

# Research Enterprise

April 15, 2013

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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.

### Research Offices:

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If you have a news item or recent noteworthy research-related 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.

## FEATURE STORIES

### Attendees Imagine the Future at 2013 IUPUI Research Day



April 5th the Office of the Vice Chancellor for Research and its affiliated units (Center for Research and Learning and Solution Center) hosted the 2013 IUPUI Research Day. This exciting open-house event allowed hundreds of participants to interact with IUPUI's researchers and scholars, allowing them to see and hear how IUPUI's high-caliber research and creative activity that matters and is making an impact now and to explore the potential impact for the future.

Research Day began with a morning plenary session that kicked off with a welcome from Vice Chancellor for Research Kody Varahramyan, followed by a presentation from Dr. Jason Kelly about the exciting work of the IUPUI Arts and Humanities Institute, recognition of the 2013 Research Frontiers Trailblazer Award recipients, and the Research Frontiers Distinguished Lecture. The daylong event also included

two poster sessions in the afternoon that showcased the research of IUPUI students (graduate, professional and undergraduate) and faculty as well as a networking reception. To access a complete list of poster presentations, visit <http://research.iupui.edu/events/researchday2013/schedule.php>.

This year's featured Research Frontiers Distinguished Lecture, "**Regenerating the heart: what is known today and what will be possible tomorrow?**" was presented by Dr. Loren Field, professor of medicine and pediatrics at the School of Medicine and recipient of the 2012 Glenn W. Irwin, Jr., M.D. Research Scholar Award.

Winners of the Research Frontiers Trailblazer Award at Research Day were Dr. Shaun Grannis from the School of Medicine, Dr. Jason Kelly from the School of Liberal Arts, and Dr. Michelle Salyers from the School of Science. A short presentation on each of the recipients' research and creative activity was given.

As the Office of the Vice Chancellor begins planning for the sixth annual IUPUI Research Day event April 11, 2014, participants and the broader IUPUI community are encouraged to send feedback and suggestions to [OVCR@iupui.edu](mailto:OVCR@iupui.edu).

## **NSF Award Recognizes IUPUI Professor for Work to Enhance Machine Learning Applications**

[Murat Dundar](#), Ph.D., assistant professor in the Department of Computer and Information Science, has earned the prestigious CAREER Award from the National Science Foundation (NSF) to research ways to help computers actively adjust models and classify new data by enhancing machine learning technology.

Dr. Dundar is the fourth faculty member in the School of Science actively working under an NSF CAREER Award. The award is the most prestigious honor given by the NSF in support of faculty members early in their careers who exemplify the role of teacher-scholars through outstanding research, excellent education and integration of education and research.

Dr. Dundar will use the five-year, \$500,000 award to continue to test theories related to machine learning, which traditionally is limited by the number of parameters or criteria a computer uses to classify data. In other words, a computer can only classify data (test results, biological samples, keyword indicators, for example) based on the training data set established at the beginning of an analysis. This often times leads to misclassifications of data.

Dr. Dundar says this traditional method may not be accurate when you account for the continually evolving nature of data sets in many real-life situations.

His theory explores ways to refine how a computer actively and continually updates and adapts to the information it is collecting, thereby creating a more exhaustive set of categories from which to classify data. In essence, the computer is able to teach itself to recognize changes in the data and adjust accordingly.

"This new approach will let the data speak for itself in determining how many classes a computer can use," said Dr. Dundar, who specializes in machine learning and artificial intelligence applications in a biological or medical context.



Murat Dundar, Ph.D.  
Department of Computer & Information  
Science  
School of Science

Dr. Dundar, who earned his Ph.D. in electrical and computer engineering from Purdue University in West Lafayette, has several ongoing research projects encompassing areas such as computer-aided diagnosis and detection and other bio-detection technology.

This new direction in machine learning will be applied to some of his current work, including research to determine new bacteria subclasses, mineral diversity on Mars, and how to create a better method of sorting and classifying large collections of documents or records. His research has been supported by agencies such as the National Institute of Biomedical Imaging and Bioengineering and the National Institute of Allergy and Infectious Diseases.

The CAREER Award grant also includes an element of outreach associated with Dr. Dundar's research. He intends to organize a summer camp for K-12 students to introduce them to fundamental concepts in computer science and data mining and mentor student teams to compete in regional science fairs. He also hopes to organize a workshop on self-adjusting classification models at a premier machine learning conference.

Other School of Science faculty members conducting research under an NSF CAREER Award include Dr. Yogesh Joglekar, physics; Dr. Mohammad Al Hasan, computer science; and Dr. Greg Druschel, earth sciences.

## ANNOUNCEMENTS

### **2013 Research Frontiers Trailblazer Award Winners Announced at Research Day**

Established in 2010, the Research Frontiers Trailblazer Award recognizes outstanding IUPUI researchers who are showing great promise in becoming nationally and internationally known for their accomplishments in advancing the frontiers of knowledge. Specifically, the award is for outstanding accomplishments in research and creative activity by an Associate Professor within the first three years of promotion or appointment in the given rank.

On April 5th, winners of the 2013 Research Frontiers Trailblazer Awards received honors at IUPUI Research Day for research on public health informatics, 18th century British history, and the development and evaluation of innovative programs to assist adults with severe mental illnesses. Associate professor of Family Medicine Shaun Grannis, associate professor of British History Jason Kelly, and associate professor of Psychology Michelle Salyers each received a \$1,000 cash prize to support their research.



Dr. Grannis is internationally recognized as the leading expert in public health informatics, health information exchange, and patient identification. His research on real-world health-care systems seeks to identify the underlying specifications and methods that make larger-scale clinical outcomes research possible. Among many other accomplishments, Dr. Grannis' research on public health informatics led to one of the nation's first effective and sustainable statewide, real-time public health surveillance systems. His research has been described as substantial, novel, and well-recognized by the health data standards, health information exchange, and public health informatics communities. Last year, his research contributions were recognized by his election as a Fellow of the American

College of Medical Informatics, the central body for scholars and practitioners committed to advancing the field and one of the highest career distinctions in biomedical informatics – a rare honor at such an early career stage.



Dr. Kelly is recognized for his research on 18th century British history and service to the field of arts and humanities. It is because of his early accomplishments in research and service, that he was selected in 2012 as the inaugural Director of the IUPUI Arts and Humanities Institute (IAHI), an organization that supports campus-wide attainment of excellence in research and creative activity in arts and humanities and showcases and promotes the major intellectual and scholarly contributions that IUPUI faculty members from across disciplines are making in the arts and humanities. Dr. Kelly is also world renowned for his transdisciplinary work in supporting the development and growth of open-access research networks in the digital humanities, an emerging intellectual movement that is pushing the boundaries of research through the integration of technology.



Dr. Salyers has been advancing research in the development and evaluation of innovative programs to assist adults with severe mental illnesses. Her research has pioneered tools, such as the CommonGround support tool, that facilitate the ability of clients with severe mental illnesses and their treatment providers to engage in shared decision-making about treatments. Her research is not only deep, but broad enough to include work on issues for mental health providers, such as high-impact interventions to combat professional burnout. Her efforts in this area show enormous potential for mental health providers in the VA and other settings that include special education and cancer treatment. Dr. Salyers is Co-Director of the ACT Center of Indiana, an IUPUI Signature Center that provides training and research on evidence-based mental health

practices to support recovery in adults with severe mental illnesses.

Sponsored by the IUPUI Office of the Vice Chancellor for Research, Research Day is an annual celebration of the cutting –edge and multifaceted and creative activities of IUPUI. The event provides an opportunity for the IUPUI faculty, staff, and students, their academic, industrial, and governmental partners, and the broader community, to come together and learn more about the research enterprise at IUPUI, to explore new collaborations, and to lay the foundation for new partnerships.

## **IUPUI Research Report Highlights 2012 Research and Creative Activity Accomplishments**

The Office of the Vice recently released the [2012 IUPUI Research Report](#). The report features a diverse array of research and creative activity that speaks to the breadth of inquiry and discovery happening at IUPUI.



## **2013 Center for Research and Learning Award Reception April 19**

The IUPUI Center for Research and Learning (CRL) will hold the 2013 Student and Faculty Recognition Celebration on Friday, April 19th from 1:00 pm to 2:30 pm. This event will be held in the University Library Lilly Auditorium, Room 0130.

IUPUI is one of the leading up-and-coming universities in the country. According to

*U.S. News & World Report*, this campus ranks seventh in the nation for universities making the most promising and innovative changes in the areas of academics, faculty and student life. The dedication to excellence made by the IUPUI community does not go unnoticed, internally or externally. Each year the Center for Research and Learning recognizes exceptional undergraduate research and mentoring. This award reception honors those whose endeavors have propelled undergraduate research farther. Graduating seniors who have participated in the center's programs, CRL scholars from IUPUI's Top 100 and the first cohort of CRL Ambassadors will be honored. Last year's award recipients included Dr. Stephen K. Randall, Kathryn J. Wilson Award for Outstanding Leadership and Mentoring of Undergraduate Research; Tomás Enrique Meijome, Bowling-Jones-Russo Memorial Undergraduate Research Award; as well as Alyssa Rose Marie Gutiérrez, IUPUI Chancellor's Award for Outstanding Undergraduate Research.

Register at <http://2013crlawards.eventbrite.com/>.

## INSTITUTE SPOTLIGHT

### Cancer Researchers Discover New Type of Retinoblastoma in Babies

Not all forms of retinoblastoma, a pediatric cancer of the eye, may be inherited, a discovery that would spare children years of medical evaluations and offer the potential of drug therapy for an aggressive malignancy.

A Eugene and Marilyn Glick Eye Institute researcher is a member of an international team that has discovered this childhood eye cancer is not always caused by a mutation of the "retinoblastoma gene." That's good news for some children who get this disease, because it means they won't have to undergo invasive exams over the course of their lifetime to determine whether the cancer has spread.



Timothy Corson, Ph.D.

Dr. Timothy Corson, who researches pediatric ocular cancers, is one of 25 scientists who have worked on this for several years. Their paper, based on a study of more than 1,000 retinoblastoma patients, was published recently in *Lancet Oncology*. The international team was led by senior author Brenda L. Gallie, M.D., of the Princess Margaret Cancer Centre in Toronto, Canada, and included researchers from the Netherlands, France, New Zealand, and Germany.

"Traditionally, an aggressive retinoblastoma seen in a very young infant in the clinic would be suspected to be caused by an inheritable mutation, leading the patient to a childhood full of invasive clinical exams, and the fear of risk to their offspring," said Dr. Corson, assistant professor of ophthalmology, biochemistry and molecular biology at the Indiana University School of Medicine.

This previously unnoticed class of tumors challenges the long-standing belief that all retinoblastoma are caused by a mutation of the tumor suppressor gene named after this cancer, RB1. Dr. Corson said this new group of retinal tumors has a normal RB1 gene and appears to be "driven" by extra copies of a cancer-causing gene called MYCN, a gene most commonly associated with another childhood cancer, neuroblastoma.

"Our study suggests that one in five patients with an early-onset tumor in a single eye may have MYCN retinoblastoma, and thus lack future risks. This kind of retinoblastoma can only be definitively diagnosed by molecular testing showing lack of mutations in the RB1 gene and amplification of the MYCN gene in the child's tumor," Dr. Corson said.

The MYCN retinoblastoma have fewer other mutations in their genome than classic retinoblastoma and have a distinctive cellular appearance to a pathologist, Dr. Corson said. Most importantly, they have features that render them immediately important clinically: They occur at a very young age and are extremely aggressive. In the future, they may be treatable with drugs that block the activity of MYCN.

"This is a landmark discovery in retinoblastoma genetics," said [David A. Plager, M.D.](#), professor of ophthalmology at the Glick Eye Institute and director of the Pediatric and Adult Strabismus Service. "We are currently investigating a patient who fits the clinical description of MYCN retinoblastoma and, if confirmed, it will save the baby and his family the trouble and the expense of numerous future exams to monitor development of a tumor in the other eye."

Dr. Corson, who immediately began consulting with Dr. Plager on the case, said the child's definitive diagnosis based on molecular testing could come within weeks.

"This research completely challenges conventional thinking and clinical practice," senior author Dr. Gallie said. "The common type of retinoblastoma is initiated by loss of a normal gene that can be inherited, so the other eye of the child and infant relatives are at risk to develop tumors. When we remove the eye with a large tumor in very young babies and show it is the new oncogene-driven type of retinoblastoma, there is zero risk for retinoblastoma developing in the other eye or in other infants in the family. This is a major advance in personalized cancer medicine for these children and families."

About 300 new cases of retinoblastoma arise in the U.S. annually. Although survival rates are high with treatment, patients are often left with vision loss or blindness.

## FACULTY SPOTLIGHT

### NIH Funding Puts Researchers on Path to Restoring Vision Loss from Diabetic Eye Disease

Researchers at the Eugene and Marilyn Glick Eye Institute and the Indiana Center for Vascular Biology at School of Medicine are on the cusp of perfecting stem cell treatments that would halt – and potentially reverse – vision loss caused by diabetic retinopathy.

Dr. Rajashekhar Gangaraju, assistant professor of ophthalmology and cellular and integrative physiology, [Eugene and Marilyn Glick Eye Institute](#) and the [Indiana Center for Vascular Biology and Medicine](#), is the principal investigator in the nearly \$2 million study funded by the National Eye Institute, part of the National Institutes of Health.

Long interested in the causes and effects of diabetic retinopathy – his father and grandfather both suffered from diabetes and resulting vision loss – Dr. Gangaraju has focused his

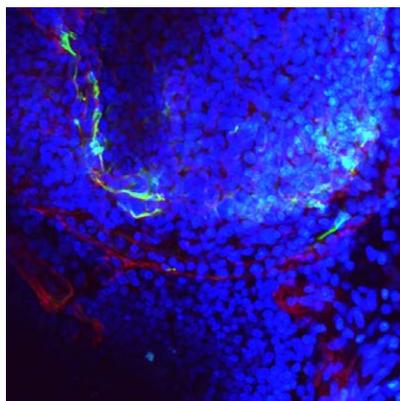


Rajashekhar Gangaraju, Ph.D.

research on retinal vascular biology. His research team consists of Keith L. March, M.D., Ph.D., Director, Indiana Center for Vascular Biology and Medicine and the [Center for Regenerative Medicine](#), Maria B. Grant, M.D., currently at the University of Florida (and joining the Glick Eye Institute as senior chair in July) and others at the Glick Eye Institute and IU School of Medicine who are conducting complementary research.

Dr. Gangaraju said the five years of funding puts researchers on the path to clinical trials which, if successful, would translate to treatments for the potentially blinding eye disease. The research also could be applied to other vascular diseases, resulting in novel treatments for those conditions.

"Everyone who develops diabetes may suffer from vision loss," said Dr. Gangaraju. "The vision loss occurs because high blood sugar damages blood vessels, causing leakage and bleeding. The blood vessels are no longer able to carry important nutrients to the retina in the eye; to compensate, more blood vessels are made, but they are fragile and also leak, causing a cyclical environment and worsening damage."



Adipose stem cells that are genetically tagged with green fluorescent protein and transplanted into diabetic eyes, demonstrate close association to host retinal blood vessels (labeled with red fluorescent protein, blue nuclei), perhaps to stabilize damage

With the increasing prevalence of diabetes in the United States and throughout the world, vision loss from diabetes continues to rise. Forty percent of individuals with diabetes develop vision threatening retinopathy; that percentage will increase as the population ages and more adults and children are diagnosed with diabetes. Nearly 19 million Americans have diabetes and another 7 million are undiagnosed. Nearly 80 million are categorized as pre-diabetic or at risk of developing the disease.

Preliminary research in Dr. Gangaraju's laboratory shows that stem cells isolated from fat cells and injected into the rodent eye regenerate and repair the damaged cells and improve vision.

"The key to this discovery was based on observations in Dr. March's laboratory that these stem cells, also known as adipose stem cells, in fat

tissue are in very close contact with endothelial cells in small blood vessels and capillaries and may serve as a natural source for regenerating damaged blood vessels in the diabetic retina," Dr. Gangaraju said.

"We know the stem cells are migrating towards the blood vessels and are trying to arrest the leakage," Dr. Gangaraju said. "We believe this will be a therapy helpful for early stage diabetics, or those who have begun to suffer the effects of diabetes and have early vision loss due to the leaking blood vessels.

"This work is a precursor to clinical trials involving patients. We believe the basic science mechanisms will translate to a bedside treatment for diabetic patients if we can reach them in the early stage of diabetes," Dr. Gangaraju said.

"The ready availability of adipose stem cells from minimally invasive liposuction will likely facilitate translation of this research into diabetic patients," said Dr. March, co-investigator of the study.

In partnership with the Glick Eye Institute research team, the VC-CAST Signature and Regenerative Medicine Center, an NIH-sponsored Cardiovascular Cell Therapy Research Network, will likely bring these new therapies into the eyes of patients based on the extensive experience with cell-based clinical trials in cardiovascular diseases, Dr. Gangaraju said.

Human phase I clinical trials using adipose stem cells are already being planned in Mexico and Europe for several ocular diseases, Dr. Gangaraju said.

"We anticipate that our research efforts will lead the way to clinical therapies that are quite novel and nationally remarkable," Dr. March said. "The result in animals to date suggests a substantial improvement in visual loss due to diabetes, but it's impossible to know the extent of the improvement until we test these fat-derived cells in patients who urgently need help with their vision."

"In creating the Eugene and Marilyn Glick Eye Institute, Mrs. Glick's dream was that cures for blindness would be realized at the School of Medicine. Dr. Gangaraju and his collaborators are helping to make that dream a reality," said Louis B. Cantor, M.D., chairman of the IU Department of Ophthalmology at the Glick Eye Institute.

"In the near future, stem cell therapies using adipocyte derived stem cells as well as peripheral blood and bone marrow derived progenitors will likely be a viable option for patients suffering from macular ischemia, a vision threatening form of diabetic retinopathy that involves lack of blood supply to the area of central vision (macula) and currently has no effective therapy," Dr. Grant said.

Dr. Gangaraju holds an Indiana CTSI Young Investigator Award, supported by the Indiana Clinical and Translational Sciences Institute funded, in part by Grant Number KL2 TR000163, from the National Institutes of Health, National Center for Advancing Translational Sciences, Clinical and Translational Sciences Award.

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» [Read more...](#)

## STUDENT SPOTLIGHT

### Research Delivers the Full College Experience for Physics Student

Torri Roark still remembers feeling scared and overwhelmed the first time she walked in to volunteer in a research lab in the Department of Physics.

She had just changed her major from chemistry to physics. She knew she loved science but didn't know exactly where her education would take her. Roark still recalls with clarity the advice her advisor and now mentor, Associate Professor Horia Petrache, gave her those early days.

"I was terrified when I began research. He told me, 'It's OK if you don't know something,'" said Roark, a senior physics student from Noblesville, Ind.



Torri Roark  
Undergraduate, Physics Major  
School of Science

"Later that semester, I was presenting my research at IUPUI Research Day," she said. "I couldn't have done that without the help of Dr. Petrache and the other scientists and collaborators who were willing to sit down and talk about my research.

"That's one of the greatest things about the physics department. I know all my classmates and instructors, and I can walk into the physics offices and get help whenever I need it," Roark said.

What Roark lacked in research experience as an underclassman she has made up

for with determination and a genuine interest in physics and its applications.

"I tutor students in the physics learning space, and a lot of the students get really nervous about physics and math classes," said Roark, who also is earning a minor in mathematics. "I tell them that once you get past your early courses and start studying more of the applied physics, it becomes more interesting and you get to see really how cool it is."

Roark says some of the early courses intimidated her as well. After more than a year in the physics lab, however, she now has the confidence to present her ongoing research in biophysics at the National Institute of Health (NIH) in Maryland (where she also served as an intern) and the Biophysical Society's Annual Conference, where she will return in February for the second time. She plans to pursue her Ph.D. in biophysics after graduating from the School of Science in May 2013.

"Had I not been doing research, it's almost like I wouldn't have gotten the full college experience. Just taking classes doesn't give you the whole perspective," Roark said.

Her research involves the study of the interactions between ions and surfaces, specifically between ions and lipid membranes embedded with proteins. Although there are times when the work becomes tedious, she still gets excited when she obtains a good measurement and usable data in the lab.

"Physics encompasses everything else you learn in science," Roark said. "I still get to use chemistry and biology everyday in the lab, but, more than that, I am learning how to work independently and solve problems."

When not in the lab or in class, Roark still finds time to work part-time at a shoe store. She enjoys jogging, traveling and spending time with her dog and family.

## TRANSLATIONAL RESEARCH IMPACT

### IUPUI Center Chosen to Conduct a National Center for Disease Control Sanctioned Survey

The Survey Research Center at IUPUI (SRC) has been selected to conduct the Indiana Adult Tobacco Survey sanctioned by the Centers for Disease Control and Prevention and contracted by the Indiana State Department of Health. Dr. Tamara Leech, Director of SRC and Assistant Professor of Sociology, will serve as the Principal Investigator, and Anne Mitchell, Director of Operations of SRC, will serve as the Co-Investigator. SRC will collect 1600



Dr. Tamara Leech



Anne Mitchell

landline and 400 cell phone samples to report on attitudes and behaviors related to smoking in Indiana. Through the Adult Tobacco Survey (ATS), data is collected on tobacco use, smoking cessation, secondhand smoke exposure, risk perception and social influences, health influences, and tobacco-related policy issues. The Indiana ATS will consist of core questions used nationally in all state surveys, CDC-recommended supplemental questions, and questions developed specifically for Indiana to evaluate its own tobacco control programs. The project will be completed by July 31, 2013.

SRC is a center within the [School of Liberal Arts](#) that provides research services for

private, governmental, and non-profit organizations and academic clients. SRC services include research design, compliance, questionnaire construction, data collection, data analysis, weight construction, and reporting. It specializes in health-related research and research with hard-to-reach populations. For more information visit [liberalarts.iupui.edu/src](http://liberalarts.iupui.edu/src).

## OVCR EVENTS AND WORKSHOPS

### Working with Industry on Applied Research & Creative Activity

When: Wednesday, April 24, 2013 | 1:00 PM -2:30 PM

Where: University Library, Room 1126

This session will provide participants with an overview of services provided by the Office of the Vice Chancellor for Research that help link faculty researchers to industry partners and collaborations. Although this information session is geared toward new to mid-career faculty/researchers with a desire to work with industry, all faculty are welcome to attend. The following topics will be discussed.

- Research vs. applied research
- Benefits of collaboration
- How much industry research is currently being conducted at IUPUI
- What industry looks for in applied research
- What industry looks for in an applied researcher

[Click here to register](#)

## OTHER EVENTS AND WORKSHOPS

### Dental School Research Day Open to Campus April 15

Mary MacDougall, Ph.D., will present "Probing the Lessons Learned from Dental Genetic Disorders" at the IU dental school's Research Day, 1:10 to 2:10 p.m. on Monday, April 15, Campus Center 450A-B.

MacDougall is the James R. Rosen Chair of Dental Research, associate dean for research, and director of the Institute of Oral Health Research at the University of Alabama at Birmingham School of Dentistry.

Held 12:45 to 4:30 p.m., Dental Research Day is open to everyone on campus and will feature more than 100 poster presentations and clinical case reports.

### Free Coffee Break Webinar Trainings on Evaluation

[BetterEvaluation](#) and the [American Evaluation Association](#) are teaming up to bring to offer a series of eight Coffee Break Webinars in May. **This series is open to the public.** The speakers represent deep expertise applicable in both domestic and international contexts. The series of eight webinars walks participants through the components of the Rainbow Framework and will include takeaways immediately applicable to your practice:

1. Overview of Rainbow Framework for Evaluation – Irene Guijt
2. Define What Is To Be Evaluated – Simon Hearn

3. Frame the Boundaries of the Evaluation – Patricia Rogers
4. Describe Activities, Results and Context – Irene Guijt
5. Understand Causes of Outcomes and Impacts – Jane Davidson
6. Synthesise Data from One or More Evaluations – Patricia Rogers
7. Report and Support Use of Findings – Simon Hearn
8. Manage an Evaluation – Kerry Bruce

Pre-registration is required. Register for one, some, or all at [http://comm.eval.org/coffee\\_break\\_webinars/CoffeeBreak/BetterEvalSeries](http://comm.eval.org/coffee_break_webinars/CoffeeBreak/BetterEvalSeries)

## 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 ENDOWMENT FOR THE HUMANITIES

**Collaborative Research Grants**: Collaborative Research Grants support interpretive research undertaken by a team of 2 or more scholars, for full-time or part-time activities for periods of a minimum of 1 year up to a maximum of 3 years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. Eligible projects include: research that significantly adds to knowledge and understanding in the humanities; conferences on topics of major importance in the humanities that will benefit scholarly research; archaeological projects that include the interpretation and communication of results (projects may encompass excavation, materials analysis, laboratory work, field reports, and preparation of interpretive monographs); and research that uses the knowledge and perspectives of the humanities and historical or philosophical methods to enhance understanding of science, technology, medicine, and the social sciences. *Application deadline is December 08, 2013.*

### NATIONAL INSTITUTES OF HEALTH

#### **Development & Application of PET & SPECT Imaging Ligands as Biomarkers for Drug Discovery and for Pathophysiological Studies of CNS Disorders (R21)**

The purpose of this Funding Opportunity Announcement (FOA) is to facilitate the development of PET and SPECT probes for molecular targets that are implicated in the pathophysiology of brain and behavioral disorders (e.g., receptors, intracellular messengers, disease-related proteins). The use of radiotracers for imaging molecular events in preclinical and clinical studies is essential for understanding the circuitry that underlies normal brain function and the pathophysiology of brain disorders. The long-term goal of this FOA is to facilitate the broad application of neuroimaging probes that are fit-for-purpose for their intended use in pathophysiological studies, drug discovery/development research, or biomarker development/qualification studies as quantifiable indicators of disease progression and treatment efficacy. Direct costs are limited to \$450K over a 3-year period, with no more than \$175K allowed in any single year. *Deadlines are June 25,*

Oct. 16 & Feb. 16. Funding Opportunity: PA-13-157.

**Innovative Research Methods: Prevention & Management of Symptoms in Chronic Illness (R01)**: This funding opportunity seeks to update the randomized control trial (RCT) design using novel research methods that are practical, innovative, and hold promise for producing more effective outcomes. Novel clinical research designs, applied to symptom management trials, may identify those treatment strategies that best alter the course of symptom burden in chronic illness by addressing the issues of varied treatment responses across patients, subject retention, and adherence to treatment regimens. For example, "sequential multiple assignment randomization trials" (SMART) design have been used successfully to develop dynamic treatment regimens for alcohol, depression and HIV infection but are not widely used in symptom management trials. *Application deadline: June 25 Oct. 25 & Feb. 25. Funding opportunity: PA-13-165.*

## U. S. DEPARTMENT OF JUSTICE

**Testing Geospatial Predictive Policing Strategies**: The National Institute of Justice is seeking applications for research that explore the relationship between theory and geospatial predictive policing strategies. In particular, NIJ is seeking research that explores the relationships and disconnects between current geospatial predictive policing strategies and scientific theories. The goal of the proposed research is to demonstrate how empirical results can be used to improve upon, or change, current theory and practice. This program furthers the Department's mission by sponsoring research intended to provide objective and independent knowledge to meet the challenges of crime and justice, particularly at the State and local levels. *Application deadline: June 17, 2013. Funding Opportunity: NIJ-2013-3456. <https://www.ncjrs.gov/pdffiles1/nij/sl001046.pdf>*

**NOTE:** *All faculty, researchers, and scientists on continuing contracts at IU interested in applying for Department of Defense funding are eligible for assistance by the consulting firm--Cornerstone Government Affairs-- arranged by the Vice President for Research. Those interested in securing assistance from Cornerstone must submit a 2 page summary of their research project and a CV or biosketch to the VP for Research Office at [vpr@iu.edu](mailto:vpr@iu.edu). Prior to submission, the IUPUI Office of the Vice Chancellor for Research is offering assistance with the 2 page summaries. For more information, contact Ann Kratz [akratz@iupui.edu](mailto:akratz@iupui.edu).*

## 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://service.govdelivery.com/service/multi\\_subscribe.html?code=USNSF&custom\\_id=823](http://service.govdelivery.com/service/multi_subscribe.html?code=USNSF&custom_id=823). 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 <https://www.fbo.gov>. 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](mailto: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](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.

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. Please contact [Dee Metaj](#) at 317-278-5644 if you have any questions regarding this list.

IU Authentication is required to view the following attachments:

[IUF Special Handling List and Principal Gifts Review Template](#)

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