



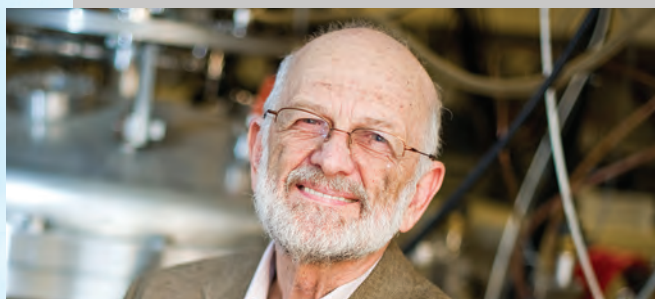
May 2011 1

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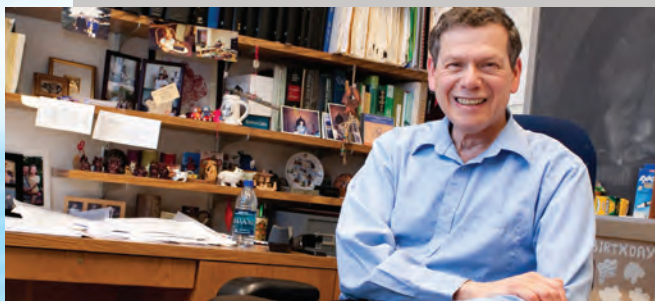
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Eight Purdue Researchers Honored as New AAAS Fellows at D.C. Ceremony

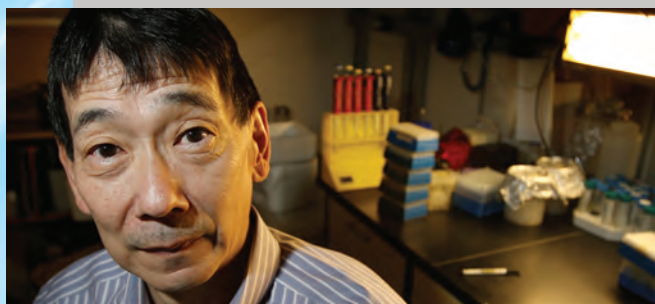
Eight Purdue University professors have joined 38 other Purdue faculty members as fellows with the American Association for the Advancement of Science. The following were honored in February at the annual AAAS meeting in Washington, D.C.:



R. Graham Cooks, the Henry Bohn Hass Distinguished Professor of Chemistry, for his contributions to the fields of analytical chemistry and mass spectrometry through innovations in ionization, ion chemistry and instrumentation.



Stanton B. Gelvin, the H. Edwin Umbarger Distinguished Professor of Biological Sciences, for his contributions to scientific understanding of *Agrobacterium* mediated transformation of plant cells.

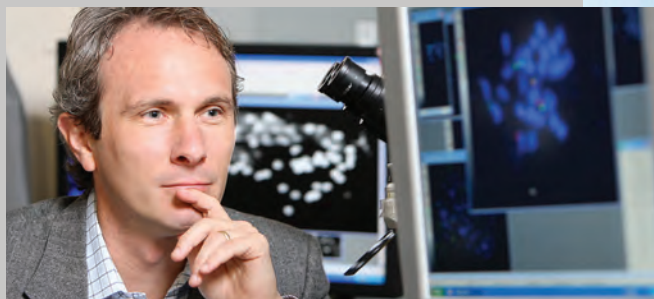


Paul M. Hasegawa, the Bruno Moser Distinguished Professor of Horticulture and Landscape Architecture, for his contributions to the field of plant abiotic stress and the understanding of signaling and effector determinants of salt, osmotic and low-temperature stress tolerance.



Ahmed Hassanein, the Paul L. Wattelet Professor of Nuclear Engineering, for his contributions to the areas of nuclear fission and fusion, high-energy and nuclear physics, and advanced nanolithography applications.

Scott A. Jackson, professor of agronomy, for his contributions to the field of crop genomics and the mapping, sequencing and analysis of complex crop plant genomes.



Scott A. McLuckey, the John A. Leighty Distinguished Professor of Chemistry, for his contributions to biological mass spectrometry through research in gas-phase ion chemistry and the development of novel instrumentation.



Paul B. Shepson, professor of chemistry, for his contributions to the elucidation of important chemical and photochemical processes that play central roles in air pollution and climate change.



Arvind Varma, the R. Games Slayter Distinguished Professor of Chemical Engineering, for pioneering research publications in chemical reaction engineering and advanced novel materials synthesis, authorship of textbook and monographs, editorship of book series and academic leadership.



AAAS, the world's largest general scientific society, has been selecting fellows since 1874. Members are nominated by the steering group of their respective sections, by three fellows or by the association's chief executive officer for their notable work to advance science or its applications. Read more at www.aaas.org. ■

Writer: Elizabeth K. Gardner is a communications and marketing specialist with Purdue Marketing and Media.

Photographers: Tom Campbell, Purdue Marketing and Media, and Vincent Walters.



Award Winners

CERIAS Director Honored with Lifetime Achievement Award

Eugene Spafford has received a Lifetime Achievement Award from the SANS (SysAdmin, Audit, Network, Security) Institute, only the second such award SANS has given. Spafford, who is a professor of computer science and executive director of Purdue CERIAS (Center for Education and Research in Information Assurance and Security), was honored for profoundly shaping the field of information security. ■



Eugene Spafford

Professor Receives NEA Fellowship

English professor Donald Platt has received a National Endowment for the Arts Creative Writing Fellowship. Platt specializes in creative writing with an emphasis on poetry and 20th century poetry. ■



Donald Platt

Associate Dean Receives Violet Haas Award

Shelley MacDermid Wadsworth, associate dean for discovery and learning in the College of Health and Human Sciences, has received the 2011 Violet Haas Award for facilitating the advancement of and enhancing a positive professional climate for women at Purdue. ■



Shelley MacDermid Wadsworth

Clifford Kinley Trust Winners 2011

Six Purdue faculty members have received Clifford Kinley Trust awards for 2011 to pursue social sciences research. They are:

- » **Sharon L. Christ**, assistant professor of statistics and child development and family sciences, \$20,000: "Impacts of Child Maltreatment on Adolescent Development;"
- » **Cheryl Cooky**, assistant professor of health and kinesiology and women's studies, \$19,435: "Sports, Physical Activity and the Well-Being of Rural and Urban Girls;"
- » **Karen J. Foli**, assistant professor of nursing personnel, \$20,000: "'Great Expectations' of Adoptive Parents: Theory Testing through Secondary Analysis;"
- » **Sonak Pastakia**, department of pharmacy practice personnel, \$19,800: "An Impact Evaluation of an Intervention to Engage and Improve the Health and Well-Being of Street Children in Eldoret, Kenya;"
- » **Susan C. South**, assistant professor of psychological sciences, \$20,000: "Identifying Person and Situation Predictors of Risky Sexual Behaviors;" and
- » **Laura Zanotti**, assistant professor of anthropology, \$19,556: "Market-Integration and Natural Resource Management: A Gendered Analysis of Change and Well-Being in an Iñupiat Whaling Community."

The Clifford Kinley Trust was established in 1978 to fund research relating to human welfare and was activated in 1991 upon Mrs. Kinley's death. Exclusive to the West Lafayette campus and limited to faculty principal investigators, the endowment funds research that uses a social science perspective to explore methods for improving the human condition.

The selection committee generally recommends funding individual projects with a maximum budget of \$20,000. Successful proposals stand alone as independent projects (not a dependent component of a larger program), are grounded in theory and have a clear relationship to the literature. ■

NSF Faculty Early Career Development Awards

Since the beginning of FY 2011, seven Purdue University faculty members have received National Science Foundation Early Career Development Awards, the most prestigious honor given to young researchers. They are:

- » **Alina Alexeenko**, assistant professor of aeronautical and astronautical engineering;
- » **Jong Hyun Choi**, assistant professor of mechanical engineering;
- » **Charles Killian**, assistant professor of computer science;
- » **Ramana Rao Kompella**, assistant professor of computer science;
- » **Svitlana Mayboroda**, assistant professor of mathematics;
- » **Alice Pawley**, assistant professor of engineering education; and
- » **Yuan Qi**, assistant professor of computer science. ■

Bill Baitinger Holds Varied Titles

During his 55 years at Purdue, Bill Baitinger has had many varied titles: student, instructor at the Purdue Calumet campus, instrumentation specialist, assistant department head in chemistry, director of the Office of Technology Transfer in the Purdue Research Foundation, associate director in the Division of Sponsored Programs and special assistant to the Vice President for Research.

Baitinger's early career in the Chemistry Department involved providing new analytical capability to faculty and students under the guidance of Jonathan Amy. In 1959, after completing his master's degree, he installed the department's first Nuclear Magnetic Resonance spectrometer, which provided the capability for routine analysis to students and staff for the entire campus. Seventy-five samples were run the first year and more than ten thousand by the early 1960's.

In the 1960's, Baitinger devoted his energy to making the Chemistry Department competitive in the area of mass spectrometry by working in conjunction with Fred McLafferty — and later, John Beynon — on the first high resolution mass spectrometer on campus. Their work developed into an entirely new type of mass spectrometry called Mass Analyzed Ion Kinetic Energy spectrometry, which eventually led to the field of Tandem Mass Spectrometry. Later, it developed into Ion Trap mass spectrometry, which is currently used in many departments on campus as a routine analytical technique. This work was led by Graham Cooks.

Baitinger also worked in the area of surface analysis using Electron Spectroscopy for Chemical Analysis (ESCA), later called X-Ray Photoelectron Spectroscopy. He first collaborated with Nick Winograd and later with Graham Cooks and Nick Delgass in building sophisticated surface analysis equipment to characterize both organic and inorganic surfaces.

In 1974, the first OPEC oil embargo took place, and energy conservation became a critical area of concern on campus. In response, Baitinger conceived, designed and tested the first variable speed air handling system for laboratory fume hoods. A complete laboratory with variable speed exhaust hoods soon followed, ultimately allowing the University to save millions of dollars a year in energy costs.

In 1976, the Federal government passed the Resource Conservation and Recovery Act (RCRA), which gave the EPA authority to control hazardous waste from cradle to grave. Baitinger, along with an all campus group of faculty and administrators, defined the impact on Purdue and developed a plan to comply with the regulation. With significant help from Ken Burns, a plan was developed and funded to eventually set up the current Hazardous Materials Management facility on campus for the safe disposal of chemical and biological waste.

After serving as assistant department head in the Chemistry Department with Dale Margerum, Baitinger moved from the University to become director of the Office of Patents and Copyrights (later renamed the Office of Technology Transfer) in the Purdue Research Foundation (PRF). During his 11 years as director, many changes occurred, including the emphasis on commercialization through the formation of companies based on university technologies. During this period, licenses were put in place which led to the formation of such companies as Cook Biotech Inc. and Endocyte, Inc. This strategy has contributed to the growth of the Purdue Research Park and its emphasis on job creation and economic development for the State of Indiana.

In 2001, Baitinger returned to Purdue University as special assistant to the Vice President for Research and continued his career of helping faculty and staff accomplish their research goals.

During his time at Purdue, Baitinger and his wife, Paula (also a Purdue graduate), have been blessed to see their three children, Stacey, Bill Jr. and Mark, graduate from Purdue. In addition, Baitinger has remained active in the community by becoming a hot air balloon pilot, growing giant pumpkins, running a 300-acre farm, fishing and serving on the West Lafayette Economic Development Commission.

In reflecting on his career, Baitinger says he is "most proud of all the really wonderful people I have had the opportunity to work with to make Purdue one of best universities in the world." He adds, "I have been blessed to work with untold mentors who have helped me to accomplish my career objectives. Education is one of the best things that can happen to people, and Purdue provides that opportunity for anyone who chooses to join in its mission." ■



Bill Baitinger retires May 31.

Photo by Vince Walter

New Employees, Accolades and Promotions

Mary Millsaps, formerly the assistant director of contracting for Sponsored Program Services, is now the OVPR operations manager. In this position, she serves as the point of contact for Purdue's new cost-sharing process and also provides faculty support on such issues as account status, completion of technical reports and assistance with paperwork for the Institutional Review Board. Office: HOVD 301; E-mail: millsaps@purdue.edu

Jeff Kanable has joined Sponsored Program Services as assistant director for SPS contracting. He succeeds Mary Millsaps. Phone: 494-1059; E-mail: jkanable@purdue.edu.

Jenny Siemers is the new manager of the Discovery Park and Central Pre-Award Centers; the position, which combines responsibility for two award centers, was created when Debbie Horton, former manager of the DP Pre-Award Center, took another job with Purdue. In addition to overseeing pre-award services for Discovery Park, Siemers also is responsible for the College of Education, College of Liberal Arts, Krannert School of Management and College of Technology. Phone: 496-2393; E-mail: jsiemers@purdue.edu

Kimberley Gascho is the new manager of the College of Engineering (COE) Pre-Award Center, previously overseen by Siemers. Phone: 494-6084; E-mail: kgascho@purdue.edu ■



Life Science Resource



Biomedical & Life Sciences Collection Available

Students and faculty members now have access to audiovisual presentations by some of the world's leading scientists. Earlier this year, Purdue University acquired a subscription to the Biomedical & Life Sciences Collection, which was created by the Henry Stewart Group to showcase timely and detailed information in a variety of disciplines.

"The series is presented by top life scientists who have the ability to explain very complicated processes in a simple manner to provide a strong foundation of knowledge of cellular processes," says Marietta Harrison, associate vice president for research and director of the Oncological Sciences Center. "When I first saw the series, I immediately thought of how useful this would be to students from many different subject areas — engineering students, for example, who want to learn about the cell cycle."

She adds, "This prestigious new resource is perfect for the classroom setting, the lab, research, as part of course curriculum, as a study and reference tool for students and for personal interest. Faculty members are welcome to share their access information with students."

More than 1,100 talks are currently online, providing the latest research and developments in a variety of disciplines, as well as fundamental knowledge from Nobel Laureates and other experts.

To log on, go to www.hstalks.com/access. Please note, if you are off campus, you will not be able to access the collection without a username and password.

Harrison would like feedback on the collection. To submit your comments, visit www.hstalks.com/r/tblsc/continue. ■



Policies

→ || RESEARCH INTEGRITY AND REGULATORY AFFAIRS

RCR Training Reminder

The National Science Foundation (NSF) requires that grantee institutions implement a plan for appropriate training and oversight in the responsible and ethical conduct of research (RCR). As a reminder to principal investigators with applicable awards, Purdue's RCR education plan for NSF-sponsored trainees consists of:

- » Completion of an online training within the first month of support for graduate students and postdoctoral researchers, and as a condition of hire for undergraduates.
- » Completion of discussion-based RCR education for graduate students or postdoctoral researchers. Requirements and documentation are established and maintained by a student's graduate program or by a postdoctoral researcher's mentor and should be completed within the first year of support.

Visit www.purdue.edu/research/vpr/rschadmin/rcr/index.php for details, or contact the Office of Research Integrity and Regulatory Affairs within the Office of the Vice President for Research. ■

Writer: Ianthe Bryant-Gawthrop is sponsored programs regulatory administrator in the Office of Research Administration.

New Requirements for H-1B Visas: Collaborations between ISS and OVPR

Recently, U.S. Citizenship and Immigration Services added a new section to the Form I-129 for H-1B visa applicants that could affect the way that H-1B visa applications are processed for researchers' employees.

The I-129 visa form now includes a section on enforcement of the Export Control Regulations. To accurately address this new item, the Office of International Students and Scholars (ISS) needs to collaborate with the Office of the Vice President for Research (OVPR).

The new I-129 form asks the sponsoring organization (Purdue) to document if the release of technology or technical data to the applicant requires a license from the U.S. Department of Commerce or the U.S. Department of State. While the question seems straightforward, many considerations go into making this determination, including the area of research, applicant's country of citizenship and capabilities of the equipment the applicant will access.

Supervisors will notice four new questions on the Prevailing Wage Form required for an H-1B visa. The new questions cover the applicant's access to confidential information, access to special equipment, and publication restrictions. Departmental liaisons may assist and coordinate, but cannot answer these questions for supervisors.

As the OVPR receives questions, staff members will post answers on the Export Control section of the OVPR Web site. Check the FAQs periodically at www.purdue.edu/research/vpr/rschadmin/rschoversight/export/index.php. ■



→ || SPONSORED PROGRAM SERVICES

NIH Promotes Family-Friendly Policies

It's a conundrum that women researchers, and increasingly their male counterparts, are facing: How do you cover a maternity or paternity leave, for instance, or receive support for child-care expenses, when all or part of your salary is funded by a long-term grant? How will the work continue while a researcher is on leave? Sally Rockey, deputy director of Extramural Research with the National Institutes of Health, blogged about this topic in January in "Rock Talk" (<http://nexus.od.nih.gov/all/rock-talk>). She notes that NIH has prepared a list of frequently asked questions on parental leave and child care policies (http://grants.nih.gov/training/faq_childcare.htm#1346),

such as the availability of supplemental funds from some NIH institutes and centers to help researchers hire temporary technicians.

Such policies, Rockey writes, are "central to the NIH family-friendly position. As we at NIH continue to work towards developing a diverse workforce, we must do whatever we can to assure that the best and brightest are able to participate in research."

Laurie Parker, associate professor of medicinal chemistry and molecular pharmacology, sees such policies as a boon to recruitment.

"The supplements help remove some of the barriers to keeping young women in science, because they can get around the disincentive some faculty feel towards hiring women who might have children," says Parker, who has a toddler at home.

"I myself never had any issues with maternity leave on my grants, because I was a PI by the time I had my daughter — but as a PI, I am also committed to making these opportunities available to my trainees while managing my business model, so this is important to me in more than one way."

Amanda Hamaker, assistant director of Pre-Award and Sponsored Program Services at Purdue, says that SPS staff can assist faculty members seeking NIH supplemental funds. But, she adds, "It is important to understand that even if NIH allows certain expenses, the researcher's university must also permit it."

Currently at Purdue University, leave costs may be directly charged to sponsored program funds beyond 10 working days — as long as the salary during the leave is prorated on the basis of how salary was paid at the time the leave began. That policy includes parental leave as documented on the Costing Web site (www.purdue.edu/costing/BPM/CAS_Guidelines/).

NIH also allows extension of the final budget period of a federal grant for researchers who take a leave of absence for care-giving responsibilities. "Additionally, NIH recently published NOT-OD-11-045, which encourages the use of the biographical sketch to describe personal circumstances such as family care responsibilities which may have reduced productivity," Hamaker says.

For more information on NIH's policies, visit http://grants.nih.gov/training/faq_childcare.htm#1346. ■



Purdue Researcher's Technology 'Listens' to Cancer Cells

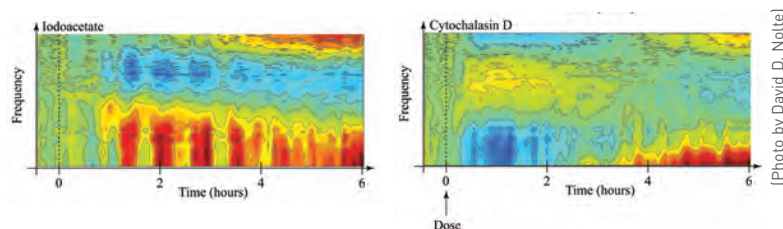
A Purdue physicist has created technology to detect motion inside three-dimensional tumor spheroids, which may enhance the pharmaceutical industry's early drug discovery capabilities.

Professor David D. Nolte has developed Holographic Tissue Dynamics Spectroscopy (TDS), a technology that allows researchers to look inside cells using holography and lasers. The work is done in collaboration with John Turek, professor of basic medical sciences at Purdue.

"This technique measures the living motion that is going on inside a cell," Nolte says. "We're picking up the actual motion, all that activity going on inside the cell, and seeing how the cells are modifying their activities in response to applied drugs."

The first process used by Nolte's technology is holography, which shows a tumor tissue in three dimensions.

"Most drug development takes place in a two-dimensional environment, but there are differences in how cells respond to drugs in a three-dimensional environment. My colleagues and I make digital holograms of the tumor, which can grow up to one millimeter in size. With this holographic technique with lasers, we see all the way through the tumor, not just the surface," says Nolte, whose Holographic TDS is available for licensing through the Purdue Research Foundation Office of Technology Commercialization. ■



Above: Spectrograms show how the insides of cells react to drugs, for instance when they interact with a metabolic drug (iodoacetate) relative to an antimitosis drug (cytochalasin). The Holographic TDS technology was developed by Purdue physicist David D. Nolte.

»» New Grants, Acquisitions

NIH Gives \$2.7 Million to Study Patient-Physician Communication

Purdue University has received a five-year, \$2.7 million grant from the National Institutes of Health to study patient and physician communication to improve interactions during physician visits and empower patients to participate actively in their care.

"The time between patients and physicians is precious, and each interaction is different, so this study will explore how communications affects clinical decisions, testing, prescribing and patient outcomes," says Cleveland Shields, associate professor in the Department of Human Development and Family Studies.

Physicians, with their prior consent, will complete questionnaires and see fictitious patients, actors who undergo intensive training to portray patient roles convincingly and consistently. The actors will make appointments with participating physicians in such a way that the doctors believe they are real patients. Each visit will be unannounced and recorded using hidden audio-recorders.

Writer: Amy Patterson Neubert is a communications/marketing specialist for Purdue Marketing and Media. ■

Purdue Included in \$20 Million USDA Climate Research Grant

Purdue University will participate in a \$20 million U.S. Department of Agriculture (USDA) research, education and Extension program aimed at keeping Midwest corn-based cropping systems resilient in the face of future climate uncertainties.

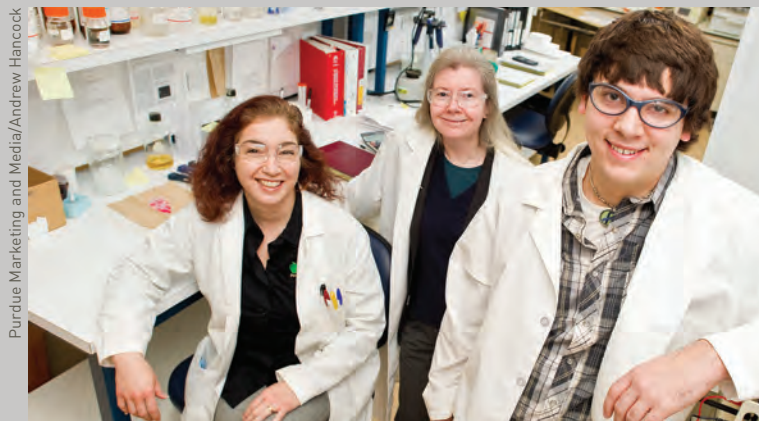
The USDA's National Institute of Food and Agriculture has awarded the grant to a team of 10 universities and 2 USDA Agricultural Research Service institutions. Purdue will receive \$1.4 million for its portion of the five-year project.

Led by agronomy professor Eileen Kladivko, Purdue researchers will create a database of plot, field and farm data that can be combined with climate data to evaluate and improve resilience of crop management practices. Philip Owens, assistant professor of agronomy, will use soil information to show how the field-scale research can be applied to increase sustainability of corn systems in eight states including Indiana. ■

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



\$1.25 Million NSF Grant Brings Research to Rural Classrooms



Purdue professors Gabriela Weaver (left) and Maureen McCann are leading a new STEM learning initiative with assistance from students such as Jordan Huckaby.

Purdue University sophomore Jordan Huckaby is excited about his future, built on a solid understanding of the disciplines of science, technology, engineering and mathematics. That's why he looks forward to assisting with a new program for Indiana's rural high school teachers designed to groom the next generation of sustainable energy leaders.

"Studies about STEM education show a lack of interest by students because the courses don't seem relevant to what they feel is important on a day-to-day basis," says Huckaby, a mathematics education major and Noyce Scholar from Munster, Ind.

"In reality, many of the pressing challenges in our world today will require my generation to be creative problem solvers and motivated leaders to tackle these problems."

The Discovery Learning Research Center is launching Research Goes to School, a five-year statewide STEM initiative supported by a \$1.25 million grant from the National Science Foundation. Part of the Innovations through Institutional Integration (I3) proposal, the project aims to expand interest and participation among Indiana teachers and students in STEM disciplines, specifically in sustainable energy.

"This program draws upon existing, established research efforts in STEM at Purdue," says Gabriela C. Weaver, director of the Discovery Learning Research Center and Purdue chemistry professor.

Research Goes to School will develop curricular materials for integrating sustainable energy concepts with state science education standards. Researchers also will assess what factors impact preparation and retention of teachers in rural schools and recruitment of rural students to STEM disciplines. ■

Writer: Phillip Fiorini is a senior writer/editor with Purdue Marketing and Media.

MILabs Imaging Instrument to Help Expand Life Sciences Research

A new high-end imaging instrument at the Bindley Bioscience Center will advance research in the areas of cancer, neuroscience, and cardiovascular and musculoskeletal diseases.

The MILabs U-SPECT-II/CT system, manufactured by MILabs B.V. of The Netherlands, will be used by researchers at the Discovery Park life sciences facility to capture detailed molecular and anatomical images for precision analysis, particularly for medical research.

“This advanced, state-of-the-art instrument will allow Purdue life science researchers to be able to take a snapshot in time to monitor the progression of disease and any therapeutic effect in a living animal,” says Philip S. Low, the Ralph C. Corely Distinguished Professor of Chemistry at Purdue. “Importantly, this also provides researchers working with the Bindley Bioscience Center a sophisticated instrument that provides a specificity that you can’t achieve with other current technology.”

Low says the imaging tool will help Purdue researchers develop new diagnostic solutions and therapies for a wide spectrum of diseases, specifically in the areas of cancer, diabetes, depression and cardiac problems as well as Alzheimer’s and Parkinson’s diseases.

The instrument, valued at \$800,000, is the first to be installed by MILabs at a North American research facility. It joins 12 others in operation worldwide, mostly in Europe and Asia. Measuring 4-by-9 feet, it is located in Bindley’s Bioscience Imaging Facility.

“It is a great pleasure to have our device in operation at Purdue being used by highly distinguished researchers,” says Frederik Beekman, chief executive officer and chief scientific officer at MILabs. “I look forward to the next discoveries by Purdue scientists and their collaborators.” ■

Writer: Phillip Fiorini is a senior writer/editor with Purdue Marketing and Media.



Purdue Ag Receives \$32 Million for Second Phase of Afghan Agricultural Program



Photo: Advancing Afghan Agricultural Alliance.

Purdue entomology professor and Extension specialist Rick Foster is surrounded by Advancing Afghan Agricultural Alliance staff members and students during a workshop at Kabul University.

The war-torn country of Afghanistan faces multiple challenges in improving farm productivity and developing its commercial agricultural sector. Thanks to a new \$32 million grant, a consortium led by Purdue University will share such solutions as productivity and postharvest management systems through development of university education programs.

The five-year Strengthening Afghan Agriculture Faculties continues and expands the work Purdue initiated under the USAID-funded Advancing Afghan Agriculture Alliance, which ended March 31. While the new effort will continue rebuilding core academic programs, the consortium also will begin development of agribusiness/agricultural economics, food science and agricultural engineering programs. ■



Purdue Marketing and Media/Mark Simons

Above: Measuring 4-by-9 feet, MILabs U-SPECT-II/CT system will be located in Bindley’s Bioscience Imaging Facility, which is led by Aaron Taylor. Left: The Bindley Bioscience Center provides high-end capabilities for both well-established and start-up projects.



INSPIRE Launches Journal of Pre-College Engineering Education Research

This April, Purdue's Institute for P-12 Engineering Research and Learning (INSPIRE) published its inaugural issue of the *Journal of Pre-College Engineering Education Research*, or J-PEER, the first academic journal in the area of pre-kindergarten to high-school engineering education research.

Issued electronically twice a year, J-PEER serves as a forum for the growing community of P-12 engineering researchers publishing research and evaluation reports on pre-college STEM education, particularly engineering.

The journal follows a rigorous double-blind peer-review process and is open-access (no subscription fees) in order to maximize its reach, particularly to teachers and the larger educational community.

J-PEER invites authors to submit their original and unpublished work as research papers or shorter practitioners' reports in numerous areas of STEM education, with a special emphasis on cross-disciplinary approaches incorporating engineering.

Topics include elementary and secondary students' learning, curricular and extracurricular approaches to teaching engineering in elementary and secondary school, professional development of teachers and other school professionals, comparative approaches to curriculum and professional development in engineering education, parents' and caregivers' perspectives, and the learning of engineering in out-of-school and informal settings.

A part of Purdue's School of Engineering Education, INSPIRE seeks to create an engineering-literate society through preeminence in P-12 engineering education research and scholarship. For more information on INSPIRE, see www.purdue.edu/inspire. For more information on J-PEER, see <http://docs.lib.purdue.edu/jpeer/>. ■

Writer: Lisa Tally is director of communications for the School of Engineering Education.

Undergraduate Research Journal Promotes Student Success

With nearly 2,000 undergraduate research projects conducted every year at Purdue, the University is considered a national leader in experiential learning. The new *Journal of Purdue Undergraduate Research* (www.jpur.org) showcases the best of these projects while also providing valuable publishing experience for student authors and editors.

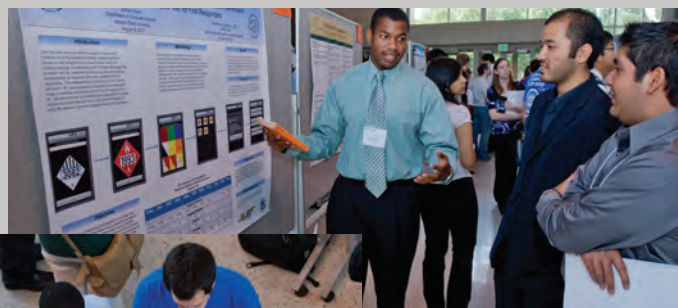
"Doing research was the most fruitful experience I had as an undergraduate student. The journal is a way for my (and my colleagues') students to document that experience and learn to write professionally," says founding editor Greg Michalski, assistant professor in the Departments of Earth and Atmospheric Sciences and Chemistry.

Michalski has gathered together a group of faculty volunteers representing the various undergraduate research programs available. They provide intellectual leadership and ensure that article proposals undergo a rigorous review process.

The journal, which is supported by Purdue University Press, is scheduled to debut in print and online in August 2011. Already, more than 40 article proposals have been received representing subject areas from aviation technology to early childhood education.

Dale Whittaker, vice provost for undergraduate academic affairs, believes the new journal will act as a catalyst for even more undergraduate research.

"So many members of the Purdue faculty are dedicated to teaching undergraduate students by enhancing their learning experiences with research opportunities in laboratories and the community," Whittaker says. "This new journal devoted to reporting undergraduate research will draw more attention to the specific work taking place and inspire more students to seek these experiences." ■



Above and right, student-researchers discuss their projects last August at a poster session for the Summer Undergraduate Research Fellowship program. The new *Journal of Purdue Undergraduate Research* will showcase undergraduate research while also educating them on the scholarly process.

Purdue's Nobel Laureate to Lead New Research Institute

Purdue Marketing and Media/Andrew Hancock



Ei-ichi Negishi

Ei-ichi Negishi, winner of the 2010 Nobel Prize in chemistry, will lead a new research institute at Purdue University focused on catalytic organometallic chemistry.

The Negishi-Brown Institute, which also bears the name of Negishi's mentor and fellow Nobel Laureate Herbert C. Brown, will support basic research in catalytic organometallic chemistry through graduate and postdoctoral fellowships, workshops, symposia and engagement with industrial partners.

"Fundamental research is the foundation of scientific achievement and drives meaningful advancements in important areas such as climate, food security and drug development," says Negishi, the Herbert C. Brown Distinguished Professor of Chemistry.

"We must build on what we have already discovered to help people and advance technology in ways that we can only imagine today. Fundamental research done here at Purdue will send ripples throughout the world in terms of interesting and important developments and applications." ■

Writer: Elizabeth Gardner is Communications and Marketing Specialist for Purdue Marketing and Media.

Food Science Institute Tackles Hunger, Increasing Demand for Food

Purdue University has established the Center for Global Food Security to take up one of the world's most pressing challenges: getting enough food to people who need it the most today and producing enough to meet even greater demand in years to come.

The center, a year in the making, began operations in March at Discovery Park. "We are looking not only at food, agriculture and natural resource solutions for today but also for future generations," says executive director Gebisa Ejeta, Distinguished Professor of Agronomy and a 2009 World Food Prize laureate. "We must define what our legacy will be."

The issue of food security is a deepening global concern as the world's population rapidly increases. Today, around 1 billion of the world's nearly 7 billion people suffer from chronic hunger because of economic, social, political and environmental conditions. By 2050, when the population is expected to reach 9 billion people, scientists project that agriculture will need to double plant and animal production, producing it more efficiently and safely on less farmland.

"We cannot provide for all with the knowledge and resources we have today," Ejeta says. "Our food and natural resources problems are getting more complicated. New science, technology and innovations will be needed. Furthermore, single-discipline solutions are not going to get it done. We need more integrated and holistic approaches to research."

Read more about the center at www.purdue.edu/dp/food. ■



Gebisa Ejeta



Purdue Marketing and Media/Mark Simons

The Global Policy Research Institute was officially dedicated on April 6 at the conclusion of its one-day conference, "Policy Research in a Changing World." Directed by Arden Bement, the institute is focused on increasing the visibility of Purdue's research findings and enhancing the impact of the University's discoveries for the common good. It is located in the Schowe House, adjacent to the Purdue campus on Northwestern Avenue in West Lafayette.

→|| RESEARCH DEVELOPMENT

Funding and Collaboration Resources

You have some promising preliminary data from your research and a vision for where you want to take it next. Now all you need to make your vision a reality are funding and collaborators with expertise that will complement your own.

But where do you start?

The Office of the Vice President for Research (OVPR) can help.

Funding

www.purdue.edu/research/vpr/funding/funding_resources.php

The OVPR Web site lists some funding resources and e-mail alert services that you may find useful. In particular, the Community of Science (COS) database is the primary source for funding information at Purdue. This is a great place to start searching for funding announcements that are applicable to your research interests.

COS is a subscription-based service available to all employees logging in from a Purdue-based computer. You can use the "Search Tools" link without logging in; however, to take advantage of enhanced services such as receiving automatic e-mail alerts of research opportunities in your field of interest, you will need to create an account using the "Community of Science" link under "E-mail Alerts."

To ensure you narrow down your criteria for accurate results, you can first review the tutorial on the "Funding Resources" page. Then, save the search criteria to your account, called the Workbench. If you check the e-mail alerts option in the save box, COS will automatically run the search and e-mail you any matching opportunities posted during that week.

If you are looking for potential collaborators, including international, visit the COS Expertise database. You can search for fellow researchers by name, institution, geographic area or keyword. Additional search options include publications, memberships, languages and qualifications. Remember to add or update

your own profile to the database so that others can locate you as well.

Visit the tutorial on the "Funding Resources" Web page for instructions on setting up your COS profile.

Expertise Profiles

www.purdue.edu/research/vpr/funding/expertise.php

In addition to COS, you also can search for collaborators through the Indiana Database of University Research Expertise (INDURE) profiles.

INDURE was created through a joint initiative with Purdue University, Indiana University, Ball State University and the University of Notre Dame as a way to help fellow researchers, industry and others identify faculty expertise in Indiana. You can search for potential collaborators based on research area, publication history, institution, keywords or name.

INDURE is an excellent tool for focusing your search on



Indiana-based faculty expertise.

These tools for finding funding opportunities and collaborators should be helpful in moving your research project forward. If you have any questions about these or other resources listed on the OVPR Web site, please contact Sue Grimes at sgrimes@purdue.edu. ■

Writer: Sue Grimes is assistant director for Research Development Services.

SPONSOR

National Science Foundation

Dept. of Health and Human Services

Dept. of Defense

Dept. of Energy

Dept. of Agriculture

National Aeronautics and Space Administration

Other Federal

Dept. of Education

Environmental Protection Agency

Dept. of Transportation

Agency for International Development

Total Federal

Industrials and Foundations

State/Local Governments

Purdue Research Foundation/Purdue University

Foreign Governments

Total Non-Federal

Total Purdue System-wide

www.purdue.edu

Program Year-to-Date Activity

Comprehensive monthly awards list includes search and sort capabilities

A list of sponsored program awards received is available online and includes additional awards, known as B-awards, which were not previously published in print.

A search and sort Excel file version of the awards is also available online. Please visit the OVPR Web site at www.purdue.edu/research/vpr/ for access to the awards.

Awards by Sponsor

July 1, 2010 to March 31, 2011

FY2011 (YTD 3/31/2011)		FY2010 (YTD 3/31/2010)		% Change	
NO.	\$ AMOUNT	NO.	\$ AMOUNT	NO.	\$ AMOUNT
236	81,662,662	328	99,176,726	-28%	-18%
220	47,617,593	222	43,173,932	-1%	10%
213	26,410,765	173	25,250,986	23%	5%
100	26,742,783	100	47,887,225	0%	-44%
125	26,867,071	137	18,203,749	-9%	48%
40	4,322,576	45	3,339,764	-11%	29%
100	9,352,621	77	17,869,578	30%	-48%
20	8,742,903	19	4,132,818	5%	112%
20	1,588,331	10	675,280	100%	135%
12	2,877,765	18	4,405,116	-33%	-35%
18	2,489,357	16	2,999,956	13%	-17%
1,104	\$238,674,427	1,145	\$267,115,131	-4%	-11%
1,223	49,327,320	1,060	44,321,464	15%	11%
140	18,473,090	157	23,154,229	-11%	-20%
412	6,848,302	258	3,556,142	60%	93%
16	6,734,688	22	1,189,381	-27%	466%
1,791	\$81,383,401	1,497	\$72,221,216	20%	13%
2,895	\$320,057,828	2,642	\$339,336,347	10%	-6%

Data provided by Sponsored Program Services

www.purdue.edu/research/vpr/



Energy and Environment Events

Frontiers in Bioenergy Symposium

- » **When** May 15-18, 2011
- » **Where** Purdue University
- » **Contact** Jill Wable, jwable@purdue.edu
- » **Register** www.conf.purdue.edu/bioenergy

U.S. and Brazilian leaders from academia, industry and government agencies will gather at Purdue to discuss the future of sustainable bioenergy production and how it fits into the national energy security agenda. Plenary sessions will include feedstock genetics and genomics, biology and genetics of sustainability, landscape sustainability assessment of bioenergy cropping systems, feedstock logistics and densification, biochemical and thermochemical conversion pathways, and human dimensions and the economic and policy issues for advanced biofuels.

Lugar Center Renewable Energy Forum on Electric and Hybrid Vehicles

- » **When** May 23, 2011
- » **Where** University Place Conference Center and Hotel, Indianapolis, IN
- » **Info** www.lugarenergycenter.iupui.edu



The forum will feature EVE and transportation experts from industry, government and academia, and will include panel discussions on business and technological trends as well as the role of public policy in the emerging field of transportation electrification.

Symposium: Perspectives in the Global Analysis of Agricultural and Environmental Issues

- » **When** May 23, 2011, 8 a.m. to 5 p.m.
- » **Where** MRGN 121

Quake Summit 2011 - Earthquake & Multi-Hazards Resilience: Progress and Challenges

- » **When** June 10-11, 2011
- » **Where** Buffalo, NY
- » **Contact** Pamela McClure, 496-3134, pmcclure@purdue.edu
- » **Register** <http://quakesummit.org>

The meeting, a combination of the annual meetings of the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) and MCEER (formerly the Multidisciplinary Center for Earthquake Engineering Research), will feature more than 100 presentations on the latest research in earthquake engineering and multi-hazards resilience.

WIndiana 2011

- » **When** July 20-21, 2011
- » **Where** Indianapolis Convention Center
- » **Contact** Eric Burch, eburch@oed.in.gov or go to www.energy.IN.gov/oed/2629.htm

Now in its fourth year, WIndiana 2011 is expanding to include the Indiana Renewable Energy Conference. Along with sessions on utility-level wind, solar and biomass energy, the conference also will feature how-to workshops on residential and small business wind, solar, PV, and solar thermal technologies; continuing education sessions for K-12 teachers; and a wind farm tour, solar installation demonstration and biomass tour.

China-U.S. Joint Symposium

- » **When** September 26-29, 2011
- » **Where** Purdue University
- » **Contact** John Bickham, Center for the Environment, Purdue University, bickham@purdue.edu

The meeting annually brings together top Chinese and American researchers in the areas of biofuels, alternative energy, environmental impacts and climate. The 2011 meeting is expected to include up to 150 scientists and graduate students, including 25-30 Chinese participants.

Shell Energy Day

- » **When** September 22, 2011, 7:30 a.m. to 3:30 p.m.
- » **Where** Purdue University
- » **Contact** John W. Bickham, Center for the Environment, Purdue University, bickham@purdue.edu

The event, **New Frontiers in Oil and Natural Gas Exploration**, will feature morning panel presentations on oil spills, deepwater drilling and natural gas along with an afternoon student poster session and judging.

Life Sciences Events

Indiana CTSI: Annual Retreat at Purdue

- » **When** August 26, 2011
- » **Where** Discovery Learning Research Center, Room 131
- » **Register** www.in.gov/oed/2629.htm

KIST (Korea Institute of Science and Technology) Symposium

- » **When** September 6, 2011
- » **Where** Burton D. Morgan Center for Entrepreneurship, Room 121
- » **Contact** Luanne Ludwig, lml@purdue.edu

Ingestive Behavior Research Symposium on Flavor and Feeding

- » **When** September 21-23, 2011
- » **Where** Stewart Center, Rooms 206 and 214
- » **More** www.conf.purdue.edu/flavor; Kim Stockment, Conference Coordinator, 494-7225, stockme@purdue.edu

The conference will focus on physiological processes underlying flavor perception; influence of each of the sensory components of flavor on feeding; clinical applications of flavor; and use of flavor by the food industry.

Sponsored by NIH Funding Grant, Phyllis Izant Fund and Purdue University



International Breast Cancer and Nutrition Symposium

- » **When** October 9-11, 2011
- » **Where** EHESP School of Public Health, Rennes, France
- » **Contact** Kristine Swank (for abstract submission), 494-4674, kswank@purdue.edu; Céline Lefebvre (for registration and accommodations), celine.lefebvre@ehesp.fr
- » **Register** www.purdue.edu/breastcancer

The Second Annual Symposium on Breast Cancer Prevention: Epigenome, Nutrition and Public Policy will bring together experts in biology, epidemiology, medicine, nutrition, communication, education and public policy from North America, South America, Europe, Asia and Africa.

Organized by the International Breast Cancer and Nutrition Project, the conference focuses on the relationship between disease, prevention, heritage and environment to help researchers determine why breast cancer incidence is rising at different rates throughout the world. Ultimately, organizers hope to inform health communication, interventions and public policy through scientific findings.

Education Research Events

Transforming Education: From Innovation to Implementation

- » **When** October 10-12, 2011
- » **Where** Purdue University
- » **Contact** Cele Flanary, 494-4555, cflanary@purdue.edu
- » **Register** www.conf.purdue.edu/innovate

Hosted by the Discovery Learning Research Center, the conference will bring together academic researchers, practitioners and policymakers to help educators transition proven STEM education initiatives from research centers into classrooms. Conference participants will assemble and share the most current results for research demonstrating student success in P-16 STEM education; create a white paper document on best practices; and forge partnerships to pursue new research.

→|| 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 O. Buckius, rbuckius@purdue.edu
- » Discovery Park; 496-6625; Alan Rebar, rebar@purdue.edu
- » Research Core Facilities; Cost Sharing; 496-1938; Jeff Bolin, jtb@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; 494-6706; Christine King, hcking@purdue.edu
- » Research Integrity and Regulatory Affairs; 494-3996; Peter Dunn, pedunn@purdue.edu
- » Conflict of Interest; 496-1763; Voichita Dadarlat, voichi@purdue.edu
- » Export Controls; 494-1852; Michael Reckowsky, mreckowsky@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
- » Proposal Information, Transmittal to Agency; 494-6204; proposal@purdue.edu

Technology Commercialization

- » Patent & Copyright Information; 588-3475; Elizabeth Hart-Wells, otcip@prf.org

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