

# 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 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.

August 22, 2012

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## FEATURE STORY

### Kubek Receives \$3 Million from Army Anti-suicide Initiative for Nanoparticle Drug Delivery System

Dr. Michael J. Kubek, associate professor of anatomy and cell biology and of neurobiology, was recently awarded a \$3 million research grant from the U.S. Army to develop a nasal spray that provides a quick antidote to suicidal thoughts among soldiers.

The Army-funded research collaboration on suicidal ideation is the latest development in more than three decades of work with thyrotropin-releasing hormone, or TRH, a neurochemical with anti-depressant and anti-suicidal properties.

"These deaths are troubling and tragic," said Dr. Kubek, who helped discover the hormone under investigation. "Today's commonly used anti-depressants can take weeks to have an effect and carry a black box warning label for suicidal ideation in young adults. We aim to develop a quick-acting, easy-to-use, non-invasive system that delivers a compound that's been shown to reduce suicidal thoughts."

The military's interest in TRH developed from a meeting between Dr. Kubek and Navy physician Capt. Neal Naito, who served as the Navy's director of public health before his retirement in October 2011. Dr. Naito was interested in new treatment approaches for traumatic brain injury, post-traumatic stress disorder and suicide.

Since TRH cannot easily cross the "blood-brain barrier" the body uses to protect the brain, Dr. Kubek and colleagues will develop an intranasal nanoparticle drug



Michael J. Kubek, Ph.D.  
Departments of Anatomy and Cell Biology and  
Neurobiology  
School of Medicine

delivery system by which TRH or other neuropeptides could be introduced into the nasal cavity, where olfactory neurons can collect particles directly. The neuropeptides would be incorporated into biodegradable nanoparticles that dissolve at a controlled rate designed to deliver appropriate doses of the drug to the brain over time.

Abraham J. Domb, Ph.D., professor of pharmacology at Hebrew University in Jerusalem, will lead development on an optimum nanoparticle-neuropeptide combination designed to deliver the drug effectively. Clinical trials, which are expected to begin in the second year of the grant, will be directed by IU psychiatry professors Alan Breier, M.D., and Andrew Goddard, M.D., at the [Indiana Clinical and Translational Sciences Institute Clinical Research Center](#) at IU Health University Hospital.

The three-year grant is an Applied Research and Advanced Technology Development Award, part of the Department of Defense's Defense Medical Research and Development Program, funded by the Congressionally Directed Medical Research Program.

## ANNOUNCEMENTS

### **IUPUI Arts and Humanities Institute Announces Artist-in-Residence Lecture: Tim Hardy, "From Shakespeare to Shaw to Sondheim: Theatre for the 21st Century"**

The IUPUI Arts and Humanities Institute is pleased to welcome internationally-acclaimed actor/director Tim Hardy as a 2012 artist-in-residence. Mr. Hardy will present the lecture **"From Shakespeare to Shaw to Sondheim: Theatre for the 21st Century"** on September 6th, 7:30 PM – 9:30 PM, in Eskenazi Hall, Basile Auditorium. He explores our seemingly constant need for drama of one kind or another — stories, theater, film, opera, literature. Concentrating principally on theater, he identifies how drama has changed through the centuries, reflecting the society it serves. By staying relevant to its audiences, theater still succeeds in "holding a mirror up to nature" in such a way that we can both recognize ourselves and be wonderfully surprised and informed.



Tim Hardy, Actor and Director  
Faculty member of the Royal Academy of Dramatic Art

As a professional actor since the mid-sixties, Mr. Hardy argues that if we don't keep an ever-vigilant eye out for lazy, repetitive theatre — and he offers examples — if we don't truthfully and completely re-invent the means whereby we would excite, inform, and delight our audiences, then we are on the short route to what the great director Peter Brook calls "dead theatre." From this there can be no recovery.

Based in London, Mr. Hardy is on the faculty of the Royal Academy of Dramatic Art (RADA) and has performed with the Royal Shakespeare Company (in Peter Brook's *Marat/Sade* and Peter Hall's *Henry V*) and at prestigious theatres across the United Kingdom and Europe. A company member of Opera Music Theatre London, Mr. Hardy has also performed in numerous operas and musical theatre productions including *La Traviata*, *The Magic Flute*, and *Guys and Dolls*. He has narrated over 300 television documentaries, including series for The Discovery Channel and The

History Channel, and his on-camera television work includes roles opposite Ian McKellen and Michael Gambon. Mr. Hardy's extensive directing credits include *Romeo and Juliet*, *Othello*, *Twelfth Night*, *Julius Caesar*, *Twelve Angry Men*, *The Crucible*, *Gaslight*, *Lady Windermere's Fan*, *The Seagull*, *The Arcadians*, and *The Doll's House*.

The lecture is free but space is limited. [To reserve your seat, click here.](#)

This event is co-sponsored by the School of Liberal Arts and The New Oxford Shakespeare at IUPUI.

**Artist-in Residence Performance: Tim Hardy in the Ancient Mariner, A Dramatic Song Cycle Inspired by Samuel Taylor Coleridge**

Friday, September 14, 2012  
8:00PM – 9:30PM  
Crystal Terrace Ball Room, Columbia Club  
121 Monument Circle

[Tickets available here.](#) \$25 general, \$15 students.

The IUPUI Arts and Humanities Institute (IAHI) and Butler University's Jordan College of Fine Art are pleased to present the American premiere of this unique musical program featuring internationally acclaimed performer Tim Hardy of the Royal Academy of Dramatic Art in London, and piano accompaniment by Rebecca Edie.



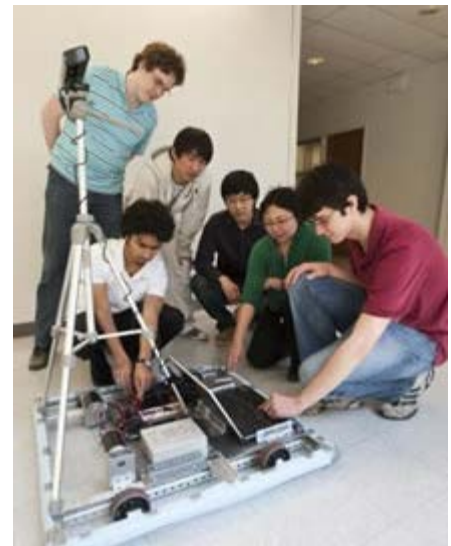
The 2012 artist-in-residence at the IAHI, Tim Hardy has performed with the Royal Shakespeare Company, with the Opera Music Theatre London, and at prestigious theaters across the United Kingdom and Europe. he has narrated more than 300 television documentaries, and his extensive directing credits include *Romeo and Juliet*, *Twelve Angry Men*, and *the Crucible*.

Award-winning composer Geoff Page has created an impressive body of musicals that include *Academy of Death*, *A Christmas Carol*, and *The Signalman*.

**Student Applications Deadline for Multidisciplinary Undergraduate Research Institute Projects – September 10th Deadline**

Students may now apply to participate in the Multidisciplinary Undergraduate Research institute (MURI) for AY 2012-2013. The deadline for student applications for AY 2012-2013 is September 10, 2012; and the application can be found [here](#). Projects will begin on October 5 and continue until the end of April 2013. Details for the eight available projects can be found [here](#).

The next call for MURI proposals from faculty will be for summer of 2013. The call will be issued on September 11, 2012 with a deadline of November 16, 2012. The call will be issued in the [CRL Highlights](#) and [Research Enterprise](#) newsletters as well as through the Undergraduate Research site on Oncourse.



Professor Eliza Du and MURI team

- [Funded MURI Projects for AY 2012-2013](#)
- [MURI AY 2012-2013 Application](#)

## **IUPUI Innovation to Enterprise Showcase & Forum - SAVE THE DATE**

Wednesday, November 28, 2012, 1:00-3:30 pm  
IUPUI Campus Center, CE 450 A, B  
420 University Blvd  
Indianapolis, IN 46202

The Office of the Vice Chancellor for Research (OVCR) and the Indiana University Research and Technology Corporation (IURTC) will host the IUPUI Innovation to Enterprise Showcase & Forum, which will bring together students, faculty, and staff from across the IUPUI campus to present opportunities for collaborative business development—new ventures, R&D collaborations, and commercialization—to potential business community partners and investors. Attendees will take an interactive and in-depth look at more than 30 innovative and entrepreneurial projects arising from the research programs at IUPUI.

If you are a member of the IUPUI research community and want table space at the Showcase to demonstrate your idea, start-up, or innovation, apply now! Participation will be limited to 35 project exhibits that interactively and creatively showcase the most compelling partnering opportunities that the IUPUI community has to offer! Applications are due before 5:00 pm EDT on Friday, September 21, 2012. Fill out the form here:

<https://surveycentral.uc.iupui.edu/iteprojectshowcase.aspx>

For more information or if you have questions please contact:

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# INSTITUTE SPOTLIGHT

## Indiana Translational Sciences Institute Pioneers National Collaboration Capability

Indiana University is again leading the way to better health care by enabling scientists to share research more rapidly and securely over the Internet.

The Indiana Clinical and Translational Sciences Institute (CTSI), of which IU is a founding member, recently became the first health care research institute to be named to the InCommon Federation's Research & Scholarship (R&S) category.

This designation simplifies collaboration by reducing the red tape scientists must wade through to securely share their research findings. Now via the Indiana CTSI HUB website, scientists will be able to quickly and securely share life sciences research with other scientists online, paving the way for health care breakthroughs and cures.

Since its 2008 founding, the Indiana CTSI has been a national leader in fostering scientific collaboration. It was the first institution supported by the Clinical and Translational Sciences Awards (CTSA) to advance federated logins. The CTSA program is funded by the National Institutes of Health through its National Center for Advancing Translational Sciences. Federated logins let researchers quickly and securely access resources with their own university credentials.

The Indiana CTSI was also the first institution of any kind to support collaboration for all of the Committee on Institutional Cooperation (CIC) institutions, a consortium of the top-tier research universities of the Big Ten Conference and the University of Chicago.

The Indiana CTSI's new R&S designation, coupled with its use of federated logins, boosts its standing as a major player in the discovery of new therapies for better health.

"The web can support collaborations, but without identity management capabilities like this that make them rapid and secure, their usefulness for medical research has been limited," said Dr. William Barnett, director of information infrastructures for the Indiana CTSI and director of science community tools for the Pervasive Technology Institute at Indiana University.

"The ability to share information online using existing usernames and passwords has allowed clinicians and scientists from across our partner institutions to collaborate more easily and efficiently," said Dr. Anantha Shekhar, director of the Indiana CTSI and IU associate dean for translational research. "I'm proud that Indiana CTSI has played a role in proving how research can be accelerated using this new technology."



Anantha Shekhar, M.D., Ph.D.  
Director of the Indiana Clinical and Translational Science Institute



William Barnett, Ph.D.

# FACULTY SPOTLIGHT



# Health Study Reinforces What Poets and Songwriters Have Long Known

A new study reinforces what poets and songwriters have long known: Events such as ending a romantic relationship, if they lead to depression, can break your heart.

Using data from a large-scale, long-term study -- the Coronary Artery Risk Development in Young Adults, or the CARDIA Study -- Dr. Jesse C. Stewart, an associate professor in the Department of Psychology in the School of Science, and his co-authors searched for two things:

- Which symptoms of depression increase the risk for heart disease?
- Mechanistically, how do these symptoms impact heart health?

Their findings are reported in a paper, "[Depressive Symptom Clusters and 5-Year Incidence of Coronary Artery Calcification](#)," that was printed in the July 24 issue of the No. 1 cardiology journal, *Circulation*, published by the American Heart Association.



Jesse C. Stewart, Ph.D.  
Department of Psychology  
School of Science

"Depression has long been thought to be a risk factor for heart disease, like high blood pressure or high cholesterol. "Thirty years of research has shown that someone who is depressed today is more likely to have a heart attack in the future than someone who is not depressed," Dr. Stewart said.

But efforts by health care providers to help reduce the risk of heart disease among those suffering from depression have not been successful, compared to efforts such as those that help people with high blood pressure improve their heart health, Dr. Stewart said. One issue is health care providers haven't known which of the symptoms of depression to target to reduce heart disease risk.

The four clusters of depression symptoms are emotional symptoms, such as depressed mood and lack of pleasure or interest in life; cognitive symptoms, such as difficulty concentrating; behavioral symptoms, such as slowing of movement or speech; and somatic symptoms, such as fatigue and sleep disturbance.

The question was which cluster is the most cardiotoxic?

Dr. Stewart said this new study set out to identify the cardiotoxic culprit, in terms of which cluster best predicts the development of calcium deposits in the arteries of the heart, a condition that substantially increases the risk of a future heart attack.

Examination of the data on 2,171 middle-aged adults (58 percent female, 43 percent African-American) from the CARDIA Study showed that the emotional symptoms cluster was more cardiotoxic than the other clusters.

"In a large and racially diverse sample of middle-aged community members, we observed that the relationship between elevated depressive symptoms and incident coronary artery calcification was driven largely by the emotional symptoms cluster," Dr. Stewart said. "The observed relationship was independent of age, sex, race, education and antidepressant use, and was similar in magnitude across gender and racial groups."

The findings are contrary to a trend in research literature suggesting that the somatic symptoms may be the most cardiotoxic.

He said that stressful life events, such as divorce and job loss, can sometimes lead

to a major depressive episode, where an individual feels down and depressed and/or loses interest or pleasure in almost all activities most of the day, nearly every day, for at least two weeks.

The examination of the data yielded some information, but not a complete picture about how emotional symptoms translate to physical problems that affect heart health. Additional studies are needed to identify all of the processes at work.

It was clear, however, that increased smoking partially explains the elevated heart disease risk of individuals experiencing the emotional symptoms of depression, Dr. Stewart said. Smoking is a well-established cardiovascular risk factor.

The results of the study suggest that a health care provider who is concerned about the heart disease risk of a depressed patient should make sure the treatment is effective at reducing the emotional symptoms. If the depressed patient is a smoker, the provider should also take steps to help the patient stop smoking.

Co-authors of the paper are: Desiree J. Zielke and Misty A.W. Hawkins, IUPUI; David R. Williams, Harvard University; Mercedes R. Carnethon, Northwestern University School of Medicine; Sarah S. Knox, West Virginia University School of Medicine; and Karen A. Matthews, University of Pittsburgh School of Medicine. The CARDIA Study is funded by the National Heart, Lung and Blood Institute of the National Institutes of Health.

## STUDENT SPOTLIGHT

### Math Undergraduates Visit IUPUI for Mathematical Biosciences Institute Research

Three undergraduate mathematics students from programs across the country recently completed an eight-week research project with the School of Science at IUPUI as part of an interdisciplinary research program coordinated by the Mathematical Biosciences Institute (MBI) in Columbus, Ohio.

IUPUI was one of six institutions to host students in the program and provide faculty mentors to help guide their research efforts. MBI is funded and supported by the National Science Foundation.

"I really enjoyed my experience, and I learned a lot," said Jessica Solfest, a math major from the College of St. Benedict and St. John's University in Minnesota. "I came here not knowing much about research, but now I feel much more comfortable establishing research goals and processes for particular projects."

While at IUPUI, Solfest studied signaling and rhythmic relationships between heartbeats and the respiratory system. She one day hopes to work in kinesiology.

Victoria Gershuny, a senior at the University of Colorado, sees her future in oncology. Her project involved studying the blood flow to the eyes of patients with glaucoma.

"This program allowed me to really see how both of my majors, chemical engineering and mathematics, can work together as part of a bioscience research project. I really liked being able to experience not only the academic labs on



campus but also the medical labs at the (Indiana University) med school and how the two work together," she said.

MBI is a research-focused educational organization that caters to both undergraduate and graduate students studying mathematical modeling and bioscience. The summer undergraduate program accepted 20 students from across the country to participate in on-site research experiences with peers and faculty mentors at partner universities such as IUPUI.

Supporting undergraduate research is a key component of the educational mission for the School of Science.

Linh Huyn hopes to continue her research well after she finishes her degree in mathematics at Texas Women's University. She is planning to seek her Ph.D. in applied mathematics.

"This whole time here was amazing," said Huyn, who studied the influence of higher potassium levels on neuron behavior using the Hodgekin-Huxley model, a mathematical model that describes how action potentials in neurons are initiated.

"I learned to keep questioning when problems come up and how much your own curiosity is important when doing research," said Huyn, who credited her faculty mentor for helping her make progress with her research.

Each student was paired with at least one faculty mentor from the Department of Mathematical Sciences. Participating faculty members included Drs. Giovanna Guidoboni, Julia Arciero, Leonid Rubchinsky, Alexey Kuznetsov and Yaroslav Molkov.

"Because these students were recruited nationwide, this gives us a chance to have the same exposure as programs at some of the larger schools across the country," Dr. Guidoboni said. "Our urban location allowed us to give these students the experience of working with hospitals and local industry. They can now go back to their institutions and think positively about IUPUI."

The math department held a reception for the students to celebrate the completion of their research experience and to interact with faculty.

Other universities to host MBI students included Arizona State University, University of Minnesota, University of Houston, University of Pittsburgh and Virginia Tech University.

The three students will leave IUPUI and travel back to MBI in Columbus, Ohio, to present the findings of their research. They then will complete their degrees and begin deciding on a graduate school to continue their education.



## TRANSLATIONAL IMPACT

### Comparing the Effectiveness of Different Techniques of Hip Replacement Surgery

Dr. Rafael Bahamonde's research explores the effectiveness of different techniques of hip replacement surgeries and provides a scientific evaluation of the claims that one type of surgery is better than other in terms of recovery and function.



Specifically, Dr. Bahamonde sought to determine whether total hip arthroplasty (THA), performed with minimally invasive surgical (MIS) approaches, results in less muscle damage and faster recovery. Comparative gait analysis was performed on patients who underwent THA using 1 of 3 different MIS approaches. All three surgical approach groups demonstrated overall improvements in measured gait parameters at the 6-week postoperative analysis. The results of this gait analysis fail to demonstrate any significant advantage of the 2-incision approach over the posterior approach in gait parameters and early functional recovery. Furthermore, the anterolateral approach demonstrates a gait pattern consistent with abductor muscle injury in the early recovery period, despite the use of a minimally invasive approach.



Rafael Bahamonde, Ph.D., FACS, FISBS  
Professor and Chair, Department of Physical Education  
School of Physical Education & Tourism Management

Professor Bahamonde's exploration of effective hip replacement techniques demonstrates how IUPUI's faculty members are TRANSLATING their RESEARCH INTO PRACTICE. For more information visit [www.trip.iupui.edu](http://www.trip.iupui.edu).

## OVCR INTERNAL GRANT DEADLINES

**Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER):** The EMPOWER program supports IUPUI faculty who are historically underrepresented and/or excluded populations in their discipline or area of scholarship and historically denied admission to higher education or that discipline, 1) to become successful in sponsored research and scholarly activity, and 2) to achieve significant professional growth and advancement. The program sustains mentorship opportunities through the EMPOWER Grant Program, supporting achievement of excellence in research and scholarly activity, and optimal attainment of academic career goals and objectives. The next EMPOWER application deadline is **September 5, 2012**. For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

***Funding Opportunities for Research Commercialization and Economic Success (FORCES)***

The FORCES program is designed to support IUPUI researchers in the successful transformation of their research findings into commercially viable outcomes. The key goals of FORCES are to support: 1) realization of short-term projects that will enhance commercial value of IUPUI intellectual property assets, by facilitating commercialization of inventions, technologies, or other intellectual property derived from existing research projects, and 2) development of research initiatives that show great promise for commercialization of the research outcomes. The next RTR application deadline is **September 15, 2012**. For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

**RESEARCH SUPPORT FUNDS GRANT (RSFG):** The Research Support Funds Grant (RSFG) program is designed to enhance the research mission of IUPUI by supporting research projects and scholarly activities that are sustainable through external funding. The next RSFG application deadline is **October 15, 2012**. For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

**INTERNATIONAL DEVELOPMENT FUND (IDF) GRANT:** The IDF grant was

developed to enhance the international research and scholarly activity focus of the IUPUI academic mission. Generally, the IDF grant serves as venture capital to stimulate additional funding for international research and scholarly activity, which have strong potential to generate indirect cost recovery from extramural sources. The next IDF application deadline is **November 15, 2012**. For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

## OVCR EVENTS AND WORKSHOPS

### OVCR Research Orientation

When: Wednesday, August 29, 2012 | 10:00 AM-12:00 PM  
Where: University Library, Room 1126

This session will provide an overview of research resources, services and support offered to IUPUI faculty by the Office of the Vice Chancellor for Research. Participants will also meet with some current IUPUI faculty members to hear how they were able to achieve success in the early stages of their tenure at IUPUI.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2916>

### OVCR Research Orientation (Repeat Session)

When: Thursday, September 6, 2012 | 1:00 PM-3:00 PM  
Where: University Library, 1126

This session will provide an overview of research resources, services and support offered to IUPUI faculty by the Office of the Vice Chancellor for Research. Participants will also meet with some current IUPUI faculty members to hear how they were able to achieve success in the early stages of their tenure at IUPUI.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2917>

### Preparing Science & Engineering Research Proposals

When: Tuesday, September 11, 2012 | 11:00 AM-12:30 PM  
Where: University Library, Room 1126

This session will center on the essentials of building a successful grant proposal for agencies that fund the sciences and engineering. The necessity for knowing who will review your proposal, budget limitations, and how to communicate complex ideas in a limited space will be discussed.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2918>

### Finding Funding

When: Thursday, September 13, 2012 | 10:00 AM-11:30 AM  
Where: University Library, Room 0106

This session will provide an overview of the various types of external funding sources, identify tools to locate funding opportunities, explain how to design a funding search, and demonstrate several knowledge management systems that contain thousands of funding opportunities available through the university subscription.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2919>

### Nine Golden Rules to Succeed in Research and Scholarship

When: Friday, September 21, 2012 | 12:00 PM-2:00 PM  
Where: University Library, Room 2115 E

This session will reveal the Nine Golden Rules on how to succeed in research and scholarship. It is focused toward new and early career investigators; however, mid career faculty should find information of interest as well.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2920>

**COS PIVOT (Finding Funding & Collaborators)**

When: Tuesday, September 25, 2012 | 2:00 PM-3:30 PM  
Where: University Library, Room 0106

Indiana University is a member of COS Pivot. Whether your work is in the arts or the sciences, COS Pivot funding and expertise search tools and services can help support and advance your research and scholarly activity. Learn how to take full advantage of these services and help our institution promote its work. This event is a hands-on open lab session.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2921>

**Preparing Arts & Humanities Proposals**

When: Thursday, October 11, 2012 | 1:00 PM-2:30 PM  
Where: University Library, Room 1126

This workshop will target the essentials of developing a successful grant proposal in the arts and humanities. Wide-ranging topics will be covered from developing a strong foundation for your application to key components of the narrative, the basic budget, writing styles, and interpreting agency guidelines.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2922>

**Nine Golden Rules to Succeed in Research and Scholarship**

When: Friday, October 12, 2012 | 12:00 PM-2:00 PM  
Where: University Library, Room 1126

This session will reveal the Nine Golden Rules on how to succeed in research and scholarship. It is focused toward new and early career investigators; however, mid career faculty should find information of interest as well.

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2923>

**International Development Fund Grant Information Session**

When: Monday, October 22, 2012 | 1:00 PM-2:30 PM  
Where: University Library, Room 1126

This session will provide participants with an overview of the International Development Fund internal funding mechanism for IUPUI faculty. It will also include information on upcoming deadlines, how to apply, the review process, and post award requirements. Ample time will be allocated for answering questions. This internal funding opportunity is administered through the Office of the Vice Chancellor for Research (OVCR).

Register: <http://crl.iupui.edu/Events/eventsRegistration.asp?id=2959>

**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.

**Grants and Awards - June 2012**

PI	Agency	Project Title	School	Department	Total
CORNETTA,KENNETH G.	NATIONAL HEART, LUNG AND BLOOD INSTITUTE	National Gene Vector Biorepository and Coordinating Center at Indiana University (NGVBCC)	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$4,574,045
KUBEK,MICHAEL J.	U.S. DEPARTMENT OF DEFENSE	Intranasal Delivery of Biodegradable Neuropeptide Nanoparticles in the Treatment of Combat-Related Physical and Psychological CNS Co-Morbidities	MEDICINE	ANATOMY & CELL BIOLOGY	\$2,945,979
SHEKHAR,ANANTHA	NATIONAL INSTITUTE OF MENTAL HEALTH	Neurobiology of Anxiety and Panic Disorders	MEDICINE	PSYCHIATRY	\$1,967,961
MESLIN,ERIC MARK	FOGARTY INTERNATIONAL CENTER	Indiana University-Moi University Academic Research Ethics Partnership	MEDICINE	ETHICS CENTER	\$1,250,000
SUN,YANG	NATIONAL EYE INSTITUTE	Glaucoma Pathogenesis of Oculocerebrorenal syndrome of Lowe	MEDICINE	OPHTHALMOLOGY	\$1,023,530
MARRERO,DAVID GRAYSON	NORTHWESTERN UNIVERSITY	Community Translation of a Lifestyle Intervention to Improve Health in Diabetes	MEDICINE	ENDOCRINOLOGY	\$312,936
FOROUD,TATIANA M.	FOUNDATION FOR PERIPHERAL NEUROPATHY	Peripheral Neuropathy Research Registry	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$208,594
SCHILLING,KATHERINE	CANCERCARE INC	WECareWeb-Enabled Support for Cancer Caregivers	LIBRARY & INFORMATION SCIENCE	LIBRARY & INFORMATION SCIENCE	\$130,000
JACKSON,RICHARD DENNIS	UNIVERSITY OF MICHIGAN	Predicting Caries Risk in Underserved Toddlers in Primary Healthcare Settings	DENTISTRY	DENTISTRY-ORAL HEALTH	\$121,199
LEECH,TAMARA GOLDEN JOHNSON	HEALTH AND HOSPITAL CORPORATION OF MARION COUNTY	Community Health Needs Assessment 2012	LIBERAL ARTS	INST FOR RESEARCH ON SOC ISSUE	\$119,602
ROHR-KIRCHGRABER,THERESA MARIE	INDIANA STATE DEPARTMENT OF HEALTH	Pregnant and Parenting Teens	MEDICINE	OBSTETRICS AND GYNECOLOGY	\$117,901
MACKEY,JASON SCOTT	INDIANA UNIVERSITY HEALTH	Outcomes and Processes of Care in Intracerebral Hemorrhage	MEDICINE	NEUROLOGY	\$100,000

Grants and Awards - July 2012

PI	Agency	Project Title	School	Department	Total
MCGUIRE, LISA E.	STATE OF INDIANA	Proposal for BSW and MSW Education through the Indiana Child Welfare Education and Training Partnership	SOCIAL WORK	SOCIAL WORK	\$4,803,454
MCATEER,JAMES ALEXANDER	NATIONAL INSTITUTE OF DIABETES, DIGESTIVE & KIDNEY	Strategies for Improved Shock Wave Lithotripsy	MEDICINE	ANATOMY & CELL BIOLOGY	\$2,912,647
BOUSTANI,MALAZ AHMED	CENTERS FOR MEDICARE AND MEDICAID SERVICES	Dissemination of the Aging Brain Care Program	MEDICINE	GENERAL INTERNAL MEDICINE	\$2,895,139
OBOUKHOV,ALEXANDRE	NATIONAL HEART, LUNG AND BLOOD INSTITUTE	TRPC Channels in the Metabolic Syndrome	MEDICINE	CELLULAR & INTEGRATIVE PHYSIO	\$2,646,799
KACENA,MELISSA ANN	NATIONAL INSTITUTE ARTHRITIS MUSCULOSKELETAL SKIN	Thrombopoietin: A novel regulator of bone healing	MEDICINE	ORTHOPAEDIC SURGERY	\$1,789,000
RAWL, SUSAN M.	NATIONAL INSTITUTE OF NURSING RESEARCH	Indiana University: Training in Behavioral Nursing	NURSING	NURSING	\$1,583,540
RODD, ZACHARY A.	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	Biological Basis of Conditioned Cues Effects on EtOH-Seeking	MEDICINE	PSYCHIATRY	\$1,560,000
DESTA,ZERUESENAY	NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES	CYP2B6 Genetic Variations and Drug Interactions	MEDICINE	CLINICAL PHARMACOLOGY	\$1,540,166
MCGUIRE,LISA E.	INDIANA DEPARTMENT OF CHILD SERVICES	Child Welfare Leadership Academy for Development of Leaders Within Child Welfare	SOCIAL WORK	SOCIAL WORK	\$1,240,819
WILKES,DAVID S.	THE ROBERT WOOD JOHNSON	Harold Amos Medical Faculty Development Program	MEDICINE	DEAN'S OFFICE-MEDICINE	\$686,564

	FOUNDATION	(AMFDP)			
ALFREY,KAREN	NATIONAL SCIENCE FOUNDATION	CLEAR Scholars in Engineering	E&T	BIOMEDICAL ENGINEERING	\$600,000
MARKAND,OMKAR N	INDIANA FAMILY AND SOCIAL SERVICES ADMINISTRATION	Epilepsy Clinic and Services	MEDICINE	MEDICINE	\$352,194
DREIFUERST,KRISTINA THOMAS	THE ROBERT WOOD JOHNSON FOUNDATION	Exploring the State of Doctoral Education: Implications for the Nursing Faculty Shortage	NURSING	NURSING	\$300,000
ALLOOSH,MOUHAMAD	MERCK SHARP & DOHME RESEARCH LABORATORIES	Pathogenesis of hypertension in metabolic syndrome Ossabaw swine	MEDICINE	CELLULAR & INTEGRATIVE PHYSIO	\$265,974
IMPERIALE, THOMAS F.	AMERICAN SOCIETY FOR GASTROINTESTINAL ENDOSCOPY	Mentored research to optimize yield, effectiveness, and quality of endoscopy	MEDICINE	GASTROENTEROLOGY	\$180,000
COUNSELL, STEVEN R.	SCAN FOUNDATION	GRACE Team Care Replication in California	MEDICINE	GENERAL INTERNAL MEDICINE	\$180,000
SAHA,CHANDAN K	NORTHWESTERN UNIVERSITY	Primary Care-Community Partnership to Prevent Diabetes	MEDICINE	DEPT OF BIOSTATISTICS	\$158,275
SCARPINO, PHILIP V.	INDIANA DEPARTMENT OF NATURAL RESOURCES	DHPA Project Review 2012-2013	LIBERAL ARTS	HISTORY	\$116,000
MEYER,JASON	AMERICAN HEALTH ASSISTANCE FOUNDATION	Modeling glaucoma with human pluripotent stem cells	SCIENCE	BIOLOGY	\$100,000
SEARS,CATHERINE RUFATTO	INDIANA UNIVERSITY HEALTH	Combined cisplatin and radiotherapy in non-small cell lung cancer: mechanisms and modifications for synergistic cytotoxicity	MEDICINE	PULMONARY	\$100,000
PATEL,VINIT JASWANT	INDIANA UNIVERSITY HEALTH	Ethics Support for the PICU	MEDICINE	PED-PULM CRITICAL CARE/ALLERGY	\$100,000

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.

HEALTH SERVICES AND RESEARCH ADMINISTRATION

The focus is on research relating to maternal and child health services including services for children with special health care needs, which show promise of substantial contribution to advancement of the current knowledge pool, and when used in States and communities should result in health and health services improvements. Research proposals should address critical Maternal and Child Health (MCH) questions such as public health systems and infrastructure, health disparities, quality of care, and promoting the health of MCH populations, which also support the goals of the Health Resources and Services Administration. Application deadline is September 12, 2012.  
<https://grants.hrsa.gov/webExternal/SFO.asp?ID=65AB5FD7-0D4F-4092-97F1-3EFD398227D9>

NATIONAL ENDOWMENT FOR THE ARTS

The NEA will make awards to support research on how "art works." "Value"-oriented research will measure or otherwise clarify one or more components of how Americans participate in the arts. Such research also may probe the underlying conditions and vehicles for arts participation; for instance, it can examine how key



inputs such as training, education, and infrastructure, directly affect arts creation, arts audiences, or other aspects of arts engagement. Separately, research on "impact" will investigate the direct benefits of arts participation on individuals and/or communities. A variety of possible types of benefits might be explored, whether cognitive, emotional, social/civic, or economic. The NEA also will consider strong research proposals measuring the effects of arts participation on broader-level outcomes, such as new forms of self-expression, new outlets for creative activity, and the overall creative and expressive capacity of U.S. society. Application deadline is November 6, 2012.

<http://www.arts.gov/grants/apply/Research/index.html>

## NATIONAL INSTITUTES OF HEALTH

**2013 NIH Director's Pioneer Award Program (DP1):** The NIH Director's Pioneer Award initiative complements NIH's traditional, investigator-initiated grant programs by supporting individual scientists of exceptional creativity who propose pioneering and possibly transforming approaches to addressing major biomedical or behavioral challenges that have the potential to produce an unusually high impact on a broad area of biomedical or behavioral research. To be considered pioneering, the proposed research must reflect substantially different scientific directions from those already being pursued in the investigator's research program or elsewhere. Application deadline is October 9, 2012. <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-12-015.html>

**2013 NIH Director's New Innovator Award Program (DP2):** The NIH Director's New Innovator (DP2) Award initiative was created in 2007 to support a small number of early stage investigators of exceptional creativity who propose bold and highly innovative new research approaches that have the potential to produce a major impact on broad, important problems in biomedical and behavioral research. Application deadline is October 17, 2012. <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-12-016.html>

**Behavioral Science Track Award for Rapid Transition (B/START) (R03):** The focus is on facilitating the entry of beginning investigators into the field of behavioral science research related to drug abuse. To be appropriate for a B/START award, research must be primarily focused on behavioral processes and research questions. [Standard application dates](#) apply. <http://grants.nih.gov/grants/guide/pa-files/PA-12-251.html>

**Development of Mathematical Cognition and Reasoning and the Prevention of Math Learning Disabilities (R01, R03, R21):** The focus is on innovative, multidisciplinary research on the cognitive, neuroplasticity, genetic and environmental factors involved in math learning and learning disabilities. [Standard application dates](#) apply. <http://grants.nih.gov/grants/guide/pa-files/PA-12-248.html>

**Secondary Analyses and Archiving of Social and Behavioral Datasets in Aging (R03):** The focus is on (1) secondary analysis of data on aging in the areas of psychology, behavioral genetics, economics, demography or (2) archiving and dissemination of data sets. Application deadline is October 19, 2012. <http://grants.nih.gov/grants/guide/rfa-files/RFA-AG-13-004.html>

**Ethical Issues in Research on HIV/AIDS and its Co-morbidities (R01, R21):** The focus is on ethical issues in research relevant to populations with HIV and associated co-morbidities, and populations at high risk of HIV acquisition. The bioethics projects supported through this program announcement will focus on at least one of the following three goals: 1) Development of the empirical knowledge base for human subjects protection and ethics standards in HIV/AIDS research; 2) Development of conceptual bioethics approaches to advance scholarship on difficult ethical challenges in HIV/AIDS research; 3) Supporting the integration of bioethics work with ongoing research in HIV/AIDS. Application deadline is January 7, 2013. <http://grants.nih.gov/grants/guide/pa-files/PA-12-244.html>

## NATIONAL SCIENCE FOUNDATION

**Biomechanics and Mechanobiology (BMMB):** The BMMB Program supports fundamental research in biomechanics and mechanobiology. An emphasis is placed on multiscale mechanics approaches in the study of organisms that integrate across molecular, cell, tissue, and organ domains. The relationships between mechanical behavior and extracellular matrix composition and organization are of interest. In addition, the influence of *in vivo* mechanical forces on cell and matrix biology in the histomorphogenesis, maintenance, regeneration, and aging of tissues is an important concern. Funded projects may include theoretical, computational, and experimental approaches. Application deadline is October 1, 2012.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13523&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13523&org=NSF&sel_org=NSF&from=fund)

## 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.

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](mailto:bsbosch@indiana.edu).

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

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