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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 IUPUI campus.

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If you have a news item or recent noteworthy researchrelated achievement that you would like to share, please see the Research Enterprise Submission Guidelines.

Please be aware that not all news items will be deemed appropriate or timely for publication, but each item will be carefully considered.

May 14, 2012

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FEATURED STORY

Kelly to Lead IUPUI Arts and Humanities Institute

Dr. Jason Kelly, associate professor of British history in the School of Liberal Arts, has been appointed the inaugural director of the IUPUI Arts and Humanities Institute (IAHI). His appointment is effective as of July 1, 2012.

Established in 2011, the IAHI supports campus-wide attainment of excellence in research and creative activity in arts and humanities. Its mission includes showcasing and promoting the major intellectual and scholarly contributions IUPUI faculty members from across disciplines are making in the arts and humanities. The IUPUI Arts and Humanities Institute supports individual faculty members, groups, and interdisciplinary teams in their pursuit of research and creative activity through grant programs and promoting educational experiences in the arts and humanities in academic curricula across campus. In addition, the IAHI will serve as a liaison between IUPUI and the community, fostering ongoing partnerships and ventures that advance arts and humanities endeavors.



Jason Kelly, Ph.D. Director, IUPUI Arts and Humanities Institute

"I am thrilled to be the first director of the IAHI," says Dr. Kelly. "IUPUI has a vibrant, interdisciplinary community of scholars who specialize in the arts and humanities. Their work has regional, national, and international impact, and the IAHI will be a resource to help them thrive. IUPUI is more than a life sciences campus. It is a university with a dynamic arts and humanities faculty as well. The mission of the IAHI is to support their scholarship and to help them enrich the cultural landscape of Indianapolis."

According to Dr. Kelly, the arts and humanities are essential to the mission of IUPUI. They foster the critical thinking, imagination, creativity, and reflexivity that are needed in the rapidly changing world of the 21st century. IUPUI faculty members' research in the arts and humanities informs policy, improves communities, and opens new avenues for thought. It engages students and demonstrates to them the importance of understanding the diversity of the human

experience. It challenges them to consider their responsibilities as ethical citizens in a global world. "The IAHI's mission goes beyond campus. It will play an important role in the city as Indianapolis continues to develop and grow. It will work to extend IUPUI's relationships with community partners. Through sponsoring lectures, performances, and exhibitions, the IAHI will benefit the city and help strengthen its cultural reputation," Dr. Kelly explains.

In the next year, the IAHI will expand its grant program and develop IUPUI's arts and humanities programming – on campus, downtown, and online. As Director, Dr. Kelly plans to reach out to the community to build mutually beneficial collaborative partnerships. He is excited about sharing with the public the wide-ranging and innovative contributions that IUPUI arts and humanities faculty make both locally and nationally.

"I am happy that we have a person of the caliber of Dr. Jason Kelly as the inaugural director of the IUPUI Arts and Humanities Institute. I expect that his many talents and enthusiasm will enable the Institute to reach its vision of being recognized nationally and internationally as an innovative leader in research and scholarship in the arts and humanities," says Dr. Kody Varahramyan, IUPUI Vice Chancellor for Research.

Prior to Dr. Kelly's appointment, IAHI was guided by the IUPUI Arts and Humanities Council which reports to Vice Chancellor Varahramyan. The Council is comprised of faculty members from the Schools of Liberal Arts, Engineering and Technology, Informatics, Medicine, Herron School of Art and Design, and University Library. The Council will continue to help shape the future direction of IAHI and assist in the establishment and implementation of initiatives, programs, strategies, and resources.

Dr. Kelly was recently elected a Society of Antiquaries of London fellow, a prestigious honor that will give him the opportunity to contribute the Society's efforts to advance and further the study and knowledge of the antiquities in London and other countries. Created in 1707, the Society of Antiquaries of London currently has more than 2,900 members, including experts in architecture, art and architectural history. Kelly's membership in the society comes as a result of significant achievement in the study of British art history and the history of archaeology.

Dr. Kelly's academic interests are varied and include the history of European art and architecture, the history of civil rights, and the digital humanities. He teaches courses on the history of science, gender, and historiography. His most recent book was *The Society of Dilettanti: Archaeology and Identity in the British Enlightenment* (Yale University Press, 2010).

ANNOUNCEMENTS

School of Medicine Faculty Member Receives NIH Grant for Cancer Cell Research

Dr. Randy Brutkiewicz, a professor in the Department of Microbiology and Immunology and Assistant Dean of Faculty Affairs and Professional Development in the School of Medicine, has been awarded a \$1.6 million grant from the National Cancer Institute of the National Institutes of Health for a project entitled, "Immune Evasion by Multiple Myeloma: Role of the Rho kinase Signaling Pathway."

Multiple myeloma is a devastating blood cancer, with patients surviving from a few months to at most

several years following diagnosis. Even with new treatments emerging, multiple myeloma is still incurable. The work to be supported by this grant will allow Dr. Brutkiewicz and his colleagues to understand, at a fundamental level, the



Randy Brutkiewicz, Ph.D. School of Medicine

characteristics of multiple myeloma cells that allow them to persist in a host by evading the immune system. Dr. Brutkiewicz has zeroed in on a cell signaling molecule called Rho kinase, which has been shown to be important in the migration of multiple myeloma as well as other cancer cells.

Ultimately, it is hoped that identifying the ways in which multiple myeloma evades the host's anti-tumor immune response, can be used for developing novel treatments against multiple myeloma and other blood cancers.

IU Research Nurse Receives 2012 Extraordinary Healer Award for Oncology Nursing

On May 3, 2012 Sheila Dropcho, RN, BSN, a renal research nurse coordinator at the Indiana University Melvin and Bren Simon Cancer Center, was named the recipient of the 2012 Extraordinary Healer Award for Oncology Nursing. The presentation was made at the Oncology Nursing Society's 37th Annual Congress in New Orleans.

In front of more than 700 of her professional peers, Dropcho was selected from three finalists for the national award, sponsored by Cure Media Group and Oncology at <u>Amgen</u>. Dropcho was nominated by one of her patients, Greg



Patient Greg Schilling and research nurse Shelia Dropcho chosen for the Extraordinary Healer award

Schilling of Greenwood, IN, whose essay highlighted Dropcho's exceptional compassion, expertise and commitment to her patients.

Schilling described the days after his diagnosis as "filled with dread" and wrote that he "had no reason to hope at first." That was until he met his nurse, Dropcho, also a cancer survivor. According to Schilling, Dropcho "is the epitome of what a nurse should be. She has empathy, compassion and caring that is so genuine and real, I feel it when I see her. She has given me hope on many of the dark days I've had." In addition to bringing Schilling hope, Dropcho has successfully navigated her grateful patient into two clinical trials -- the most recent of which has not only stopped his tumors from growing, it has shrunk them by 16 percent.

The winning essay will be featured in the summer 2012 issue of CURE, a free, quarterly magazine for cancer patients, survivors and caregivers. All three of the finalist essays, photos and videos from the event, and a Q-and-A with winner Dropcho will be featured on <u>www.curetoday.com</u> beginning June 13, 2012. Additionally, the essays, photos and more will be available on <u>CURE's</u>

Facebook page.

Multidisciplinary Undergraduate Research Institute Team Projects Announced

The <u>Center for Research and Learning (CRL)</u> is pleased to announce the <u>Summer 2012</u> <u>Multidisciplinary Undergraduate Research Institute</u> (<u>MURI</u>) team research projects that have been funded. Eight projects were chosen representing several different disciplines. Although most of the teams have now been filled, a few places are still open to students on selected teams. For more information, please contact Elizabeth Rubens at <u>erubens@iupui.edu</u>. Learn more about each of the projects listed below.

 <u>Synthesis and Electrochemical Study of</u> <u>Sulfides as the Large Capacity Cathodes for</u> <u>Use in Li-ion Batteries</u>



MURI Scholar Cansu Sener presents her team's research at Research Day 2012

- Visualizing and Experiencing Turbulence from Numerical Experiments
- Design of Safe Electrical System for Wave Rotor Igniter Experiment
- Towards Estimating the Position of the Leg Using Sensory Information Intercepted by Neuroprosthetic Electrodes
- Solar Cell through Non-vacuum Coating of CIGS Nanoparticles
- Integrative Pathway Modeling for Pancreatic Cancer Drug Assessment and Discovery
- <u>Porphyromonas gingivalis Peptide Binding to Human Gingival Fibroblasts and</u> <u>Second Messenger Signaling</u>
- Advanced Renewable Energy Power Conversion

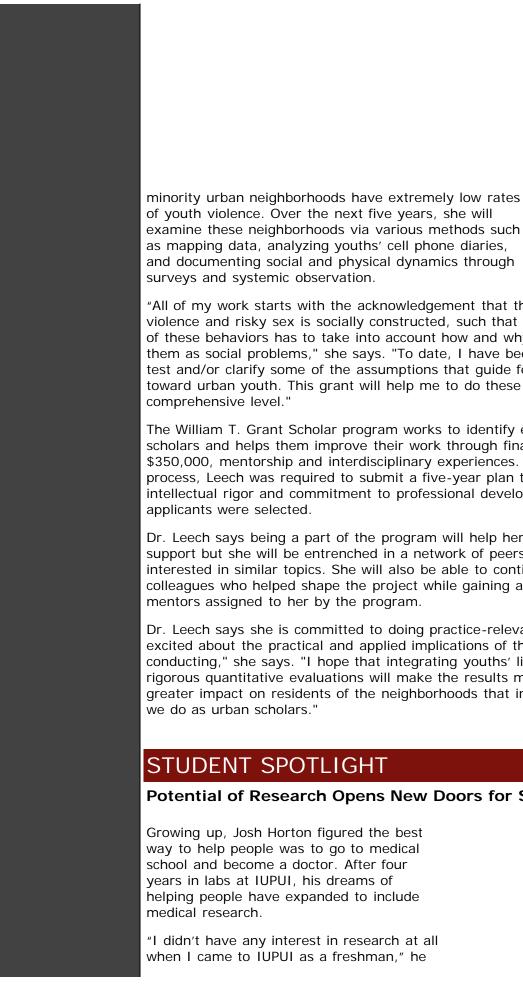
The MURI program was initiated in 2005 in the School of Engineering and Technology. In 2008, the school formed a partnership with the Center for Research and Learning (a division of the Office of the Vice Chancellor for Research), to jointly fund and administer the program. Today MURI is one of eleven distinct programs that are currently operated through the CRL. The program has two primary goals: 1) to provide substantive multidisciplinary research experiences for IUPUI students; and 2) to serve as a catalyst for innovation and sustained funding from external agencies for faculty projects. Since its creation, MURI has sponsored 124 teams serving 486 undergraduate research scholars.

FACULTY SPOTLIGHT

Faculty Member Named William T. Grant Foundation Scholar for Research on Adolescent Health Risk Behavior in Urban Communities

The William T. Grant Foundation has long been interested in research that works to improve the lives of young people. The research interests of Dr. Tamara Leech, assistant professor of sociology in the School of Liberal Arts, include adolescent health risk behavior in urban communities. Leech's research project, "Pockets of Peace: Investigating Urban Neighborhoods Resilient to Adolescent Violence," has recently been recognized by the Foundation through an invitation to join their Scholars Program

Dr. Leech's project explores why some low-income, high





Tamara Leech, Ph.D. Department of Sociology School of Liberal Arts

"All of my work starts with the acknowledgement that the very definition of violence and risky sex is socially constructed, such that a complete understanding of these behaviors has to take into account how and why we attempt to address them as social problems," she says. "To date, I have been able to incrementally test and/or clarify some of the assumptions that guide federal and local policy toward urban youth. This grant will help me to do these things at a larger and more

The William T. Grant Scholar program works to identify exceptional early career scholars and helps them improve their work through financing an award of \$350,000, mentorship and interdisciplinary experiences. As part of the application process, Leech was required to submit a five-year plan that showed "creativity, intellectual rigor and commitment to professional development." Only 6% of the

Dr. Leech says being a part of the program will help her not only via financial support but she will be entrenched in a network of peers and mentors who are interested in similar topics. She will also be able to continue her work with local colleagues who helped shape the project while gaining additional feedback from mentors assigned to her by the program.

Dr. Leech says she is committed to doing practice-relevant work. "I am most excited about the practical and applied implications of the investigations I am conducting," she says. "I hope that integrating youths' lived experience into typical, rigorous quantitative evaluations will make the results more useful and will have a greater impact on residents of the neighborhoods that inspire so much of the work

STUDENT SPOTLIGHT

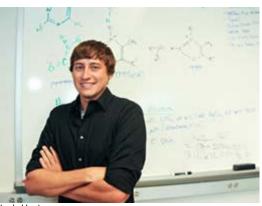
Potential of Research Opens New Doors for Science Alumnus

Growing up, Josh Horton figured the best way to help people was to go to medical school and become a doctor. After four years in labs at IUPUI, his dreams of helping people have expanded to include

"I didn't have any interest in research at all when I came to IUPUI as a freshman," he

said. "Now it's really my passion."

Originally from Jasonville, IN, Horton came to IUPUI as a Herbert Presidential Scholar. He decided to become a pre-med chemistry Josh Horton major in the School of Science at the suggestion of an influential high school chemistry teacher.



Chemistry Major May 2012 Graduate

His passion for research was ignited as a volunteer in a chemistry lab his freshman year. Since then, Horton has done research in areas ranging from medicinal chemistry to the kinetics and mutations of enzymes. These experiences, as well as his relationships with faculty mentors, have changed his career outlook.

"The whole point of research was to find out what I liked to do and gain insight into what my passion was," Horton said. "I realized that being able to pursue my MD/PhD is a way for me to have an impact on more people."

His future research interests involve the immunology of cancer. Essentially, he wants to develop cancer treatments by re-engineering viruses to attack cancerous tumors or through the use of immunological vaccines.

After graduation, Horton will begin the prestigious MD/PhD program at New York University. In 2011, he completed an internship at NYU where he researched another complex virus, HIV, under the guidance of Dr. Ned Landau, one of the leading HIV researchers in the country.

Horton said he is grateful for the opportunities he has had at IUPUI, which helped him to grow from a freshman research volunteer to now part of one of the elite programs for young researchers.

"The amount of support we have had at the School of Science is incredible," he said. "Students are constantly encouraged to research and explore, and the faculty do everything they can to facilitate it."

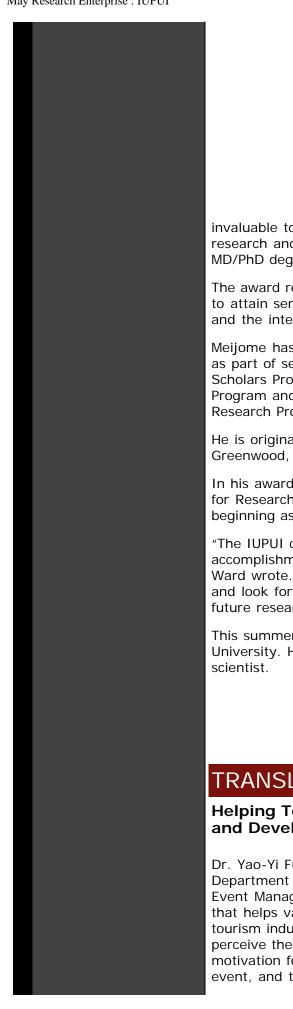
"It's been an amazing experience," he added. "A lot of my friends at IUPUI are going on to medical or graduate school, and all of us will benefit from the criticalthinking skills we developed through research."

Undergraduate Student Recognized for His Extensive Research

Tomas Meijome, biology major from the School of Science at IUPUI, has been honored with the highest undergraduate research award given by IUPUI to a non-senior student.

Meijome was awarded the Bowling-Jones Russo Memorial Undergraduate Research Award at a recent event on the IUPUI campus.

"I have been able to immerse myself in research as an undergraduate, which has given me a very realistic insight into a career as a researcher," Meijome said. "These experiences have been





invaluable to me in determining my passion for research and have motivated me to pursue the MD/PhD degree path after graduation."

Dr. Richard Ward, CRL Executive Director, presents award to Thomas Meijome

The award recognizes students who conduct undergraduate research but have yet to attain senior-class status. Among his areas of research are regenerative medicine and the interaction of bone and blood cells in formation.

Meijome has been active in several research projects in the School of Science and as part of several IUPUI research programs, including the Diversity Research Scholars Program, the Louis Stokes Alliances for Minority Participation (LSAMP) Program and the IU School of Medicine Prospective Physician-Scientist Summer Research Program.

He is originally from Argentina and is a graduate of Center Grove High School in Greenwood, IN.

In his award notification letter, Dr. Richard Ward, executive director of the Center for Research and Learning, praised Meijome for his involvement with research since beginning as a freshman at IUPUI.

"The IUPUI committee was especially impressed with the breadth of your accomplishments and your growth as a researcher throughout your IUPUI career," Ward wrote. "We are confident you will continue to grow in your academic career and look forward to the many contributions you will bring to people through your future research."

This summer, Meijome will attend a prestigious research program at New York University. He hopes to one day start his own laboratory and work as a physician-

TRANSLATIONAL RESEARCH IMPACT

Helping Tourism Organizations Better Understand Their Visitors and Develop Marketing Strategies

Dr. Yao-Yi Fu, associate professor in the Department of Tourism, Conventions and Event Management, conducts research that helps various organizations in the tourism industry to measure how people perceive their tourism offerings, their motivation for visiting a destination or an event, and their satisfaction level with

their experience. Much of Dr. Fu's research involves surveying visitors onsite. The survey instruments were developed based on theories of motivation, travel behavior, and customer satisfaction. The



Yao-Yi Fu, Ph.D. Department of Tourism, Conventions and Tourism , Management

results of those surveys have helped many ^{Management} School of Physical Education and Tourism Management tourism organizations to better understand

their visitors' profiles, motives for visiting, and satisfaction levels. Existing marketing strategies and promotional activities of those tourism organizations have also been thoroughly reviewed. Based on the data collected and the review of marketing efforts, Dr. Fu develops marketing strategies that have helped the organizations to better market their tourism offerings.

RECENT EXTERNAL FUNDING AWARDS

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

PI	Agency	Project Title	School	Department	Total
CLARK,DANIEL OWEN	NATIONAL INSTITUTE OF DIABETES, DIGESTIVE & KIDNEY	RCT of Video-Conference & In-Person Weight Loss Services for Adult CHC Patients	MEDICINE	GENERAL INTERNAL MEDICINE	\$1,912,730
BRUTKIEWICZ,RANDY R	NATIONAL CANCER INSTITUTE	Immune Evasion by Multiple Myeloma: Role of the Rho Kinase Signaling Pathway	MEDICINE	MICROBIOLOGY & IMMUNOLOGY	\$1,597,750
BROOME,MARION E	WALTHER CANCER FOUNDATION, INC.	A Proposal to Fund a Nurse Investigator to Conduct Outcomes Research with Cancer Patients and Their Families	NURSING	NURSING	\$570,580
KWO,PAUL Y.	UNIVERSITY OF FLORIDA	HCV-TARGET: Hepatitis C Therapeutic Registry and Research Network-A Longitudinal, Observational Study	MEDICINE	GASTROENTEROLOGY	\$267,410
FOROUD,TATIANA M.	MICHAEL J FOX FOUNDATION FOR PARKINSONS RESEARCH	PROGENI Family Study	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$238,458
SCHRADER,STUART M	MARION COUNTY HEALTH DEPARTMENT	12-13 Marion County Public Health Department Proposal Ryan White Services Program	DENTISTRY	DENTISTRY-RESEARCH	\$220,000
LOEHRER,PATRICK J.	CELGENE CORPORATION	Lenalidomide and Thalidomide AMPATH Risk Management Program in Kenya	MEDICINE	HEMATOLOGY/ONCOLOGY	\$189,916
HULVERSHORN,LESLIE ANN	INDIANA DIVISION OF MENTAL HEALTH AND ADDICTION	Expansion of the Adolescent Dual Diagnosis Clinic (ADDC) at the Riley Hospital for Children	MEDICINE	PSYCHIATRY	\$183,409
ASIRWA,FREDRICK CHITE	CELGENE CORPORATION	Lenalidomide and Thalidomide AMPATH Risk Management Program in Kenya	MEDICINE	PED-NEONATAL BASIC RESEARCH	\$155,500
	U.S. ARMY MEDICAL	Generation and initial characterization of an NF2 model that develops		PED-NEONATAL BASIC	

Grants and Awards - April 2012

CLAPP,DAVID WADE	RESEARCH AND MATERIEL COMMAND	intracranial vestibular Schwannomas and meningiomas	MEDICINE	RESEARCH	\$155,500
COTE, GREGORY ANDREW	NIH-NIDDK	Optimizing the role of ERCP in evaluating indeterminate bile duct strictures	MEDICINE		\$176,319
BABBAR- SEBENS,MEGHNA	CITIZENS ENERGY GROUP	Algae, Taste and Odor and Algal Toxin Monitoring Program for Indianapolis Drinking Water Reservoirs	SCIENCE	GEOLOGY	\$150,000
POINDEXTER,BRENDA BRADLEY	DUKE UNIVERSITY	Pediatric Trial Network - Pharmacokinetics of Understudied Drugs Administered to Children per standard of Care	MEDICINE	PED-NEONATAL MEDICINE	\$124,000

CURRENT EXTERNAL FUNDING OPPORTUNITIES

Funding opportunities in this section include selected current grant announcements from federal agencies for new initiatives and changes to existing programs. Announcements with limited scope are not listed here but are, instead, sent directly to IUPUI School Deans. For comprehensive coverage of funding opportunities please use the on-line search tools listed below.

NATIONAL INSTITUTES OF HEALTH

U.S.-China Program for Biomedical Collaborative Research (R01): The purpose of the U.S.-China Program for Biomedical Collaborative Research is to stimulate collaborative basic, translational, and applied research between United States (U.S.)-based researchers and Chinese researchers in the areas of allergy, immunology, and infectious diseases including HIV/AIDS and its co-morbidities and co-infections, cancer, mental health, Parkinson's disease (PD), and stroke. *Application deadline is September 18, 2012.*

Early Detection and Prevention of Mild Cognitive Impairment (RO1): The focus is on research into technologies that have the greatest future impact for pre-symptomatic detection and preventive treatment and management of age- or treatment-related mild cognitive impairment (MCI), including those occurring in the setting of Life Limiting Illnesses (LLI). *Application deadline is May 22, 2012.*

NATIONAL SCIENCE FOUNDATION

Core Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA): The Core Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA) solicitation aims to advance the core scientific and technological means of managing, analyzing, visualizing, and extracting useful information from large, diverse, distributed and heterogeneous data sets so as to: accelerate the progress of scientific discovery and innovation; lead to new fields of inquiry that would not otherwise be possible; encourage the development of new data analytic tools and algorithms; facilitate scalable, accessible, and sustainable data infrastructure; increase understanding of human and social processes and interactions; and promote economic growth and improved health and quality of life. *Full Proposal Deadline(s): June 13, 2012 Mid-Scale Projects July 11, 2012 Small Projects.*

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 <u>http://grants.nih.gov/grants/guide/listserv.htm</u>. 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 <u>http://service.govdelivery.com/service/multi_subscribe.html?</u> <u>code=USNSF&custom_id=823</u>. 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 <u>https://www.fbo.gov</u>. 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://research.iu.edu/limited_sub.shtml. 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 Foundations. Questions regarding this list can be directed to Bobbi Bosch at 317-278-5648 or bsbosch@indiana.edu.

IUF Special Handling List and Principal Gifts Review Template



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