IUPUI INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS

Research Enterprise

The Office of the Vice Chancellor for Research (OVCR) publishes the RESEARCH ENTERPRISE to keep the academic community and the community at large informed about research activities, opportunities and development on the

Research Offices:

IUPUI campus.

Development

Administration

Compliance

Enterprise Archive

Editor: Etta Ward

Contributing Writer: Shawna Woodall

Layout: Erik Scull

If you have a news item or recent noteworthy research-related achievement that you would like to share, please see the Research Enterprise

Please be aware that not all news items will be deemed appropriate or timely for December 11, 2009

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HOLIDAY MESSAGE



Dear Colleagues and Friends,

We wish you a joyous holiday season and look forward to an exciting New Year.

Happy Holidays!
Office of the Vice Chancellor for Research

ANNOUNCEMENTS

IUPUI Innovation Workshop to Offer Ideas for Taking Research Discovery to Business Enterprise

On Thursday, December 17, 2009, IUPUI Office of the Vice Chancellor for Research (OVCR), the IUPUI Solution Center, and the Indiana University Research and Technology Corporation (IURTC) join forces to convene researchers across the disciplines that are interested in taking their research and scholarly discoveries to market. Registration and networking starts at 8:30 am, and the workshop begins promptly at 9:00 am-12:00 pm, in the Campus Center Multi-Purpose Room (CE 450 A, B, C) located on the 4th floor.

This workshop is designed as a kick-off to a campus-wide initiative supportive of researchers interested in turning research and discovery into commercially viable technologies and products. The workshop will start with an informational session on the programs and services available, including a set of new resources and services becoming available at IUPUI. This will be followed by sessions aimed at exploring faculty interests, responding to questions, and receiving comments and feedback.

To register, go to http://research.iupui.edu/events/. For more information, please

publication, but each item will be carefully considered.

contact Teresa A. Bennett, Director, IUPUI Solution Center, at 317 278-9170 or solution@iupui.edu.

Signature Centers Initiative (SCI) Round 3 Call for Proposals - DEADLINE **EXTENDED**

The deadline for the submission of proposals under the Round 3 Signature Centers Initiative has been changed from January 22, 2010 to April 1, 2010. The revised Round 3 call for proposals can be accessed at http://research.iupui.edu/funding/.

April 1, 2010 is also the deadline for the Round 1 centers to submit their third and final year activity reports and for any Round 1 centers wishing to submit a proposal to receive extended funding past their first 3 years. The deadline for Round 2 centers second year activity report submission is July 15, 2010.

FEATURE STORY

From Discovery to Enterprise: Indiana University Research and Technology Corporation

By Shawna Woodall

Video: Hear from IURTC President and CEO, Tony <u>Armstrong</u>

With the help of the Indiana University Research and Technology Corporation (IURTC), Indiana University has produced 1,839 inventions, 466 patents, and 34 startup companies. In 2008 a record-breaking 167 patent applications were filed. IURTC manages intellectual property generated at Indiana University and its regional campuses.

"We work with faculty to figure out the best way to commercialize the technologies that they are developing," explains Tony Armstrong, President and

CEO of IURTC. "It might be licensing that to a company like Lilly or actually starting a company centered on that technology." Once an idea, technology, or discovery has been



Tony Armstrong President and CEO of IURTC

made, Armstrong emphasizes to researchers the importance of contacting the IURTC to fill out an invention disclosure as early as possible. This allows IURTC to work with researchers on the best way to commercialize the discovery, which includes looking at the patent position, researching other competitors in the field, and working with patent attorneys to protect that intellectual property. Additionally, they formulate methods to market, to further develop, and to find further funding sources for the discovery. This process transpires under the guidance of one of IURTC's Business Development Managers, which Armstrong says, is where the process begins.

Linda Malkas, Vera Bradley Professor of Oncology, developed a diagnostic that detects breast cancer in its early stages and a therapeutic that she is continuing to work on. Malkas and her collaborator Robert Hickey, Ph.D., have received funding from various sources including federal funding, foundations, the State 21st Century fund, and venture capital. Drs. Malkas and Hickey continually share their new discoveries with one of IURTC's Business Development Managers. This allows them to strengthen their portfolio within the company they have created. This working relationship is the first step to the successful commercialization of a discovery.

The IURTC is committed to aiding the research and development capability of

Indiana University, creating new companies, and supporting entrepreneurial development. They are dedicated to bringing new technology to the marketplace and to supporting technology based economic development in the state, nation, and world.

FACULTY SPOTLIGHT

IUPUI Faculty Develops Technology to Reduce Medical Errors By Krista Hoffmann-Longtin and Sarah Zike, IUPUI Solution Center

Intensive Care Units (ICUs) are full of information—monitors, screens, and devices—all designed to provide information about a patient's condition.

Doctors, nurses, and other hospital personnel must make sense of this information, sometimes in a moment's notice. With the support of a two-phase grant from the IUPUI Solution Center and matching funds from the IU School of Informatics, Tony Faiola, Ph.D., and his colleagues would like to change this scenario.

Dr. Faiola, Associate Professor in the IU School of Informatics at IUPUI, has partnered with Dr. Simon Hillier, Associate Professor in the IU School of Medicine, and Skip Comer, Director of the Informatics Research Institute, to invent the Medical Information Visualization Assistant (MIVA).



Tony Faiola, Ph.D.
IU School of Informatics at IUPUI

According to Dr. Faiola, the purpose of MIVA is to provide physicians and other health care personnel with a visualization tool for interpreting large amounts of patient information. Devices that monitor a patient's well-being, such as blood pressure, heart rate, and other data, would be connected through MIVA. The information would be interpreted and displayed on a large touch-screen in the ICU. Having information all in one place and one format streamlines doctors' work processes and provides more accurate information. Additionally, MIVA can track changes over time, allowing doctors to interpret the longitudinal effects of an intervention, such as a newly administered drug.

In addition to support for the equipment necessary to create and test the invention, Dr. Faiola's Solution Center Community Venture Fund grants included funding to support the involvement of students on the MIVA project. Heather Wiltse, graduate student in Human Computer Interaction (HCI), worked on Phase 1 of MIVA in 2006 and was responsible for assisting Drs. Faiola and Hillier in a study on the usability of MIVA, with physicians and residents from the Indiana University School of Medicine and Riley Children's Hospital. For academic year 2002-2010, Christine Newlon will work with Dr. Faiola and Mr. Comer to add additional functionality to the MIVA prototype.

Christine Newlon, will work with Dr. Faiola and Mr. Comer to add additional functionality to the MIVA prototype.

According to Dr. Faiola, initial testing of the device is quite positive. Of the participants in the 2006 pilot study, the physicians using MIVA were faster and more accurate than those in the control group. Also, the majority of the doctors that interacted with MIVA agreed that the device has the potential to be a tool to improve critical care decision-making. The research team will also be developing a provisionary patent application, testing the device, and demonstrating MIVA to potential venture capitalists.

TRANSLATIONAL RESEARCH IMPACT

Making High-Tech Training More Accessible Through Virtual Simulation

Hazim El-Mounayri, Ph.D. has translated his research into practical technology that brings virtual training to tomorrow's manufacturing workforce. Dr. El-Mounayri, Associate Professor in the Purdue School of Science at IUPUI, has used his knowledge in advanced manufacturing, intelligent machining, engineering design, and modeling and optimization of the machining process into a virtual training program that is applicable to educational settings as well as industry.



Hazim El-Mounayri, Ph.D. Purdue School of Science at IUPUI

The Advanced Virtual Manufacturing Laboratory (AVML), developed with industrial partner Advanced Science and Automation Corp., provides virtual training and education on high-tech Computer Numerically Controlled (CNC) machines. It enables colleges and companies to easily and inexpensively provide students and employees with effective, safe, and highly accessible web-based training on advanced machining tools, equipment and processes. The AVML provides lecture delivery, step-by-step process training for key operating procedures and access to a near-realistic virtual CNC milling machine including the machine manual controller and simulation of the cutting process.

AVML is a valuable tool for training the workforce in advanced manufacturing. The system can be used by machine tool manufacturers to provide online training, reducing or eliminating the need for on-site, live training classes for their customers. The system can also be used for machining process verification and optimization.

The AVML is so versatile it can run on desktop or laptop personal computers as well as on more sophisticated 3D and fully immersive systems. The new technology opens the door for effective distance education in disciplines that were traditionally confined to live teaching, including engineering, physics, and science. It is expected to be a major tool for training of Indiana's workforce in advanced manufacturing and attracting talented students to engineering and technology directly from high schools.

The AVML is a three year project that received funding from the National Science Foundation under a Small Business Technology Transfer grant and funds from the Indiana 21st Century Research and Technology Fund.

RECENT EXTERNAL FUNDING AWARDS

The Office of the Vice Chancellor for Research recognizes and congratulates all IUPUI faculty and researchers for recent awards received and helping to advance the IUPUI research enterprise. The following highlights those receiving \$100,000 or more in external grants.

Grants and Awards - November 2009

BRAITSTEIN,PAULA KARINA ALICE	INSTITUTE OF	Orphaned & Separated Childrens Assessment Related to their Health &	MEDICINE	I	\$2,531,943
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	HUMAN DEVELOPMENT	Well-being		MEDICINE	
ROONEY,PATRICK M	UNITED WAY WORLDWIDE	Training programs for the next generation of fundraising in workplaces and communities.	LIBERAL ARTS	CENTER ON PHILANTHROPY	\$1,481,200
	AGENCY FOR HEALTHCARE RESEARCH AND QUALITY	Advancing Patient Identity Management in the Context of Real- World Health Information Exchange	MEDICINE	FAMILY MEDICINE	\$1,302,399
WEINER MICHAEL	QUALITY	Medication reconciliation technology to improve quality of transitional care	MEDICINE	GENERAL INTERNAL MEDICINE	\$1,172,716
ROBERTSON,KENT A.	U.S. DEPARTMENT	Pilot Study Of Gleevec? /Imatinib Mesylate (STI- 571, NSC 716051) In Neurofibromatosis (NF1) Patients With Plexiform Neurofibromas	MEDICINE	PED-HEME/ONC BASIC RESEARCH	\$1,060,991
	AGENCY FOR HEALTHCARE RESEARCH AND QUALITY	Improving Management of Test Results That Return After Hospital Discharge	MEDICINE	GENERAL INTERNAL MEDICINE	\$577,554
ROGAN,PATRICIA M.	U.S. DEPARTMENT OF EDUCATION	Teacher Quality Partnerships Grant- Urban Education Excellence: STEM Teaching Residency with Dual Licensure in Special Education	EDUCATION	EDUCATION	\$539,350
SAYKIN,ANDREW J		Amyloid Imaging, VMCI, and Analysis for ADNI	MEDICINE	RADIOLOGY & IMAGING SCIENCES	\$507,318
EINTERZ,ROBERT MICHAEL	ELI LILLY AND COMPANY FOUNDATION	General Operating support for AMPATH (KENYA)	MEDICINE	GENERAL INTERNAL MEDICINE	\$500,000
WHITE,JAMES ROBERT	CITY OF INDIANAPOLIS	City of Indianapolis - Emergency Management	SPEA	PUBLIC & ENVIRONMENTAL AFFAIRS	\$471,976
KEITH,NICOLE R	NATIONAL HEART, LUNG AND BLOOD INSTITUTE	Self Reported Fitness Survey	PETM	PHYSICAL EDUCATION DEPARTMENT	\$442,906
NUNN,SAMUEL	INDIANA CRIMINAL JUSTICE INSTITUTE	Traffic Safety	SPEA	PUBLIC & ENVIRONMENTAL AFFAIRS	\$350,000
PETRACHE,IRINA	UNIVERSITY OF COLORADO	Mechanisms and Treatment of COPD Progession	MEDICINE	PULMONARY	\$310,513
FOROUD,TATIANA M.	UNIVERSITY OF CINCINNATI	Familial Intracranial Aneurysm Study	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$240,417
GERKENSMEYER,JANIS ELAINE	NATIONAL INSTITUTE OF NURSING RESEARCH	Problem Solving for Caregivers of Children with Mental Health Problems	NURSING	NURSING	\$231,000
SAYKIN,ANDREW J	UNIVERSITY OF PENNSYLVANIA	Alzheimer's Disease Genetics Consortium	MEDICINE	RADIOLOGY & IMAGING SCIENCES	\$225,130
PATRICK			LIBERAL ARTS	INST FOR RESEARCH ON SOC ISSUE	\$157,262
HIBBARD,ROBERTA A	INDIANA CRIMINAL JUSTICE INSTITUTE	Pediatric Center of Hope	MEDICINE	PED-CHILD PROTECTION PROGRAM	\$155,271
		Redox protein APE1/Ref-		PED-HEME/ONC	

IKELLEY MARK R		1 as a target for age- related macular degeneration (AMD)		BASIC RESEARCH	\$108,833
STEPHEN	UNIVERSITY OF WASHINGTON	Diabetes after Gastrointestinal Surgery	MEDICINE	CELLULAR & INTEGRATIVE PHYSIOLOGY	\$101,015
LOEHRER, PATRICK J.	IFOUNDATION	Indiana Translational Research Acceleration Collaboration (ITRAC)0074.01	MEDICINE	CANCER CENTER	\$100,000

OVCR INTERNAL GRANT DEADLINES

RELEASE TIME FOR RESEARCH: IUPUI maintains a robust research enterprise. To support faculty in having adequate time to prepare competitive proposals, the IUPUI Office of the Vice Chancellor for Research has developed the Release Time for Research (RTR) internal funding mechanism. This funding program allows IUPUI faculty a "buy out" of teaching time to prepare high quality grant/contract proposals for submission to external funding agencies.

Application deadline is February 15, 2010. For grant guidelines and application forms, go to http://research.iupui.edu/funding/.

OTHER WORKSHOPS AND EVENTS

Scholarship at Lunch Time (SALT) Series

The SALT event series is aimed at showcasing interdisciplinary research efforts, promoting IUPUI research center activities, and encouraging new collaborative partnerships. This highly interactive event provides an opportunity to meet fellow researches in an informal setting on a monthly basis at the Faculty Club. The event is open to non-members of the Faculty Club. Due to limited seating it is recommended that you sign-up prior to each scheduled presentation by calling Stephanie at 317-274-7014 or by sending an email to facclub@iupui.edu. Lunch is a buffet that includes soup, a salad bar, two warm entrees with side dishes, and desert for \$12.90 (includes tax and gratuity).

The following is the next scheduled presentation.

Mood, Stress, and Decision Making in a Virtual World

When: Friday, February 24, 2010 | 12:00 PM-01:00 PM

Presenter: Mark Pfaff, Ph.D., School of Informatics

Dr. Pfaff's research explores the intersection of people, information, and technology in computer-supported cooperative work environments through the use of experimental simulations and mixed-methodological approaches. The focus of this talk will be on applied cognitive psychology, with some discussion of the systems used in complex work environments.

CURRENT EXTERNAL FUNDING OPPORTUNITIES

Funding opportunities in this section include selected current grant announcements from various agencies for new initiatives and changes to existing programs. To indentify other funding opportunities, go to http://research.iupui.edu/funding/external.html.



NATIONAL INSTITUTES OF HEALTH

Research on Integrity in Collaborative Research: The focus is on research integrity as it relates to collaborative interactions and/or activities. Applications must address the influence of collaborative interactions and/or activities on research integrity in at least one of the following areas: the clarification of community norms and standards, the effectiveness of self-regulation, the societal, organizational, group, or individual factors that affect integrity in research, both positively and negatively, or the impacts of non-adherence to accepted codes of conduct. Proposals must have clear relevance to biomedical, behavioral health sciences, or health services research. *Application deadline is April* 7, 2010.

Obesity Policy Research: Evaluation and Measures: The focus is on (1) conducting evaluation research on obesity-related "natural experiments" (defined here as community and other population-level public policy interventions that may affect diet and physical activity behavior), and/or (2) developing and/or validating relevant community-level measures (instruments and methodologies to assess the food and physical activity environments at the community level). The overarching goal of this FOA is to inform public policy and research relevant to (1) diet and physical activity behavior, and (2) weight and health outcomes of Americans. Standard dates apply:

http://grants1.nih.gov/grants/funding/submissionschedule.htm

<u>Critical Illness and Injury in Aging</u>: The focus is on mechanisms and management of critical illness and injury in aging. Studies may be mechanistic, observational, or interventional in nature. Secondary analyses of existing datasets, such as from large observational studies or clinical trials, may be proposed. Animal studies are appropriate in cases where human studies are not feasible. Standard dates apply http://grants1.nih.gov/grants/funding/submissionschedule.htm

<u>Dissemination and Implementation Research in Health</u>: The focus is on research grant applications that will identify, develop, and refine effective and efficient methods, structures, and strategies to disseminate and implement research-tested health behavior change interventions and evidence-based prevention, early detection, diagnostic, treatment, and quality of life improvement services into public health and clinical practice settings. Standard dates apply

http://grants1.nih.gov/grants/funding/submissionschedule.htm



NATIONAL SCIENCE FOUNDATION

CULTURAL ANTHROPOLOGY: The Cultural Anthropology Program supports basic scientific research about the causes, consequences, and complexities of human social and cultural variability. Cultural anthropologists analyze human social and cultural behavior holistically, This integrated approach makes anthropology a valuable research tool for understanding the modern world. Because cultural patterns are emergent over time and space, there is no single natural scale for ethnographic and ethnological analysis. In some cases, cultural patterns may emerge from the collective behavior of large ensembles of smaller scale units; in others, they may be imposed by larger scale constraints. The origins of social and cultural variability may be remote from the scale at which they are observed. Therefore, research may target any appropriate scale or scales from local to regional to global. The Program encourages innovative research that contributes to building spatially and temporally specific theory that extends understanding beyond individual case studies. Application deadline is January 15, 2010.

METHODOLOGY, MEASURES, AND STATISTICS: The Methodology, Measurement, and Statistics (MMS) Program is an interdisciplinary program in the Social, Behavioral, and Economic Sciences that supports the development of innovative analytical and statistical methods and models for those sciences. MMS seeks proposals that are methodologically innovative, grounded in theory, and have potential utility for multiple fields within the social and behavioral sciences. As part of its larger portfolio, the MMS Program partners with a consortium of federal statistical agencies to support research proposals that further the development of new and innovative approaches to surveys and to the analysis of survey data. The MMS Program supports a variety of different types of awards, including Regular Research Awards, Mid-Career Research Fellowships, Doctoral Dissertation Research Improvement Grants and Research Experience for Undergraduates (REU) Supplements. Application deadline is January 16, 2010.

DECISION, RISK AND MANAGEMENT SCIENCES: The Decision, Risk and Management Sciences program supports scientific research directed at increasing the understanding and effectiveness of decision making by individuals, groups, organizations, and society. Disciplinary and interdisciplinary research, doctoral dissertation research, and workshops are funded in the areas of judgment and decision making; decision analysis and decision aids; risk analysis, perception, and communication; societal and public policy decision making; management science and organizational design. The program also supports small grants that are time-critical and small grants that are high-risk and of a potentially transformative nature (see Grants for Rapid Response Research (RAPID) and EArly-concept Grants for Exploratory Research (EAGER).) Application deadline is January 18, 2010.



NATIONAL ENDOWMENT FOR THE HUMANITIES

<u>Digital Humanities Start Up Grants</u>: This program is designed to encourage innovations in the digital humanities. Proposals should be for the planning or initial stages of digital initiatives in any area of the humanities. Digital Humanities Start-Up Grants may involve research that brings new approaches or documents best practices in the study of the digital humanities; planning and developing prototypes of new digital tools for preserving, analyzing, and making accessible digital resources, including libraries' and museums' digital assets; scholarship that examines the philosophical implications and impact of the use of emerging technologies; innovative uses of technology for public programming and education utilizing both traditional and new media; and new digital modes of publication that facilitate the dissemination of humanities scholarship in advanced academic as well as informal or formal educational settings at all academic levels. Innovation is a hallmark of this grant category. All applicants must propose an innovative approach, method, tool, or idea that has not been used before in the humanities. Digital Humanities Start-Up Grants should result in plans, prototypes, or proofs of concept for long-term digital humanities projects prior to implementation. Application deadline is March 23, 2010.

FOUNDATIONS

BILL & MELINDA GATES FOUNDATION - GRAND CHALLENGES DIAGNOSTICS: The focus is on the development and optimization of novel, accurate, feasible technologies that are low cost, easy to use, functional at high temperatures and humidity, and do not require refrigeration, reagents, water or lab equipment. The program will develop components and technologies that allow assessment of multiple conditions and pathogens at the point-of-care in a variety of settings. \$30

million in new grants will be available. Deadline for submission of Letters of Inquiry is February 16, 2010.

Prior approval for submissions to the Bill & Melinda Gates Foundation is required. For "Special Handling" instructions, please visit http://research.iupui.edu/funding/limitedsubmission.html.

Questions should be directed to Bobbi Bosch (bsbosch@indiana.edu).

DID YOU KNOW?

Campus Facts

Awards to the IUPUI campus are up 24.4% for this fiscal year compared to last year. Awards for November were down 43.8% compared to last year. The dollar value of proposals submitted by IUPUI faculty for the fiscal year to date is down 8.4%.

IDENTIFYING FUNDING OPPORTUNITIES

On-line search tools are available to IUPUI investigators who are interested in identifying funding opportunities in their areas of interest.

Community of Science (COS): COS is a primary on-line search tool for identifying funding opportunities. To take advantage of this tool, register at http://www.cos.com/login/join.shtml. Once you have completed the short registration process, you can personalize your search by selecting the option entitled "launch your workbench". You can access federal, local, corporate, foundation, nonprofit and other funding opportunities using key terms and save the results of up to 20 searches and have them delivered to you weekly via email.

National Institutes of Health (NIH) "NIH Guide": To take advantage of this search tool, register at http://grants.nih.gov/grants/guide/listserv.htm. It allows you to receive discipline specific funding opportunities that are delivered to you weekly via email.

National Science Foundation (NSF) "MyNSF": To take advantage of this search tool, register at http://www.nsf.gov/mynsf/. It allows you to receive discipline specific funding opportunities that are delivered to you weekly via email.

Federal Business Opportunities "FedBizOpps": FedBizOpps is the single government point-of-entry for Federal government procurement opportunities over \$25,000. To take advantage of this search tool, visit http://vsearch1.fbo.gov/servlet/SearchServlet. Opportunities found at this site include, but are not limited to, presolicitations and special notices for research and service contracts for specific projects and some national centers and surveys that would not be found in Grants.gov and may not be found in the Community of Science.

Limited Submission Funding Opportunities:

Many federal agencies and foundations offer grants, awards and fellowships that limit the number of applications that can come from one institution or require special handling. In order to comply with agency and foundation guidelines and increase the chances of Indiana University (IU) succeeding in such limited submissions and special handling opportunities, IU policies and procedures are in place and are utilized by the Office of the Vice Chancellor for Research and other IU

research offices to facilitate internal coordination and competitions.

Individuals interested in responding to limited submission opportunities must inform the Office of the Vice Chancellor for Research about their intent to apply to a given limited submission opportunity, such that they can be included in the internal review and selection process. Failure to do so may disqualify individuals from consideration for submission to the funding opportunity.

Individuals interested in a limited submission opportunity or have any questions about the internal coordination process, contact Etta Ward at emward@iupui.edu or 317-278-8427. For a description of upcoming limited submission funding opportunities, as well as guidelines and application forms, go to: http://ovpr.indiana.edu/limsub/limsub/limsub.asp. Please note that this is not a comprehensive list, and that any external funding opportunity that imposes any type of submission limitation is subject to the IU limited submission policy and procedures.

Special Handling: The Special Handling list was created in order to communicate donor restrictions and/or preferences for managing solicitation requests from Indiana University. The list reflects special relationships that exist between donors and the university and includes corporations and foundations that the President's office wishes to review prior to submission in order to coordinate Indiana University's requests to these donors. The Special Handling List was compiled and is maintained by the Indiana University Foundation office of Corporate and Foundation Relations. Questions regarding this list can be directed to Bobbi Bosch at 317-278-5648 or bsbosch@indiana.edu.

IU Authentication is required to view the following attachments: IU/IUF Corporation / Foundation Special Handling List Principal Gifts Review Template

Office of the Vice Chancellor for Research - ovcr@iupui.edu
Indiana University-Purdue University Indianapolis
755 West Michigan Street, UL1140, Indianapolis, IN 46202-2896
Phone: (317) 278-8427

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