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INSIDE THIS ISSUE:

- Feature Story
- Announcements
- Center Spotlight
- Faculty Spotlight
- Student Spotlight
- Translational Research Impact
- In Memoriam
- OVCR Internal Grant Deadlines
- Other Internal Grant Deadlines
- OVCR Events and Workshops
- Other Events and Workshops
- Current External Funding Opportunities
- Identifying Funding Opportunities

FEATURE STORY

Researchers at IUPUI Join Eurozone Project to Find Solutions for Phantom Limb Pain

An IUPUI biomedical engineer and clinical researchers at the Indiana University School of Medicine have joined a consortium of 12 clinical, industrial and academic institutions that have begun a four-year, \$8.1 million research project funded by the European Union to find new solutions to combat phantom limb pain.

Dr. Ken Yoshida, an associate professor in the School of Engineering and Technology, and Dr. James Malec, a professor in the IU School of Medicine Department of Physical Medicine and Rehabilitation are the only researchers working on this effort in the U.S. The other researchers are based in Europe.







"I hope this will contribute to the development of an effective treatment for a currently untreatable condition," Dr. Yoshida said. "A treatment would constitute a major impact for those afflicted by phantom limb pain."

Up to 80 percent of amputees report the sensation that the lost body part is still present. Throbbing, piercing and needles sensations are among the most commonly used descriptions of pain in amputees.

Dr. Yoshida recalled one amputee who had continuous pain while he was awake. That person rated his pain nine on a scale of 0 to 10, with 10 being the most intense pain imaginable.

"This is a lot of pain which the individual chose to endure because he didn't want to cloud his mind by taking pain medication," Dr. Yoshida said.

The research project will develop and assess a noninvasive sensory feedback solution and an invasive, implanted sensory feedback solution that could provide long-term or permanent solutions to control or alleviate phantom limb pain.

Drs. Yoshida and Malec will lead the clinical research on the instrumentation developed by Dr. Yoshida and his European consortium partners for the noninvasive surface application of electrical stimulation sensory feedback, drawing upon his previous work developing an electrode system used to deliver minute electrical impulses.

Dr. Yoshida also will be responsible for developing a common method of assessing and delivering various interventions to be tested in this project so the information and volunteer experiences gathered from the various partners can be compared, combined and analyzed.

If efficacy is demonstrated, the Europeans are interested in exploring the U.S. medical device market, Yoshida said. Part of his charge, Yoshida said, is "to run a protocol that allows documentation on what we've done toward FDA approval. Our biomedical engineering department has strength in that."

Dr. Yoshida is working with Dr. Malec and other staff in the IU School of Medicine Physical Medicine and Rehabilitation and the Rehabilitation Hospital of Indiana to test the noninvasive device on a clinical population. The clinical trial will begin next year and be conducted in the Neuroscience Center of Excellence on the Methodist Hospital campus.

ANNOUNCEMENTS

Acclaimed Presidential Inaugural Poet and Practicing Engineer to Headline 2014 IUPUI Research Day Celebration of Research and Creative Activities

Hundreds of participants will convene to share their research and creative activity on Friday, April 11, during IUPUI Research Day. The annual event will take place from 9:30 a.m. to 3:00 p.m., in the IUPUI Campus Center, 420 University Blvd. The IUPUI Office of the Vice Chancellor for Research is hosting the event as a celebration of IUPUI's multifaceted and vanguard research and creative activities portfolio.

IUPUI Research Day events begin in the morning with presentations by the 2014 Research Frontiers Trailblazer Award winners, followed by a student presentation, and the keynote presentation by Mr. Richard Blanco, President Obama's 2013 Inaugural Poet. Born in Madrid and raised in Miami, Blanco earned a B.S. in civil engineering and an M.F.A. in creative writing from Florida International University. A practicing engineer and writer, Blanco has taught at Georgetown University and American University, among other institutions. His books, in order of publication, are: City of a Hundred Fires (1998), Directions to the Beach of the Dead (2005), Looking for the Gulf Motel (2012), One Today (2013), Boston Strong (2013), and For All of Us, One Today: An Inaugural Poet's Journey (2013). Blanco served as the fifth inaugural poet of the United States, performing the original poem "One Today."



Richard Blanco Acclaimed Cuban-American Poet President Obama's 2013 Inaugural

Other IUPUI Research Day activities include poster sessions featuring undergraduate, graduate and professional student poster presentations coordinated by the <u>Center for Research and Learning</u>.

In addition, faculty research poster presentations will highlight the groundbreaking research conducted on and beyond the IUPUI campus, including a community showcase coordinated by the <u>IUPUI Solution Center</u> and <u>The Center for Translating Research Into Practice (TRIP)</u>. For poster abstract guidelines and submission instructions, go to http://research.iupui.edu/events/researchday2014/abstracts.php.

To allow for more meaningful engagement during this year's event, faculty are invited to participate in a facilitated round table discussion on one of the "IUPUI Grand Challenge Initiative: Urban Health and Wellbeing" topics. They are: Environmental Sciences, Social Networks, Public Health/Medicine, Access to Healthcare, Economic Inequality and Quality of Life. Lunch will be provided at each table, so faculty should register soon as reservations are first come/first served.

Also new this year is "Jag Talks", a series of short but dynamic presentations that illuminate the breadth of research and creative activity happening at IUPUI and beyond. Jag Talks is open to all Research Day attendees.

IUPUI Research Day provides an opportunity for IUPUI faculty, staff and students, and their academic, industrial and governmental partners, along with the broader community, to learn how IUPUI impacts lives through innovation and creativity, to explore new research collaborations, and to lay the foundation for new

partnerships.

For additional details, visit http://research.iupui.edu/events/researchday2014/index.php.

Call for 2014 IUPUI Research Day Poster Abstracts – DEADLINE: MARCH 17





The Office of the Vice Chancellor for Research invites faculty, post doctoral fellows, professional students, graduate students, and staff to submit abstracts for posters to be presented at the 2014 IUPUI Research Day, April 11. Plan now to have your poster included!

Nearly 300 posters will be selected and presented to help enrich the attendee experience. The poster sessions will highlight the diverse research enterprise at IUPUI and share the latest information about current innovations and creative activity happening across campus and beyond. Participants will not only learn more about IUPUI's vast research enterprise, but will potentially explore new collaborations and lay the foundation for new partnerships.

Guidelines for Submission

- Abstracts will be competitively selected for poster presentation on the basis of scholarship, research and creative activity.
- There is no limit on the number of abstracts you may submit, but only one will be accepted.
- Accepted poster abstracts will be published as received on the Research Day website unless specified otherwise on the submission page.
- Poster sessions are 90 minutes.
- Presenters are responsible for setting up and taking down posters at designated times.
- Posters may be landscape or portrait. Backer boards 40"x60" are provided.
- Display tables and electrical outlets are available for select presenters and must be pre-approved.
- Submitting an abstract does not register you for Research Day. Registration instructions will be included in your acceptance email.

Key Dates

- March 17, 2014: Abstracts due
- March 24, 2014: Presenters notified of status of their submission

Abstract Format Title

Authors Affiliations

Indiana University-Purdue University Indianapolis

- No limit on title length.
- List authors and their affiliations in the style appropriate for your discipline.
- Center justify the heading.
- The abstract should be no more than one page.

Submit your abstract here: http://go.iu.edu/9Kr. You will receive an automated response that your abstract has been received.

Richard Blanco Poetry Reading

THURSDAY, APRIL 10 7:30 p.m.

Herron School of Art and Design Basile Auditorium 735 West New York Street

Born in Madrid and raised in Miami, Blanco earned a B.S. in civil engineering and an M.F.A. in creative writing from Florida International University. A practicing engineer and writer, Blanco has taught at Georgetown University and American University, among other institutions. His books include Directions to the Beach of the Dead (2005), Looking for the Gulf Motel (2012), Boston Strong (2013), and For All of Us, One Today: An Inaugural Poet's Journey (2013). In 2013, Blanco served as the fifth inaugural poet of the United States, performing the original poem "One Today."



This poetry reading is co-sponsored by the School of Liberal Arts Department of English Spring Louise Reiberg Reading Series and by the Office of the Vice Chancellor for Research as part of 2014 IUPUI Research Day, which will take place on April 11 (9:30 am - 3:00 pm), in the IUPUI Campus Center.

IUPUI Translating Research into Practice (TRIP) Keynote Address by Dean Jay L. Hess, IU School of Medicine

Speeding the Clinical Translation of Discoveries

When: 5 p.m., Thursday, March 13, 2014

Where: Room 450C, IUPUI Campus Center, 420 University Boulevard.

This annual address features IU School of Medicine Dean Jay Hess, one of the nation's leaders in epigenetics of leukemia. In his address, 'Speeding the Clinical Translation of Discovery,' Dr. Hess will share some of his experiences in early stage drug discovery in academia and in establishing sequencing-based diagnostics to improve care for cancer patients. As the genetic abnormalities that underlie cancer are being defined, new opportunities arise to develop more targeted and effective therapies, however bottlenecks remain in clinical translation.

Dr. Hess became the 10th Dean of the IU School of Medicine (IUSM) and Vice President for University Clinical Affairs at Indiana University on September 1st, 2013. He joined IUSM after eight years at the University of Michigan, where he made major strides in advancing translational research, pathology informatics and sequencing-based diagnostics.



Dean Jay L. Hess, M.D., Ph.D., MHSA

At its core, the IUPUI Center for Translating Research Into Practice illustrates and fosters interdisciplinary and cross-disciplinary research targeting goals which work toward the betterment of people's lives across communities, our state, and beyond. The faculty members on the IUPUI campus are making a difference to farmers, manufacturers, the service industry, our waterways, policy makers, educators, and to the health and well-being of our citizens through their focus on translational research. Their translational research takes knowledge generated from scientific inquiry and humanistic scholarship and transforms that knowledge into practices and solutions.

The TRIP Keynote Address will be held at 5 PM on Thursday, March 13, 2014 in the IUPUI Campus Center Room 450-C. The event is free and open to the public. Registration is not required however please RSVP to allow for adequate planning. Parking is available in the adjacent Vermont Street Garage for a fee. For more information, visit http://www.trip.iupui.edu/events or contact the Center for Translating Research Into Practice at ctrtrip@iupui.edu. Register here now.

School of Medicine Professor Honored

Dr. Irina Petrache has received a Harrington Scholar-Innovator Award, one of 11 awarded nationwide by the Harrington Discovery Institute recognizing physician-scientists whose research has the potential to change the standard of care. Dr. Petrache, who is the Dr. Calvin H. English Professor of Medicine and professor of biochemistry and molecular biology at the Indiana University School of Medicine, has developed a therapy for patients with chronic obstructive pulmonary disease or COPD.



2014 Ideas Solving Social and Economic Challenges (ISSEC) Irina Petrache, M.D. Student Pitch Competition

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The Office of the Vice Chancellor for Research will host its third annual Ideas Solving Social and Economic Challenges Competition (ISSEC). The competition will be held in the IUPUI Campus Center Theater, from 3:30 pm to 5:30 pm on Thursday, March 6, 2014.

ISSEC encourages and rewards student innovation for ideas with potential to make a positive change in the world. Join the audience to support and interact with IUPUI students trying to make a difference! In addition to three prizes awarded by a panel of judges, the audience will participate in the excitement by voting for one idea to win the "Audience Choice" award of \$1,000. Register to attend at https://crm.iu.edu/CRMEvents/ISSECCompetition/.

To see the past event entries & winners, go to http://www.crl.iupui.edu/issec/

Questions can be directed to Karen White at kfwhite@iupui.edu or (317) 274-1083.

National Science Foundation Requirement: Responsible Conduct of Research Program

The National Science Foundation (NSF) requires all undergraduate students, graduate students and post-docs successfully to complete an institutional program of education in the Responsible Conduct of Research (RCR). This requirement is in place for all applications submitted to NSF <u>effective on January 4, 2010</u>. By submitting an application, the Institution and PI are certifying that all undergraduate students, graduate students and post-docs supported by that grant will successfully complete the RCR program.

After discussion with IU Research Officers, numerous Deans, Associate Deans and Department Chairs, and faculty, the Office of Research Administration has developed a two-part program of education to meet this requirement:

- Successful completion of selected modules of the on-line RCR program hosted by the Collaborative Institutional Training Initiative (CITI) at University of Miami, http://researchadmin.iu.edu/EO/eo_citi.html; and
- Discipline specific mentoring by the PI and lead investigators during the course of the grant

The CITI program offers RCR core modules that are customized to various discipline categories. This is estimated to take between one and a half and three hours to complete:

- Biomedical RCR Course (Biological/Biomedical Sciences)
- Social and Behavioral RCR Course (Social Sciences)
- Physical Science RCR Course (Physical Sciences)
- Humanities RCR Course (Humanities)
- RCR for Engineers (Engineering Sciences)
- RCR for Administrators (Research Administration)

The RCR core areas are authorship and publication, collaborative research, data management, conflict of interest, mentoring, research misconduct, and peer review. Modules covering research with human subjects and research with animals will not be required as these topics are introduced in the overview chapter and if anyone is doing such research, they will be completing the educational program as required by an IRB and IACUC

Questions can be directed to Sofia McDowell at reep@indiana.edu.

Call for 2014 Awards Nominations

The Center for Research and Learning is currently accepting nominations for the 2014 Bowling-Jones-Russo Memorial Undergraduate Research Award, the IUPUI Chancellor's Award for Outstanding Undergraduate Research and the Kathryn J. Wilson Award for Outstanding Leadership and Mentoring of Undergraduate Research. These awards honor undergraduate research and mentoring on campus. All awards include a monetary gift to be given at the ceremony.

For more details, go to http://www.crl.iupui.edu/awards/index.asp.

National Institutes of Health Salary Limitation - Increase to Executive Level II Pay Scale

Effective January 12, 2014, the Executive Level II Pay Scale was increased, therefore increasing the NIH Salary Limitation by 1% to \$181,500.00.

http://grants.nih.gov/grants/guide/notice-files/NOT-OD-14-043.html

The increased salary limitation will be effective on all new and existing DHHS awards beginning January 12, 2014.

More information on the NIH Salary Limitation at Indiana University can be found at the following link:

http://researchadmin.iu.edu/GrantContract/gc-gfo/gfo_salary_cap.html

CENTER SPOTLIGHT

Clinical Study of Antiplaque Chewing Gum for Army

The IU Oral Health Research Institute has begun a \$1.2 million study for the military of the first use of pharmaceutical-grade antiplaque chewing gum in humans. The gum is intended for soldiers in the field.

The yearlong study is being conducted for the Department of Army's Office of the Surgeon General by the institute, which is the Indiana University School of Dentistry's core research facility.

A compound developed by the army is incorporated into the chewing gum. Known as KSL-W, the compound is a novel antimicrobial peptide that kills bacteria. It was designed to help prevent the development of dental plague and reduce periodontal disease and cavities.

A challenge in developing the gum was the adequate release of the pharmaceutical active peptide within 20 minutes of chewing, said Dr. Kai Leung, the Army scientist behind the idea. "Ideally we would like to see more than 70 percent of the active ingredient to be released within that time period."

Another challenge was the stability of the compound in the gum formulations and in saliva.



"We modeled the naturally occurring antimicrobial peptides such as defensins and developed several synthetic peptides that exhibited similar or more potent antimicrobial activity," Leung said. "The pharmaceutical active, KSL-W peptide is one of the more potent molecules showing stability in the oral cavity."

Soldiers in the field just don't spend a lot of time brushing their teeth, said Dr. Domenick T. Zero, director of the Oral Health Research Institute, professor of preventive and community dentistry, and principal investigator of the study. "The hope is that the gum will reduce the amount of plague buildup that occurs when soldiers aren't brushing their teeth, reducing the risk of periodontal disease and dental decay."

The institute will administer the gum to 137 people between the ages of 18 and 64, focusing on the safety and tolerability of single and multiple doses of the compound. It will also test the feasibility of delivering a drug through chewing gum, Zero said. Further studies will be required to determine the extent to which the gum reduces periodontal disease and cavities.

Leung said the IU Oral Health Research Institute was selected to conduct the clinical study because it is one of the best oral health research institutes in the nation.

The Oral Health Research Institute, which focuses on prevention, is one of the largest and most experienced clinical research units in dentistry in the world. It has eight dedicated clinical dental operatories for research purposes. With nine research coordinators, the research unit can handle large studies and run multiple studies at the same time. Melissa Mau, director of the institute's clinical research core, is the project manager for the study and has been instrumental in moving the project forward.

The gum may one day be available to the public but only after additional studies are conducted to collect more safety data after human use. Because the FDA would consider the gum a new drug entity, it would first have to be marketed as a prescribed drug before it could be sold over-the-counter.

FACULTY SPOTLIGHT

IUPUI Health Informatics Professor Receives \$100,000 Grant as an Early-career Scholar

A School of Informatics and Computing faculty member will receive a \$100,000 grant and two years of targeted scientific mentoring after being selected as an early-career scholar by a national center that seeks to improve population health.

Dr. Brian Dixon, an assistant professor in health informatics, will receive the award from the National Coordinating Center for Public Health Services and

Systems Research. The center is housed at the University of Kentucky College of Public Health and funded by the Robert Wood Johnson Foundation. Dr. Dixon is also a research scientist at the Regenstrief Institute and an investigator in residence for the Center for Health Information and Communication, part of the Department of Veterans' Affairs Health Services Research and Development Service.

In a statement, the National Coordinating Center for Public Health Services and Systems Research said the funding and mentorship are designed to speed the discovery of strategies for improving the nation's public health system. Dr. Dixon and the three others who were named early-scholars are expected to become the next generation of national leaders in the field of public health services and systems research.



Brian Dixon, Ph.D.

The scholars' studies investigate innovative public health programs and practices that have the potential to improve health status on a population-wide basis but currently have insufficient evidence about their effectiveness and value, the center said.

The project Dr. Dixon will focus on is titled "Improving Vaccine-Preventable Disease Reporting and Surveillance Through Health Information Exchange."

Dr. Dixon's research will implement and evaluate an automated process designed to improve reporting rates for vaccine-preventable diseases in Indiana and to support more efficient provider reporting to public health agencies. The process takes advantage of Indiana's statewide health information exchange that enables datasharing between clinical and public health organizations, and it replaces existing, inefficient reporting procedures involving manual completion of health department forms.

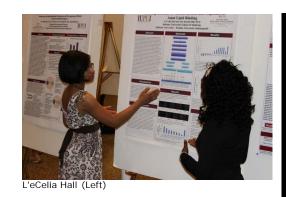
Data from the health information exchange will be used to partially complete many of the required fields submitted to public health departments leaving blank only a small number of fields for clinical providers to complete. The process will also help identify cases of vaccine-preventable diseases that providers might otherwise forget to report because of high patient volumes or missing information.

Regenstrief Institute investigator Dr. Shaun Grannis, associate professor of family medicine at the Indiana University School of Medicine, and Dr. P. Joseph Gibson, director of epidemiology at the Marion County Public Health Department, will serve as Dr. Dixon's mentors. Dr. Grannis collaborates closely with state, national and international public health stakeholders to advance technical infrastructure and data-sharing capabilities for population health. Dr. Gibson oversees disease surveillance for Marion County and advises state and federal authorities on using information technologies to improve public health practice.

STUDENT SPOTLIGHT

Student on a Mission

Bridges to the Baccalaureate (Bridges) scholar L'eCelia Hall, 31, observes, "To set yourself apart as a nontraditional student, you must work harder." She has garnered multiple distinctions, including American Honors—the new Honors College of Ivy Tech Community College—and membership in Phi Theta Kappa Honor Society. Also a Nina Mason Pulliam Legacy scholar, she graduates from Ivy Tech in May with her Associate in Science. Inspired by Dr. Michael M. Baden of HBO's documentary series Autopsy and by personally witnessing such a procedure as a health-magnet high-school freshman, she decided to pursue a career in science. For ten years, she was a self-



taught information-technology analyst. Then, at 28, L'eCelia decided she still *really* wanted to become a doctor. "It was a calling. I came back on a mission."

Upon learning of Bridges, a program consortium between the IUPUI Center for Research and Learning (CRL) and Ivy Tech, L'eCelia realized, "This was the perfect opportunity!" The primary objective of the program is to help underrepresented students to bridge from community college to a four-year science degree. L'eCelia started the program in March 2013 with a research-ethics class and that June began working daily in the laboratory under the guidance of Dr. Ann Kimble-Hill, a postdoctoral fellow in the IU School of Medicine Department of Biochemistry and Molecular Biology. Of her mentor, she affirms, "She is amazing! Such an inspiration, so supportive. She is definitely a role model!" L'eCelia's research addresses the proliferation of cancer cells in mammary tissues. Angiomotin p80 isoform (AMOT 80 protein), naturally occurring in the body, causes the accumulation of yes-associated protein (YAP) in cells. The AMOT Coiled-Coil Homology (ACCH) domain is how the protein binds to the cell. Endeavoring to reduce its binding, she currently focuses on the greater affinity for AMOT 80 to bind in the presence of cholesterol.

L'eCelia Hall's goal is to earn her M.D. before age forty and to become a forensic pathologist in a large metropolitan area. "It seems so adventurous: Solving crimes and helping people. Forensic pathology," she explains, "involves criminal investigations [in concert with] government or private agencies, autopsies, toxicology, entomology and a general knowledge of psychology and sociology. Forensic pathologists testify in court," she continues; hence, it helps to have, "a personality that will make people hang onto your words."

TRANSLATIONAL RESEARCH IMPACT

IU School of Medicine Researchers Awarded \$300,000 GE/NFL Grant to Study Concussions

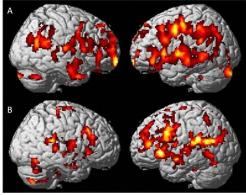
Researchers at the IU School of Medicine will use advanced neuroimaging techniques to study area high school athletes to learn how concussions affect blood flow in the brain.

Brenna McDonald, Psy.D., and Yang Wang, M.D., at the <u>IU Center for Neuroimaging</u>, were awarded \$300,000 for the research, one of 16 grants announced Thursday by GE and the National Football League for the first stage of the \$20 million "Head Health Challenge."

"Blood flow is critical to brain functioning, of course, but we know relatively little about the impact of concussion on blood flow in athletes," said Dr. McDonald, associate professor of radiology and imaging sciences.

"This work will improve our understanding of concussion's effect on brain blood flow shortly after the injury and how those changes relate to concussion symptoms and changes in cognitive functioning," she said.

Brain regions showing decreased resting blood flow (A) and increased activation during a working memory task (B) in adolescents 6-12 months after mild TBI using advanced MRI techniques



"Using MRI, we not only want to improve our understanding of how concussions affect the brain, but to also improve our ability to detect and manage concussions, including determining when it is safe to return to play," said Dr. Wang, associate professor of radiology and imaging sciences.

The IU researchers will collaborate with Todd Arnold, M.D., and Patrick Kersey, M.D., at <u>St. Vincent Sports</u> <u>Performance</u>.

Scientists at the IU Center for Neuroimaging have been studying the effects of traumatic brain injury using advanced neuroimaging techniques for more than 15 years, with a focus on understanding changes in brain structure and function after mild traumatic brain injury or concussion.

In previous research, McDonald and her colleagues identified brain function abnormalities in children and adolescents six to 12 months after mild traumatic brain injuries. In the latest study, they will attempt to determine whether those abnormalities can be identified within a month of an injury and will then monitor the evolution of those changes over time.

Launched in March 2013, the <u>Head Health Challenge</u> is part of the Head Health Initiative, a four-year, \$60 million collaboration between GE and the NFL to speed diagnosis and improve treatment for mild traumatic brain injury. The initiative includes a four-year, \$40 million research and development program from the NFL and GE to evaluate and develop next-generation imaging technologies to improve diagnosis that would allow for targeting treatment therapy for patients with mild traumatic brain injury.

In addition, the NFL, GE and athletic clothing maker Under Armour launched two open innovation challenges to invest up to \$20 million in research and technology development to better understand, diagnose and protect against brain injury.

The GE NFL announcement in 2013 named a 10-member advisory board of experts from across the country, including Thomas W. McAllister, M.D., the Albert E. Sterne Professor and chair of the Department of Psychiatry at the IU School of Medicine.

Dr. McAllister and Andrew Saykin, Psy.D., director of the IU Center for Neuroimaging, also are members of the IU School of Medicine team that will conduct the high school athlete imaging research.

IN MEMORIAM

Remembering the Late Dr. Vince Gattone

On January 22, 2014, Dr. Vince Gattone passed away peacefully after battling cancer of the appendix. In honor of his many contributions to science, in both academia and industry, the Office of the Vice Chancellor for Research joins the IUPUI campus leadership in paying tribute to his life and accomplishments

Dr. Gattone was a professor of anatomy and cell biology and adjunct professor of medicine in nephrology. He received his doctorate from the Medical College of Ohio in 1980, after which he completed a postdoctoral fellowship at IU in 1983 and taught at the University of Michigan and the University of Kansas. He returned to IU in 2000 as a professor to continue his research in understanding the cause of cystic kidney disease.



Vince Gattone, M.D.

During his rich career, Dr. Gattone developed and characterized numerous animal models that mimic the human condition of cystic disease and of chronic kidney disease. These models allowed the identification of treatment targets, most notably tolvaptan. He also held multiple patents, published more than 150 publications and textbooks, and delivered multiple national and international lectures. Dr. Gattone also played important role in helping the campus to launch and advance the efforts of the IUPUI Imaging Research Initiative, which is now a key area of strength for the IUPUI campus.

Whether working on regular or translational research, his hands-on approach and expertise in EM image interpretation helped many campus investigators understand a technology with which they may not be familiar. In large part because of his contributions to understanding and providing options for treatment of PKD, Dr. Gattone was named the 2013 recipient of the prestigious Lillian Jean Kaplan International Prize for the Advancement and Understanding of Polycystic Kidney Disease.

The Gattone family has requested that, in lieu of flowers, donations be made to the Polycystic Kidney

Foundation or, if preferred, to the IU Foundation in support of the Vincent Gattone Lectureship, which has been established in honor of Dr. Gattone's love of research and teaching. The goal of the fund is to ensure that his passion for the dissemination of scientific discoveries lives on by supporting speakers in the fields of kidney disease, animal models and microscopy.

To contribute to the <u>Polycystic Kidney Foundation</u>, send your contribution to 8330 Ward Parkway, Suite 510, Kansas City, MO 64114.

To contribute to the IUSM Vince Gattone Lectureship, send your contribution to IU Foundation, P.O. Box 660245, Indianapolis, IN 46266-0245. Please make memorial gifts payable to "IU Foundation" and indicate "In memory of Vincent Gattone, II" on your gift.

On February 9, 2014, "Sound Medicine" devoted an hour to Dr. Gattone, who taught his medical students -- and listeners of "Sound Medicine" -- about life and death while he underwent treatment for cancer. <u>Listen to this podcast</u> »

Dr. Gattone will be greatly missed as a friend, teacher, mentor and collaborator.

OVCR INTERNAL GRANT DEADLINES

Developing Diverse Researchers with InVestigative Expertise (DRIVE): The Developing Diverse Researchers with InVestigative Expertise (DRIVE) program is designed to enhance the diversity and research and creative activity mission of IUPUI. Faculty from historically underrepresented populations, usually defined as African-American, Latino-American, Native American, Pacific Islanders, and women are particularly encouraged to apply. The DRIVE program supports projects that have the potential for sustainability through external funding. The next DRIVE application deadline is March 1, 2014. For grant guidelines and application forms, go to https://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 FORCES application deadline is March 15, 2014.* For grant guidelines and application forms, go to https://research.iupui.edu/funding/.

IUPUI Signature Centers Initiative: The Signature Centers Initiative (SCI) was begun in 2006 in an effort to create strong research units which are uniquely identifiable with IUPUI and will lead the way in world-class research and creative activities that will substantially enhance the reputation of our campus. OVCR is happy to announce the 7th call for SCI proposals. *The application deadline is April 1, 2014*. For grant guidelines and application forms, go to https://research.iupui.edu/funding/.

OTHER INTERNAL GRANT DEADLINES

Indiana CTSI Seeks Core Equipment Grant Applications

The Indiana Clinical and Translational Sciences Institute is seeking proposals from Indiana CTSI-designated cores at the IU School of Medicine requesting support for the purchase of equipment, software or other resources that enhance the research environment and contribute to the research mission of the School and the Indiana CTSI.

Up to \$100,000 will be available for distribution through this grant mechanism. Applicants may request anywhere from \$5,000 to \$100,000. Proposals for equipment costing more than \$100,000 will be entertained if matching funds to cover the balance are identified.

Competitive applications will be those that bring new technology and services to Indiana CTSI investigators in the form of equipment or software that contributes to bench or in-silico research; expand existing services to

meet the needs of Indiana CTSI investigators; or contribute to the strategic research mission of the institution.

Proposals for funds to subsidize ongoing operations will not be allowed. Only Indiana CTSI-designed cores at the IU School of Medicine are eligible. Indiana CTSI-designed cores are facilities that have officially passed a review process from the Indiana CTSI demonstrating quality oversight, users that span departments and schools, and established policies for prioritization, publication, confidentiality, cost recovery/payment and conflict resolution. They also have to monitor user satisfaction.

Applications are due 4 p.m. Friday, March 28. For more application information, or to apply, visit the Indiana CTSI grants portal and enter your institutional username and password. Application instructions are located under "Indiana CTSI/IUSM Core Equipment Funding - 2014.03."

For more information, contact Lilith Reeves at ictsi@iu.edu.

Indiana Spinal Cord and Brain Injury Research Fund Grant Program deadline extended – Feb. 24

The Indiana Spinal Cord and Brain Injury Research Fund is accepting applications to support research related to treatment and cure of spinal cord and brain injuries.

This includes research related to the prevention, treatment and cure of spinal cord and brain injuries, including acute management, medical complications, rehabilitative techniques and neuronal recovery.

Award amounts will be based upon the scope and nature of the proposed projects. Applications to this program should have a maximum requested amount of \$60,000 per year. All applications should be limited to a two-year duration.

Eligible principal investigators must be based in Indiana and have the education, skills, knowledge and resources necessary to carry out the proposed research.

Applications are due **5 p.m. Monday, Feb. 24**. To apply, visit www.indianactsi.org/grants and log in using your institutional username and password. Applications instructions are located under "Indiana Spinal Cord and Brain Injury Research Fund Grant Program - 2014.02 (SCBI)."

Awards pursuant to this RFP are contingent upon the availability of funds and the receipt of a sufficient number of meritorious applications as determined by an independent scientific advisory panel, the Spinal Cord and Brain Injury Research Board, and/or the Indiana State Department of Health.

The Indiana Spinal Cord and Brain Injury Research Fund was established by the State of Indiana effective July 1, 2007.

For more information, please contact Julie Driscol at ictsi@iu.edu.

OVCR EVENTS AND WORKSHOPS

National Science Foundation Faculty Early Career Development Program

The Faculty Early Career Development (CAREER) Program is an NSF-wide activity offering prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations.

The NSF deadlines for submission of proposals are July 22, 23, and 24, 2014, depending on discipline. If you are interested in applying and would like assistance by OVCR staff, be sure to attend all of the following sessions.

»Session 2: Panel of Successful Applicants

When: Friday, March 14, 2014 | 10:00am - 12:00pm

Where: University Library, Room 1126

As a follow-up to the initial introductory session in February, recent NSF CAREER awardees will share tips on securing funding through this program and answer questions from attendees. You are welcome to bring your lunch.

Register: https://crm.iu.edu/CRMEvents/NSFCAREERPanel/

»Session 3: Jumpstarting the NSF CAREER Proposal Writing Process

When: Friday, May 2, 2014 | 10:00am - 12:00pm

Where: University Library, Room 1126

The Office of the Vice Chancellor for Research Proposal Development team will provide one-to-one support for developing and submitting NSF CAREER proposals. Attendees at this session will present their proposal concepts and be matched with an experienced professional writer/editor who will work with them through submission. You are welcome to bring your lunch.

Register: https://crm.iu.edu/CRMEvents/NSFCAREERJumpstarting/

National Science Foundation Research Experiences for Undergraduates

When: Friday, February 28, 2014 | 2:00pm - 4:00pm

Where: University Library, Room 1126

The NSF REU opportunity includes grant proposals designed specifically to initiate and conduct projects that engage a number of undergraduate students in thematically-linked, ongoing research projects in meaningful ways. For those with existing NSF funding, supplemental grants to add undergraduate researchers to currently funded NSF projects will also be discussed. The NSF deadline for submission of site proposals is August 27, 2014. If you are interested in applying and would like assistance by OVCR staff, be sure to attend.

Register: https://crm.iu.edu/CRMEvents/NSFREU/

Ideas Solving Social and Economic Challenges (ISSEC)

When: Thursday, March 6, 2014 | 3:30pm - 6:00pm

Where: Campus Center Theatre

<u>ISSEC</u> is a competition to reward IUPUI students for their innovative ideas to solve social and economic challenges facing the nation and the world. The emphasis of the competition is on providing answers to real-world problems, through new approaches, products, services, or ventures. ISSEC challenges IUPUI students-individuals or teams--to propose original solutions to pressing social and economic challenges.

Questions can be directed to Karen White at kfwhite@iupui.edu or (317) 274-1083.

Register: https://crm.iu.edu/CRMEvents/ISSECCompetition/

Developing Complex Multi-Investigator, Multi-Institutional Proposals

When: Thursday, March 27, 2014 | 3:00pm - 4:30pm

Where: University Library, Room 1126

The current funding environment favors large, complex, multi-institutional, multi-investigator projects. However, organizing a successful submission takes a great deal of planning and teamwork. What works best in which situation? Should you use a "Red Team Review"? What role does the RFP serve to organize the

writing efforts? Professional proposal writers and editors will discuss these and a number of related issues at this session.

Register: https://crm.iu.edu/CRMEvents/MultiProposals/

Nine Golden Rules to Succeed in Research and Scholarship

When: Friday, March 28, 2014 | 11:00am - 1:00pm

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: https://crm.iu.edu/CRMEvents/GoldenRules/

Polishing Your Grant Proposal: Writing with Clarity, Conviction, and Confidence

When: Friday, April 18, 2014 | 11:30am - 1:00pm

Where: University Library, Room 1126

Writers from the OVCR Proposal Development Services team will offer tips, techniques, and individual writing consultations to improve the fundability of grant proposal submissions. You are encouraged to bring works-in-progress and other writing samples to discuss. You are welcome to bring your lunch.

Register: https://crm.iu.edu/CRMEvents/PolishingProposals/

Working with Industry on Applied Research & Creative Activity

When: Friday, April 25, 2014 | 1:00pm - 2:30pm

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 for potential 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 applied researcher.

Registration: https://crm.iu.edu/CRMEvents/Industry/

OTHER EVENTS AND WORKSHOPS

Research Coordinator Education (RCEDU) Spring 2014 Level Three Program Dates

The Indiana Clinical and Translational Sciences Institute (CTSI), IU Office of Research Compliance (ORC), and Richard L. Roudebush Veterans' Affairs Medical Center are pleased to announce that the spring of the Research Coordinator Education (RCEDU) Level Three Program will be held on April 24-25, 2014.

The two-day, Level Three program serves as a way to recognize experienced Research Coordinators, provide additional education relative to the campus-specific aspects of conducting research, and to foster the implementation of best practices for advancing the research enterprise. The program is designed to offer

benefits not only to the individual participants, but also to their research teams, departments, and Schools as a whole.

Additional details regarding the program, including application information and attendance fees, are forthcoming. General information about the RCEDU initiative can be found at www.indianactsi.org/training/coordinators.

Research Administration 101

Grant Services and REEP are pleased to announce and invite you to Research Administration 101 - an educational program on sponsored programs administration for basic - to intermediate-level academic unit research administrators and interested ORA staff and researchers. The program consists of three workshops to be offered three times per semester. The curriculum will cover topics that collectively constitute an integrated introduction to sponsored program administration and will be offered on both the IUB and IUPUI campuses.

Session Two: Account Management: Roles & Responsibilities

February 19, 2014, 1-3 pm, MS 122A

Session Three: Grants Finance & Operations

March 27, 2014, 1-3 pm, MS 122A

Session Four: Account Management: Resources

April 21, 2014, 1:30-3:30 pm, IB 226 (Medical Research & Library)

To register, visit the Educational Opportunities webpage, http://researchadmin.iu.edu/EO/eo_sessions.html. (Select Ethics, Education & Policy from the drop-down list of Area)

For more information, contact Sofia McDowell at somcdowe@indiana.edu.

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.

DEPARTMENT OF DEFENSE

Systems-Based Neurotechnology for Emerging Therapies: DARPA seeks to develop a new understanding of complex, systems-based disorders of the brain. A major goal of this effort is to deliver a platform technology for precise therapy in humans living with neuropsychiatric and neurologic disease, including veterans and active duty soldiers suffering from mental health issues. Methods developed through this program will use neural recording and stimulation to close the loop on therapeutic treatment in individuals who receive minimal benefits from currently available treatments. This program could lead to improved knowledge of multiple neural subnetworks of the brain that are involved in disease and illness. This program combines novel device development, complex modeling of behaving human neural systems, clinical neurology, and animal research in order to advance the understanding and translation of safe, effective neurotechnological therapies. *Deadlines: White Paper, November, 14, 2014; Submission, December 17, 2014.*

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 <u>vpr@iu.edu</u>. 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 <u>akratz@iupui.edu</u>.

NATIONAL ENDOWMENT FOR THE HUMANITIES

Bridging Cultures Through Film: International Topics: This program supports documentary films that examine international and transnational themes in the humanities. These projects are meant to spark Americans' engagement with the broader world by exploring countries and cultures outside of the United States. Proposed documentaries must be analytical and deeply grounded in humanities scholarship. The Division of Public Programs encourages innovative nonfiction storytelling that presents multiple points of view in creative formats. The proposed film should range in length from thirty minutes to a feature-length documentary.

The Division invites a wide range of approaches to international and transnational topics and themes, such as: 1) an examination of a critical issue in ethics, religion, literature, or history, viewed through an international lens; 2) an exploration of a topic that transcends a single nation-state; 3) a biography of a foreign leader, writer, artist, or historical figure; or 4) an exploration of the history and culture(s) of a specific region, country, or community outside of the United States. *Deadline: June 12, 2014.*

NATIONAL INSTITUTES OF HEALTH

Novel, Alternative Model Systems For Enteric Disease (U19): This Funding Opportunity Announcement (FOA) will support the development of novel model systems that permit integrated approaches to advance understanding of enteric disease at the level of basic science and, ultimately, to facilitate product development. A team of investigators from disparate scientific fields will leverage advances in biomedical and tissue engineering (e.g., the generation of complex human tissue constructs) and/or the gastrointestinal microbiome to develop models that mimic pathophysiology and host response to provide relevant predictive outcomes for human disease, such as distinct clinical outcomes or potentially lethal sequelae. *Deadlines: Letter of Intent: April 29, 2014; submission: May 29, 2014.*

Beyond HAART: Innovative Approaches to Cure HIV-1 (U19): The purpose of this FOA is to encourage investigators to work together on innovative approaches to eliminate HIV-1 and leverage the expertise and resources of the participating Institutes. Research topics of interest are as follows: cell therapies, including those based on hematopoietic stem cells; novel gene therapy approaches; and the development and delivery of non-traditional antiviral strategies (e.g. miRNAs, siRNAs, gene-editing enzymes). Applications are expected to include basic science/preclinical research as well as translational activities such as test-of-concept studies in animal models or humans. Applications must be designed as collaborative efforts between academia and the private sector. Components of Participating Organizations: National Institute of Allergy and Infectious Diseases (NIAID), National Heart, Lung, and Blood Institute (NHLBI), and National Institute of Mental Health (NIMH). Deadline: July 28, 2014.

Modeling the Scientific Workforce (UO1): This FOA solicits cooperative agreement applications that propose to develop computational models for better understanding of the dynamics of the scientific workforce in the United States. These models may be used to inform program development and management, identify questions that need additional research, and guide the collection and analysis of the data to answer these questions. Components of Participating Organizations: National Institute of General Medical Sciences (NIGMS), Office of Behavioral and Social Sciences Research (OBSSR). Deadlines: Letter of Intent, January 04, 2015; Submission, February 04, 2015.

NATIONAL SCIENCE FOUNDATION

<u>Plant Genome Research Program (PGRP)</u>: Activities in four focus areas will be supported in FY 2014: (1) Genomics-empowered plant research to tackle fundamental questions in plant sciences on a genome-wide scale; (2) Development of tools and resources for plant genome research including novel technologies and

analysis tools to enable discovery; (3) Mid-Career Investigator Awards in Plant Genome Research (MCA-PGR) to increase participation of investigators trained primarily in fields other than plant genomics; and, (4) Advancing Basic Research in Economically Important Crop Plants (ABR-PG) to develop sequence resources that are critically needed to enable basic research resources in crop plants. Proposals addressing these opportunities are welcomed at all scales, from single-investigator projects through multi-investigator, multi-institution projects, commensurate with the scope and scale of the work proposed. *Deadline: April 28, 2014.*

Magnetospheric Physics: This program supports research on the magnetized plasma envelope of the outer atmosphere, including energization by the solar wind; the origin of geomagnetic storms and substorms; the population by solar and ionospheric sources; the origin of electric fields; the coupling among the magnetosphere, ionosphere, and atmosphere; and waves and instabilities in the natural plasma. Also supported are ground-based observational programs at high latitudes and laboratory experiments applicable to the geospace environment. Theoretical research programs may include numerical simulations using a variety of MHD, hybrid and particle codes. The analysis of data from all sources, whether ground-based or from spacecraft, is also supported. *Deadline: Continuous*

Broadening Participation in Engineering (BPE): This program is a Directorate-wide activity to support the development of a diverse and well-prepared workforce of engineering graduates, particularly those with advanced degrees. A central theme of the program's activities is enhancing the ability of early career faculty members, particularly those from underrepresented groups, to succeed in their careers as researchers and educators. The Broadening Participation in Engineering Program supports projects to engage and develop diverse teams that can offer unique perspectives and insights to challenges in engineering research and education. By seeing problems in different ways, a diverse workforce can encourage innovation and scientific breakthroughs. Throughout this Program Description, the term underrepresented groups will refer to and include the following: women, persons with disabilities, and ethnic/racial groups which are in the minority in engineering, specifically African Americans, Hispanics, Native Americans, Alaska Natives, and Pacific Islanders.

The Engineering Directorate recognizes that broadening participation is a systemic issue, with a need for wide-ranging and comprehensive interventions at all levels of the educational system. While there is a general need to diversify pathways that lead to engineering careers, the BPE program currently supports engineering faculty, particularly early career faculty, in integrating broadening participation and diversity with their scholarly activities, including education, research and innovation. Given that engineering addresses human needs, the US population is becoming much more diverse, and engineering practice increasingly turns to customers in designing innovations, it is critical that the faculty of the future are able to draw from diverse perspectives in their engineering research and educational activities. *Deadline: Continuous*.

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. 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.

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 <u>Dee Metaj</u> 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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