Vijaykumar, T. N.**; electrical & computer engineering, from National Science Foundation, $920,000, "CPATH EAE: Extending a Bottom-Up Education Model to Support Concurrency from The First Year."

Parashar, Neeti; chemistry & physics, from Fermi National Accelerator Laboratory, $10,837, "Memorandum of Understanding for Maintenance and Operations Activities Related to the U.S. CMS Operations Office M&O Subsystem."

Pekny, Joseph F. and **Harrison, Marietta L.**; e-Enterprise Center, from Regenstrief Institute for Health Care, $1,350,000, "Developing a Hierarchical System Based Approach to Improving Cancer Care: Establishing an Indiana Prototype for Next-Generation of Colorectal Cancer Care." (a Discovery Park award — e-Enterprise Center)

Peroulis, Dimitrios; **Murthy, Jayathi Y.**; **Martinez, Edgar J**.and **Sadeghi, Farshid**; electrical & computer engineering, mechanical engineering, engineering administration engineering experiment, from University of Illinois, $116,865, "Impact-Center for Advancement of MEMS/NEMS VLSI."

Pittendrigh, Barry R. and **Murdock, Larry L.**; entomology, from Texas A&M Research Foundation, $103,203, "Genomic and Proteomic Responses to Dietary Toxins in a Stored Grain Insect Pest — Year 3 Funding."

Pittendrigh, Barry R.; entomology, from Agricultural Research Service, $30,181, "Functional Genomics in Hessian Fly."

Posada, German E.; child development & family studies, from National Science Foundation, $124,749, "Career: Child-Mother Secure Base Relationship Processes and Social Competence in Early Childhood — a Cross-Cultural Perspective."

Post, Carol B.; medicinal chemistry & molecular pharmacology, from PHS-NIH National Institute of General Medical Sciences, $274,325, "NMRr Structure of Peptide and Protein Complexes."

Prabhakar, Sunil K.; computer science, from National Science Foundation, $120,000, "Design and Development of a Data Management System for Uncertain Data — Amendment 2."

Preckel, Paul V. and **Gotham, Douglas J.**; Energy Center, from Indiana Utility Regulatory Commission, $1,299,166, "To Continue the Work of the State Utility Forecasting Group." (a Discovery Park award — Energy Center.)

Ramdas, Anant K.; physics, from National Science Foundation, $125,000, "Raman, Brillouin, Infrared and Modulation Spectroscopy of Collective and Localized Excitations in Tetrahedrally Coordinated Semiconductors and Their Heterostructures."

Ramirez, Julio A.; civil engineering, from Indiana Department of Transportation, $5,000, "Deck Replacement — Use of Extra Coating Thickness Epoxy-Coated Bars."

Rao, Sanjay G.; electrical & computer engineering, from National Science Foundation, $90,000, "Collaboartive Research: NBD: an Abstraction Driven Approach to Characterizing and Designing Networks with Analyzable Properties."

Rao, Sanjay G. and **Nita-Rotaru, Cristina**; electrical & computer engineering, computer science, from National Science Foundation, $150,000, "CT-ISG:Towards Trustworthy Peer-To-Peer Overlay Networks."

Ratliff, Timothy L.; veterinary pathobiology, from PHS-NIH National Institute of Allergy & Infectious Diseases, $361,494, "Platelet-Mediated Modulation of B Cell Immunity."

Ratliff, Timothy L.; Cancer Research Center, from PHS-NIH National Cancer Institute, $96,339, "Cancer Center Support Grant — Cure Supplement."

Regnier, Fred E.; chemistry, from National Institutes of Health, $231,441, "Mitochondrial Proteomics of Aging."

Rego, Vernon J.; computer science, from National Science Foundation, $499,875, "CT-ISG: Dynamic Covert Channels — Generation and Detection of Hidden Messages."

Reicher, Zachary J. and **Bigelow, Cale A.**; agronomy, from Midwest Regional Turf Foundation, $20,206, "Midwest Regional Turf Foundation."

Reifenberger, Ronald G. and **Raman, Arvind**; Birck Nanotechology Center, from Miltec Corporation, $165,060, "Characterizing the QPPI nanotrek Translation Sensor." (a Discovery Park award — Birck Nanotechology Center)

Rhee, Jaehyon; physics, from Goddard Space Flight Center, $43,000, "Hot Populations In Galactic Globular Clusters."

Ribeiro, Fabio H.; chemical engineering, from U.S. Department of Energy, $140,000, "Fundamental Studies on the Kinetics of Oxidation Reactions Amendment 4."

Rosenthal, Frank S.; **Zimmerman, Neil J.** and **McGlothlin, James D.**; health sciences, from PHS-CDC National Institute for Occupational Health & Safety, $15,000, "Occupational Safety and Health Training Grant."

Rossmann, Michael G. and **Kuhn, Richard J.**; biological sciences, from PHS-NIH National Institute of Allergy & Infectious Diseases, $816,953, "Virus Assembly and Transmission."

Roy, Kaushik; electrical & computer engineering, from Semiconductor Research Corporation, $60,000, "Ultra Low Power System Design Using Subthreshold Logic."

Sands, Timothy D.; materials engineering, from Office of Naval Research, $40,000, "Nanowire Arrays for Thermoelectric Power Generation — Modification 1."

Sands, Timothy D.; Birck Nanotechology Center, from U.S. Forest Service., $52,250, "Research on Nanotechnology Related to Wood and Wood-Based Materials." (a Discovery Park award — Birck Nanotechology Center)

Sanmiguel, Phillip J.; horticulture & landscape architecture, from University of Georgia, $210,520, "ISGA: Characterizing the Wheat Genome by Random Bac and Sample Sequencing — Amendment 2."

Savran, Cagri A.; Birck Nanotechology Center, from National Science Foundation, $270,000, "Nanomechanical Biosensing with Aptazymes Selected for Surface Function." (a Discovery Park award — Birck Nanotechology Center)

Savran, Cagri A.; Birck Nanotechology Center, from PHS-NIH National Cancer Institute, $190,165, "Label-Free Detection of Cancer Markers Using Aptazyme-Based Amplification." (a Discovery Park award — Birck Nanotechology Center)

Schoenlein, William E. and **Van Alstine, William G.**; biomedical engineering, veterinary pathobiology, from Medical Engineering & Development Institute Inc., $59,442, "Testing Prototype Stents in the Porcine Vascular Model."

Schoenlein, William E.; biomedical engineering, from SonarMed, Inc., $9,489, "Evaluation of Safety and Effectiveness of the Smarttube Monitoring System."

Shan, Jie; civil engineering, from National Aeronautics & Space Administration, $77,214, "In-Flight Calibration of MOC and MOLA Offsets Using Polar Ring MGS Mapping Data."

Shaver, Gregory M.; mechanical engineering, from National Science Foundation, $80,635, "Modeling & Control of Multi-Cylinder Homogenous Charge Compression Ignition (HCCI)."

Sheehan, Amy H.; pharmacy practice, from PHS-FDA Food & Drug Administration, $24,000, "Joint FDA/Academia Regulatory Pharmaceutical Fellowship."

Shen, Jie; **Dong, Suchuan**; **Santos, Juan E.** and **Xiu, Dongbin**; mathematics, from National Science Foundation, $99,409, "Scientific Computing Research Environments for the Mathematical Sciences (SCREMS)."

Sigurdson, Chris W.; agricultural communication, from Ohio State University, $29,055, "Cooperative Venture to Develop a Joint Electronic News Service."

Simpson, Garth J.; **Ladisch, Michael R.**; **Mosier, Nathan S.** and **Staiger, Christopher J.**; Bindley Bioscience Center, from National Science Foundation, $434,564, "MRI: Development of an Imaging Nonlinear Optical Ellipsometer." (a Discovery Park award — Bindley Bioscience Center)

Sinha, Kumares C.; civil engineering, from Indiana Department of Transportation, $400,000, "Fast Track and Implementation Studies."

Skrynnikov, Nikolai R.; chemistry, from National Science Foundation, $125,000, "Intergrated Apporach to Protein Dynamics: Bringing Together Solid- and Solution-state NMR Data."

Smith, Alan L. and **Troped, Philip J.**; health & kinesiology, from Kinley Trust, $19,590, "An Integrative Examination Of Psychosocial and Environmental Predictors of Youth Physical Activity."

Smith, Mjt; electrical & computer engineering, from Raytheon, $30,000, "Defense Applications of Signal Processing (DASP) Workshop 206."

Stansbury, Betty M.; airport operations, from Federal Aviation Administration, $514,815, "Rehabilitate T-Hangar #1 Taxilane and Terminal Building Westside Apron; Acquire Two ARFF Proximity Suits."

Stauffacher, Cynthia V.; biological sciences, from PHS-NIH National Institute of Mental Health, $25,000, "Scaffolds For Synthesis of Probes Directed Against Class II HMG CoA Reductases."

Staver, John R.; **Walker, William S.**; **Bayley, William G.** and **Conlon, Julie A.**; College of Science administration, chemistry, physics, from Metropolitan School District of Washington Township, $185,492, "Pibs3 - Partners in Inquiry Based Science for Student Success."

Subbarayan-Shastri, Ganesh; mechanical engineering, from Semiconductor Research Corporation, $60,000, "Aging Effects on Microstructure and Mechanical Property Evolution in Sn-Ag Based Solder Interconnects."

Subramaniam, Mangala and **Williford, Beth**; sociology, women's studies, from National Science Foundation, $7,480, "Doctoral Dissertation Research: Ecuadorian Indigenous Resistance to Globalization — Local Movement and Transitional Networks."

Summers, Kenneth H.; pharmacy practice, from Pfizer, Inc., $56,000, "Predicting Utility Values in Low Vision: an Estimation from NEI-VFQ 25."

Talavage, Thomas M.; electrical & computer engineering, from IU School of Medicine, $9,632, "FMRI of the Mesolimibic Dopamine System."

Tao, Bernard Y.; agriculture & biological engineering, from Indiana Soybean Alliance, $50,000, "Cold-Flow Grant."

Tarko, Andrew P.; civil engineering, from Indiana Department of Transportation, $91,047, "Improving Safety in High Speed Work Zones: a Super 70 Study."

Thacker, Herbert L.; Animal Disease Diagnostic Laboratory, from Cooperative State Research Service, $50,000, "NAHLN-Indiana"

Thacker, Herbert L.; Animal Disease Diagnostic Laboratory, from Indiana State Poultry Association, Inc., $44,700, "Avian Influenza and Other Viral Pathogen Testing Equipment."

Truesdell, Cheryl B.; libraries, from Indiana State Library, $23,596, "History of the Miami Indians in Northeast Indiana."

Vitek, Jan and **Jagannathan, Suresh**; computer science, from National Science Foundation, $249,857, "CT-ER: Controlled Declassification with Software Transactional Memory."

Walker, William S. and **Smith, Steven C.**; College of Science administration, earth & atmospheric sciences, from Indiana Department of Education, $29,465, "INSCITED (Indiana Science Teacher Education) 2007-2008."

Wan, Hong; industrial engineering, from Naval Postgraduate School, $60,000, "Efficient Hybrid Factor Screening Procedures for Stochastic Simulation."

Westphal, Andreas; botany & plant pathology, from University of Illinois at Champaign-Urbana, $12,501, "The Sudden Death Syndrome Research Alliance."

Witz, Steven M.; e-Enterprise Center, from Regenstrief Institute for Health Care, $1,100,000, "Regenstrief Supplemental Proposal." (a Discovery Park award — e-Enterprise Center)

Wodicka, George R.; biomedical engineering, from Indiana University-Purdue University Indianapolis, $28,758, "Wodicka — IUPUI Graduate Support."

Wodicka, George R.; biomedical engineering, from Indiana University-Purdue University Indianapolis, $27,563, "Support of Biomedical Engineering Graduate Students."

Wodicka, George R.; biomedical engineering, from Indiana University-Purdue University Indianapolis, $29,160, "Wodicka — IUPUI Graduate Support."

Wodicka, George R.; biomedical engineering, from Indiana University-Purdue University Indianapolis, $27,563, "Support of Biomedical Engineering Graduate Students."

Wodicka, George R.; biomedical engineering, from Indiana University-Purdue University Indianapolis, $29,160, "Wodicka — IUPUI Graduate Support."

Woodson, William R.; College of Agriculture administration, from Indiana Rural Development Council, $194,362, "Support for IRDC."

Xu, Dongyan; computer science, from National Science Foundation, $130,000, "CT:ISG: Collaborative Proposal: Enabling Detection of Elusive Malware by Going Out of the Box with Semantically Reconstruction."

Xu, Dongyan; computer science, from National Science Foundation, $22,500, "CSR-EHS: Collaborative Research H-Media — the Holistic-Multistream Environment for Distributed Immersive Applications."

Yaninek, John S. and **Pierce, Christopher M.**; entomology, from Indiana Department of Natural Resources, $130,663, "Cooperative Agriculture Pest Survey Contract 2007 (CAPS)."

Yau, David K.; computer science, from National Science Foundation, $35,000, "Student & Minority Faculty Travel Grant Program to Attend ICNP 2007."

Yip, Nung Kwan; mathematics, from National Science Foundation, $234,316, "Mathematical Analysis of Materials Interfacial Motions by Surface Diffusion."

Zhang, Xiangyu; computer science, from National Science Foundation, $100,000, "CSR-AES-RCS: Collaborative: Scalable and Efficient Dynamic Information Flow Tracking in Multi-threaded Programs."

Zhou, Chenn Q.; mechanical engineering, from Mittal Steel Company, $5,000, "Optimization of Solid Liquid Mixing."

Zhu, Yu Michael; statistics, from National Science Foundation, $79,928, "Collaborative Research: Integral Transform Methods for Sufficient Dimension Reduction in Regression."

Zwier, Timothy S.; chemistry, from Procter & Gamble Company, $10,000, "Procter and Gamble Fellowship."

One Dozen

Frequently Used Purdue Acronyms

COI
Conflict of Interest

DP
Discovery Park

IRB
Institutional Review Board

ITAP
Information Technology at Purdue

LAP
Laboratory Animals Program

OTC
Office of Technology Commercialization

PACUC
Purdue Animal Care and Use Committee

PRF
Purdue Research Foundation

PURE
Purdue University Research Expertise database

SPS
Sponsored Program Services

TAP
Technical Assistance Program

VPR or **OVPR**
(Office of the) Vice President for Research

Research Review
Office of Research Communications
Hovde Hall, Room 322
610 Purdue Mall
West Lafayette, IN 47907-2040

For Campus Delivery ONLY

Laboratory Animal Program

Hands-on Training Workshop with Focus on Rats and Mice

October 19
8 a.m. – 12 noon
Lynn Hall B260

Attendance by graduate students or staff members working with rodents is recommended. Principle investigators are encouraged to inform lab animal personnel to attend this workshop. To register, contact Carol Dowell LAP/AHF, by phone, 494-2521 or email at **dowellc@purdue.edu**. Registration deadline is October 12.

This workshop is designed to provide exposure to the following procedures: Normal behavior, husbandry, environmental enrichment, handling and restraint, oral gavage, injections, anesthesia, blood collection, aseptic technique, surgical prep, suturing techniques, euthanasia and necropsy. ◆

Collaborative Seed Grant Program with Indiana University School of Medicine

For each of the last three years, Purdue University-West Lafayette and the Indiana University School of Medicine (IUSM) have partnered to provide seven grants of $50,000 each to collaborating faculty from the two institutions who are working together on biomedical research projects. This program has been very successful in fostering collaborative research relationships, and both institutions have agreed to repeat the program this year.

This opportunity again is available for tenured and tenure-track faculty research professors in West Lafayette. Seven awards to collaborators from the two institutions will be made for up to $50,000 each to fund biomedical research projects, with the goal of developing and supporting research collaborations that can successfully compete for larger federal and other external funding. *The deadline for receipt of proposals is Monday, November 12.*

Proposals may be either for new projects or for competitive renewals of previously-funded Collaboration in Biomedical Research (CBR) awards. It is important that proposed projects involve roughly equal participation, in terms of both effort and budget, by Purdue and IUSM participants. The Request for Applications and the application forms may be found at **http://www.purdue.edu/research/vpr/funding/iu-purdue.shtml**.

Programmatic questions regarding this opportunity should be directed to Christine King at **hcking@purdue.edu**. Questions about completion and submission of forms should be directed to Mary Ryker at **mlryker@purdue.edu**. ◆