



• Research Development

Office of the Vice Chancellor for Research

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RESEARCH ENTERPRISE NEWSLETTER

April 27, 2017

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FEATURE STORY

IUPUI revisits an old tradition: Student Research Day



Students showing off their posters at IUPUI Student Research Day on April 7. Photos courtesy IUPUI Center for Research and

Learning

Upwards of 250 people attended the inaugural IUPUI Student Research Day in University Tower and Hine Hall on April 7. Co-sponsored by the Office of the Vice Chancellor for Research and the Center for Research and Learning, Student Research Day highlights the research, scholarly and creative activity of IUPUI's students.

Kathryn J. Wilson, associate professor emerita of biology and founding executive director of the Center for Research and Learning, instituted an annual spring undergraduate-research symposium well over a decade ago to showcase the work of students in the IUPUI Undergraduate Research Opportunities Program and under other auspices on campus.

With the support of former Vice Chancellor for Research Kody Varahramyan, this event expanded in 2009 to include faculty and a nationally renowned keynote. Focusing specifically on the research and creative activity of students, both graduate and undergraduate, this year's conference attracted numerous faculty members and students from the entire spectrum of academic disciplines.

During two poster sessions in the Tower Ballroom, 115 students presented their research findings. In attendance were 82 pupils representing Arsenal Technical High School, Crispus Attucks Medical Magnet High School, Pike High School and the IUPUI Minority Engineering Advancement Program as well as the federally funded Upward Bound programs of both IUPUI and Indiana Wesleyan University.

"The whole day was a great success, and I received many positive comments from faculty and others who attended," said Simon J. Atkinson, interim vice chancellor of research. Topics ranged from business as applied to creating a niche for Americans with disabilities, a historical look at African-American elder care, a geographic approach to archaeology, designing a portable 3-D printer and the effect of a common parasite on prostate health.

The day's highlights included brief talks by three award-winning undergraduate researchers:

- John Scott Flood (2016 CRL RISE to the IUPUI Challenge Undergraduate Research Scholarship Award).
- Michelle Ramírez (2017 Richard E. Ward Undergraduate Research Opportunities Program Recognition Award).
- Dana Kathryn Oakes (2017 Bowling-Jones-Russo Memorial Undergraduate Research Award).

Two panel sessions featuring both faculty members and veteran undergraduate-student researchers rounded out the day. During each poster session, competitions took place in four categories: Top Three Undergraduate Posters, Top Three Graduate Posters, Top MURI Team Poster and Audience-choice Award (voted on by visiting high-school students).

Congratulations to all presenters on their accomplishments!

[2017 IUPUI Student Research Day Poster Awards](#) □

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ANNOUNCEMENTS

Research study compares hospice care in multiple venues

A new study from the Indiana University Center for Aging Research and the Regenstrief Institute has found only minimal differences in the intensity of hospice services provided in nursing homes as compared to hospice services provided to patients in assisted living facilities or their homes. However, the mix of services did vary by site type.

Researchers, led by Center for Aging Research and Regenstrief Institute investigator Kathleen Unroe, MD, MHA, IU School of Medicine assistant professor of medicine, analyzed data from more than 32,600 men and women in 18 states who received routine hospice care from 2009 to 2015. Approximately 43 percent had short--less than two weeks-- hospice episodes while 20 percent were in hospice care for greater than six months.

"It has been a concern that patients who live in nursing homes or assisted living facilities may be getting potentially less hospice care than people receiving hospice care at home," Dr. Unroe said. "We found that not to be the case. However, while the intensity of hospice services across settings was quite similar, people living at home were more likely to get more hospice nurse care, while those living in nursing homes or in assisted living facilities received more hospice aide care across the hospice episode."

For more on the study, visit [IU School of Medicine Newsroom](#).

IU to participate in study to improve care for TBI patients

IU School of Medicine will participate with six other Traumatic Brain Injury (TBI) centers nationwide in a study led by a research team at University of Washington School of Medicine. The lead research team, based at the University of Washington, received \$12.7 million to improve post-acute care for patients with TBI. The funding, announced this month, comes from the Patient-Centered Outcomes Research Institute, an independent nonprofit organization established by the U.S. Congress in 2010 to improve patient outcomes.

The University of Washington team plans to enroll 900 people with moderate to severe traumatic brain injury who are discharged from inpatient rehabilitation at one of six TBI Model System Centers: University of Washington, Indiana University, Ohio State University, Mt. Sinai in New York, Moss Rehabilitation in Philadelphia and Baylor Institute for Rehabilitation in Dallas.

The patients will be randomized to one of two groups: standardized discharge care, which includes advice and referral sources, and standardized discharge care with a care manager who will assess for unmet needs and assist with coordination of care via telephone over six months. The project team will compare functioning and quality of life at three, six, nine and 12 months in these two groups.

For more information about the study, visit [Patient-Centered Outcomes Research Institute](#).

NEW! ONLINE TRAINING FROM FMS

FMS will expand the modality for some of our financial training courses to include online webinars. To that end, we will offer the following training online one month and in-person on the Bloomington campus the next month: Financial Processing Basics 1, Financial Processing Basics 2, and Financial Reports.

The online webinars will be offered through Zoom, IU's web collaboration tool. The online training will use the same materials, and will include the same examples and practice activities, that we use in the in-person training.

Disbursement Voucher Basics and Disbursement Voucher Special Considerations will continue as a monthly simulcast, with participants joining both in-person and online.

To sign up for an in-person or online training, visit <https://fms.iu.edu/training/> and select "Course Catalogs" from the left navigation. Then, choose the "KFS Financials" link from the "Bloomington and Regional Campuses" column.

Questions or concerns can be directed to Elisabeth Mason at (812) 855-5551 or elimason@iu.edu

STEM Summer Institute for faculty and future faculty



Explore evidence-based models of instruction for the undergraduate classroom.

Faculty and future faculty are invited to apply to attend a 2017 Summer Institute on Scientific Teaching. Accepted participants will learn practical strategies for enhancing student learning through the principles of scientific teaching: active learning, assessment and inclusive teaching. Participants will have opportunities to engage in interactive sessions, work in small groups with a trained facilitator, and present instructional materials for feedback and review.

2017 Summer Institutes

Dates	Sites	Participants*
June 5 – 10	Northstar (HHMI-funded) University of Minnesota	Faculty & future faculty from research-intensive institutions
June 19 – 23	California (Helmsley-funded) University of California, San Diego	Faculty & future faculty from teaching-intensive institutions
June 20 – 23	Northwest (HHMI-funded) University of Oregon	Faculty & future faculty from research-intensive institutions
June 25 – 29	California (Helmsley-funded) University of Connecticut	Faculty & future faculty from teaching-intensive institutions
July 17 – 21	Gulf Coast (Helmsley-funded) Louisiana State University	Faculty & future faculty from teaching-intensive institutions
July 24 – 28	Midwest (HHMI-funded) University of Chicago	Faculty & future faculty from research-intensive institutions

*We encourage participants to apply to the Summer Institute that best matches their home institution type & geographic area, but welcome applications to an alternative site due to scheduling or travel

To apply, visit <http://summerinstitutes.org>

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INSTITUTE SPOTLIGHT

IUPUI research on urine chemical 'sniffing' to detect prostate cancer featured at large national conference



Mangilal Agarwal, Ph.D. Director of

Integrated Nanosystems Development

Institute and Associate Professor of

Mechanical Engineering

On the list of dreaded medical tests, a prostate biopsy probably ranks fairly high. The common procedure requires sticking a needle into the prostate gland to remove tissue for assessment. Thousands of men who undergo the uncomfortable procedure, prompted by a positive PSA (prostate-specific antigen) test, ultimately don't require cancer treatment. Scientists have reported progress toward minimizing unnecessary biopsies: They have identified the molecules likely responsible for the scent of prostate cancer, which could be detected by chemically "sniffing" urine.

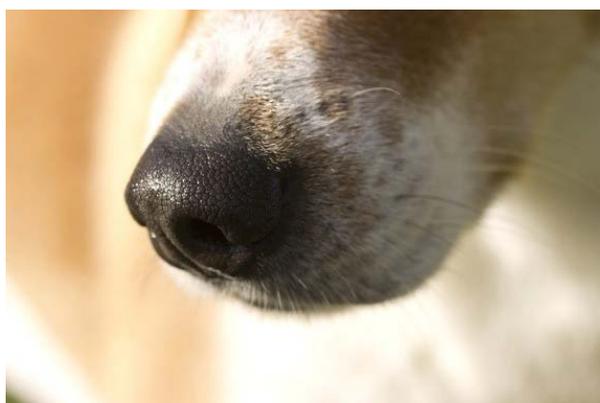
Earlier this month, Dr. Mangilal Agarwal presented their results at the 253rd National Meeting & Exposition of the American Chemical Society (ACS). ACS, the world's largest scientific society, featured more than 14,000 presentations on a wide range of science topics.

"The idea for this project started with a study published in 2014 showing that trained canines could detect prostate cancer with greater than 97 percent accuracy," said Agarwal, Ph.D., the project's principal investigator. His team had already been working on a sensor to sniff hypoglycemia on a person's breath as dogs have also been shown to do. When the prostate cancer study appeared in the *Journal of Urology*, Agarwal's lab set out to determine what molecules the dogs might be sensing.

"If dogs can smell prostate cancer, we should be able to, too," said Amanda Siegel, Ph.D., who also presented the work at the meeting. Both Agarwal and Siegel are at the IUPUI Integrated Nanosystems Development Institute and the Richard L. Roudebush VA Medical Center.

Prostate cancer is the third most common type of cancer in the United States. In 2016, more than 180,000 new cases were diagnosed, according to the U.S.

National Institutes of Health's National Cancer Institute. Early detection has been critical to saving the lives of many men with prostate cancer. But diagnosing the disease can be fraught with challenges.



Dogs can smell prostate cancer;

scientists are designing a chemical test to do the same.

remain intact during the analysis. Then, they used gas chromatography-mass spectrometry to identify the volatile organic compounds floating in the "headspace" above the urine samples. With this method, the researchers pinpointed a small set of molecules that showed up in 90 percent of the samples from patients with prostate cancer but not in

The screening test that doctors use now to determine whether to perform a biopsy assesses PSA levels in a blood sample. The prostate gland normally produces this protein in small amounts. Increased levels, however, can indicate many different conditions besides cancer, including prostate infection. As a result, the test is widely recognized as flawed and often leads to unnecessary biopsies. "Currently, about 60 percent of men who get a biopsy to test for prostate cancer don't need to get one," Siegel says. "We hope our research will help doctors and patients make better-informed decisions about whether to have a biopsy, and to avoid unwarranted procedures."

To determine which molecules wafting from urine could indicate prostate cancer in a patient, the IUPUI and VA team collected urine samples from 100 men undergoing prostate biopsies. To avoid issues that similar studies have had with sample degradation, Agarwal's team developed a pre-processing step — adding sodium chloride and neutralizing the pH — to ensure the samples would

samples from those who did not have the disease.

Next, the team plans to conduct large-scale tests at multiple health centers to validate their findings. They have also submitted a proposal for funding to confirm the molecular signature they identified by collaborating with a local dog trainer and comparing their technique's results to those obtained with a canine nose. Depending on the outcome of these projects, Siegel and Agarwal say their test could become available to patients and doctors within the next few years. In the short-term, urine samples would have to be sent to a lab for analysis, but the researchers say their ultimate goal is to design a sensor that can yield results in a doctor's office.

The researchers acknowledge support and funding from the [Richard L. Roudebush VA Medical Center](#).

The American Chemical Society is a nonprofit organization chartered by the U.S. Congress. With nearly 157,000 members, ACS is the world's largest scientific society and a global leader in providing access to chemistry-related research through its multiple databases, peer-reviewed journals and scientific conferences. ACS does not conduct research, but publishes and publicizes peer-reviewed scientific studies. Its main offices are in Washington, D.C., and Columbus, Ohio.

A [press conference](#) on topic was held Monday, April 3, 2017. To automatically receive press releases from the American Chemical Society, contact newsroom@acs.org.

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FACULTY SPOTLIGHT



Carolyn Gentle-Genitty

IUPUI researcher lays groundwork for new approaches to preventing youth violence

A study by an Indiana University School of Social Work associate professor at Indiana University-Purdue University Indianapolis has laid the groundwork for new strategies dealing with youth violence in five Caribbean countries.

Carolyn Gentle-Genitty was selected by the [Caribbean Community organization](#) to lead a team of researchers who assessed violence-related behaviors in Jamaica, Antigua, St. Kitts and Nevis, Saint Lucia, and Trinidad and Tobago. The researchers looked at whether youths engaged in violence; were victimized by violence; witnessed violence; or reported any of 15 types of violence, including weapon-carrying, fighting or wounding, gang fights, drug use, domestic violence, and

sexual abuse.

The research team examined how those behaviors differed by gender and age to better inform the development of gender- and age-appropriate prevention programs.

One key finding discovered by the researchers was that male youths are more likely to engage in violence than their female counterparts but less likely to report it, even when they are a victim of the violence, Gentle-Genitty said.

"That was very significant, simply because if we understand violence within that context, we need to put more mechanisms in schools that support males but also support an easy process of reporting violence that doesn't look like snitching or lead to males being further victimized if they do report violence," she said.

The study focused on youth-on-youth violence from severity and intensity perspectives. It centered largely on family and school, because those are the two locations where youths spend most of their time and where there is the greatest impact on crime and violence,



Gentle-Genitty said.

Female youths were more likely than males to have experienced domestic violence or abuse, according to the study.

In general, older youth tended to have higher levels of risk factors, particularly at school, while they have lower levels of protective factors both at home and at school.

Caribbean Sea

The results of the study suggest that a comprehensive approach to preventing and reducing youth violence needs to target risk and protective factors not only in schools but also within the families of the youths.

The study, "Comprehensive assessment of youth violence in five Caribbean countries: Gender and age differences," was published in the Journal of Human Behavior in the Social Environment.

The project was developed, with funding from Spain, out of concern for the escalation of gang violence and other related forms of violence in schools and the surrounding communities.

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STUDENT SPOTLIGHT

Three IUPUI students named University Innovation Fellows



University Innovation fellows Katherine Swartzendruber, Mike Huang and Richard Anderson III

When 224 students from 58 higher education institutions in seven countries gathered last month at Stanford University, their discussions weren't focused around academics or job prospects

Loftier aspirations were in play.

These University Innovation fellows -- including three students from Indiana University-Purdue University Indianapolis -- discussed ways they could be agents of change at their schools to make a positive impact and create new opportunities for students.

And what did you do on spring break?

The IUPUI University Innovation fellows are Richard Anderson III, a neuroscience/biotechnology double major in the School of Science and an [Honors College](#) student; [Mike Huang](#), a human resources management/business management/international studies triple major in the Kelley School of Business; and Katherine Swartzendruber, an art education/ceramics double major at the Herron School of Art and Design and an Honors College student.

The University Innovation Fellows program is run by Stanford University's Hasso Plattner Institute of Design, known as "d.school," and has trained 1,000 students at 185 schools since its creation.

"My mission is to leave this campus better than I found it, with a new way of looking at higher education through the lens of a student," said Swartzendruber, a sophomore. "Through the program, I have learned more about our campus as a whole and its need for campus unity, involvement, spirit and innovative thinking."

That's exactly why IUPUI joined the University Innovation Fellows program a year ago, with sponsorship from the Office of the Vice Chancellor for Research.

"The complex and uncertain nature of challenges requires new ways of thinking and acting. Creativity and innovation have never been more important. Higher education has been tackling the question of how we can prepare our students to engage with ambiguous, complex programs," said Youngbok Hong, the program's faculty advisor and director of the graduate program in [visual communication design](#) at the Herron School.

"In designing a new graduate program, I attended the workshop at Stanford in 2009. Knowing the power of this experience, I was thrilled to serve for this passionate student community. We are in the process to develop an action plan aiming to develop a culture of innovation on the IUPUI campus."

With their diverse backgrounds and schools, Anderson, Huang and Swartzendruber make for a unique leadership team. Their goal is to increase innovative and entrepreneurial thinking across campus.

Some of that is already well underway, such as in the JagStart student entrepreneur competition last month, in which Huang participated.

At Stanford, the fellows attended three days of 12-hour workshops led by faculty from the d.school as well as corporate leaders from Microsoft and Google. The workshops were centered around design thinking, teamwork and leadership.

"This is just the beginning of a large, ongoing movement that we hope to create on our campus for years to come," Swartzendruber said.

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TRANSLATIONAL RESEARCH IMPACT

IUPUI scientists find risk of lead exposure comes from both ends of firearms

Risks from firearms actually come from both ends of the barrel, according to an Indiana University-Purdue University Indianapolis study.

Individuals at firing ranges are exposed to very high amounts of lead from shooting firearms, and exposure is as high at outdoor firing ranges as it is at indoor ranges. These findings are based on a comprehensive literature review led by [Gabriel Filippelli](#), professor of earth sciences in the School of Science at IUPUI, and his team.



Gabriel Filippelli

"I am particularly concerned about children, who can be exposed by using the firing ranges themselves or through the fine lead-laden dust adhering to clothes and skin that Mom or Dad brings home," Filippelli said. "It is important to have a frank reassessment of the overall protections for individuals who utilize firing ranges, be that for occupational or recreational purposes."

Recreational users of firing ranges typically do not use protection against lead and exhibit dangerously high levels in their blood. Protections employed by law enforcement, the military and others who work at firing ranges are outdated, according to Filippelli.



"The main exposure culprit appears to be the lead used in the primer of bullets," Filippelli said. "The fine dust generated from this primer blows back onto the shooter, where it is inhaled or adheres to clothing and skin. A secondary exposure source is likely the fragmentation of bullets as they leave the end of the barrel."

One of the health impacts of lead exposure is poor judgment and lower impulsivity control, Filippelli said. "These are not desirable characteristics in people whose job it is to 'serve and protect,' and therefore we should be doing a

better job of protecting the health of our law enforcement and military than current occupational guidelines provide."

The authors provided safety recommendations including conducting a careful reexamination of the allowable lead levels in individuals who frequent firing ranges for occupational reasons, developing better education around lead-exposure risks for recreational users, and continuing the push to find lead-free substitutes for bullets and primer.

"[Lead Exposure at Firing Ranges -- A Review](#)" was published online April 4 in the peer-reviewed, open access journal Environmental Health. First author Mark Laidlaw is an IUPUI graduate now at the Royal Melbourne Institute of Technology. Study authors along with Filippelli and Laidlaw are Howard Mielke, Brian Gulson and Andrew S. Ball.

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INTERNAL GRANT DEADLINES

STEM Education Innovation & Research Institute Seed Grants (SSG) Request for Proposals

The STEM Education Innovation and Research Institute (SEIRI) at IUPUI is pleased to announce the 2017 SEIRI Seed

Grant (SSG). The goal of this competition is to facilitate and support STEM education innovation and research by growing the body of Discipline-Based Education researchers at IUPUI.

Specifically, this opportunity provides faculty within science, technology, engineering, and mathematics (STEM) departments, with funding to develop, implement, and evaluate the impact of pedagogical innovations across multiple STEM courses at Indiana University Purdue University Indianapolis (IUPUI). As a long-term goal, this grant is intended to enable faculty competitiveness for external funding with agencies such as the National Science Foundation (NSF), Spencer Foundation, and the National Institute for Health (NIH), or other internal funding such as the IUCRG. As such, we strongly encourage that interested STEM faculty partner with an educational research or design expert within fields related to the learning sciences, such as (but not limited to) IUPUI's Department of Psychology or School of Education.

The Principal Investigator (PI) must be an IUPUI full-time faculty within the School of Science, the School of Engineering and Technology, or the School of Informatics and Computing (tenured, tenure track, and non-tenure track).

SEIRI will fund up to \$150,000 for 18 to 24 months. Teams can apply for up to \$30,000. Submit all application materials by 11:59PM EST on May 15, 2017.

Direct your SSG-related questions to seiri@iupui.edu, 317-278-0168, or by visiting SEIRI at room 1123 in the University Library. SEIRI will hold an information session prior to the submission deadline. To find dates and in order to register, check the SEIRI webpage (<http://www.seiri.iupui.edu>). This session will provide information about the SSG, including eligibility, guidelines, proposal writing expectations, and post-award expectations.

Submit the proposal and a letter of support from your department or program chair at https://iu.co1.qualtrics.com/SE/?SID=SV_1Y3BdVnMqyEYHwV by the deadline. Late submissions will not be considered.

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EVENTS AND WORKSHOPS

Stepping Stones of Women in Leadership

Wednesday, May 17 | 11:45 a.m. - 1:00 p.m. | Fairbanks Hall (FS) 5005



Diane Cruz-Burke, JD
Chief Operations Officer
Legal at Eli Lilly and Company



Stepping Stones of Women in Leadership

The Stepping Stones of Women in Leadership series creates a space where all faculty and students can learn about professional development through hearing the personal career journeys of successful women. The next forum in the Stepping Stones of Women in Leadership series features the career journey of Diane Cruz-Burke.

Wednesday, May 17
11:45 a.m. - 1:00 p.m.
Fairbanks Hall (FS) 5005

[Register >>](#)[Back to top of page](#)

RECENT EXTERNAL FUNDING AWARDS

Grants and Awards – March 2017

PI	Agency	Project Title	School	Department	Total
Pavalko, Fredrick M.	NATIONAL INSTITUTE ARTHRITIS MUSCULOSKELETAL SKIN	Role of Src Kinase in Mechanically-Induced Bone Formation	MEDICINE	CELLULAR & INTEGRATIVE PHYSIO	\$2,592,313
Roodman, G David	NATIONAL CANCER INSTITUTE	Contribution of Osteocytes to the Musculoskeletal Effects of Multiple Myeloma	MEDICINE	HEMATOLOGY/ONCOLOGY	\$2,080,746
Chan, Rebecca J	NATIONAL HEART, LUNG AND BLOOD INSTITUT	PED-NEONATAL BASIC RESEARCH	MEDICINE	PED-NEONATAL BASIC RESEARCH	\$1,191,285
Vidal, Ruben	ALZHEIMER ASSOCIATION	In vivo analysis of cell- type-specific expression of Tau and Tau spreading	MEDICINE	PATHOLOGY AND LABORATORY MED	\$450,000

Holden, Richard J.	AGENCY FOR HEALTHCARE RESEARCH AND QUALITY	Power to the patient: Design and Test of Closed-Loop Interactive IT for Geriatric Heart Failure Self-Care	INFORMATICS	BIOHEALTH INFORMATICS	\$293,786
Hornby, T George	REHABILITATION INSTITUTE OF CHICAGO	Rehabilitation Research Training Center (PRIMER and VIVRANT) - Transfer (RHI Subaward)	MEDICINE	PHYSICAL MEDICINE & REHAB	\$261,000
Evans-Molina, Carmella	JUVENILE DIABETES RESEARCH FOUNDATION INTERNATIONAL	ER Calcium Dyshomeostasis in the Pathogenesis of Type 1 Diabetes	MEDICINE	ENDOCRINOLOGY	\$177,876
Rogan, Patricia M.	INDIANA GOVERNOR'S PLNG COUNCIL PEOPLE WITH DISAB	Back Home in Indiana Alliance Proposal for the GCPD	EDUCATION	EDUCATION	\$164,000

Wang, Yi	AMERICAN PETROLEUM INSTITUTE	the impact of PM2.5 on mortality: evidence from a natural experiment	PUBLIC HLTH	ENVIRONMENTAL HEALTH SCIENCES	\$134,544
Sanders, Don B	GILEAD SCIENCES, INC.	GILEAD SCIENCES, INC. RESEARCH SCHOLARS PROGRAM / DB Sanders	MEDICINE	PED-PULM CRITICAL CARE/ALLERGY	\$122,609
Tovar, Andres	GENERAL MOTORS	Multi-material, multi- objective topology optimization using extended hybrid cellular automata (gmHCA- MM)?Phase II and III	E&T	MECHANICAL ENGINEERING	\$100,000

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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 instead are sent directly to IUPUI School Deans. For comprehensive coverage of funding opportunities, please use the links below to search online tools.

AMERICAN COLLEGE OF RHEUMATOLOGY

Scientist Development Award: This award is designed for individuals in the early stages of their career or those without significant prior research experience who plan to embark on careers in biomedical and/or clinical research in arthritis and rheumatic diseases. Its purpose is to provide support for a structured research training program for rheumatology health professionals or rheumatologists.

This mentored career development program provides salary support as well as research & education costs for early-years of research training where trainees may interact with established investigators in a clinical unit of rheumatic disease care. The goal is young scientists embarking on research training and focused research that will allow them to be competitive for the next level of career development awards.

Deadline: July 03, 2017. <http://www.rheumresearch.org/career-development-research-awards#SDA>

NATIONAL ENDOWMENT FOR THE HUMANITIES

Preservation & Access/Research & Development: This opportunity strives to find better ways to preserve materials of critical importance to the nation's cultural heritage--from fragile artifacts & manuscripts to analog recordings and digital assets subject to obsolescence--and to develop advanced modes of stewardship and use.

This program recognizes that finding solutions to complex problems facing humanities resources and collections often requires multi-expertise of interdisciplinary teams: humanities, preservation technology, information, computing, and the natural sciences. All projects must demonstrate how advances in preservation/access would benefit the cultural heritage community in supporting humanities research, teaching, or public programming.

Research and Development offers two funding tiers in order to address projects at all stages of development and implementation. Tier I: Planning and Basic Research; Tier II: Advanced Implementation.

Deadline: June 08, 2017. <http://www.neh.gov/grants/preservation/research-and-development>

NATIONAL INSTITUTES OF HEALTH

Innovative Research in Cancer Nanotechnology (ICRN, R01): This opportunity encourages applications for the development of innovative research projects in cancer nanotechnology. The Innovative Research in Cancer Nanotechnology initiative is a component of a broader program: is NCI Alliance for Nanotechnology in Cancer. ICRN awards are designed to enable multidisciplinary research and transformative discoveries in cancer biology and/or oncology through the use of nanotechnology. Proposed projects should address major barriers in cancer biology and/or oncology using nanotechnology and should emphasize fundamental understanding of nanomaterial and/or nanodevice interactions with biological systems. This scope includes research concerning the delivery of nanoparticles and/or nanodevices to desired and intended cancer targets in vivo and/or characterization of in vitro detection and diagnostic devices.

Deadline: November 21, 2017. <https://grants.nih.gov/grants/guide/pa-files/PAR-17-240.html>

Core Infrastructure/Methodological Research: Cancer Epidemiology (U01): This opportunity invites applications on existing Cancer Epidemiology Cohorts (CECs) of 10K+ capable of supporting studies to examine the effects of multiple exposures and study participants' characteristics on the risk of multiple types of cancers. This U01 is designed to support basic CEC infrastructure.

Specific core functions that can be supported for the existing cohorts include, but are not limited to:

- Follow-up (active and passive) of enrolled participants;
- High retention and study participant engagement;
- Data validation, QC, standardization, harmonization, and/or calibration across cohorts;
- Biospecimen management and collection;
- Supplemental data collection;
- Data management, communication, and administration;
- Data/specimen preparation and distribution.

Deadline: October 05, 2017. <https://grants.nih.gov/grants/guide/pa-files/PAR-17-233.html>

BRAIN Initiative: Next-Generation Invasive Devices for Modulation & Recording in the Human Central Nervous System (UG3/UH3): The primary objective of this opportunity is to encourage investigators to pursue translational & clinical studies for recording and/or stimulating devices to treat nervous system disorders. The program will utilize a co-op agreement to support an Investigational Device Exemption (IDE) for a Significant Risk (SR) study or obtain IRB approval for a Non-Significant Risk study, and a subsequent small clinical study (Early Feasibility Study). The clinical study should provide data to answer key questions about device function or final design. The final design may require all non-clinical testing completed on the advanced clinical trial-market approval path.

Deadline: October 18, 2017. <http://grants.nih.gov/grants/guide/rfa-files/RFA-ns-17-005.html>

NATIONAL SCIENCE FOUNDATION

Transdisciplinary Research in Principles of Data Science (TRIPODS): This opportunity aims to bring together the statistics, mathematics, and theoretical computer science communities to develop the theoretical foundations of data science through integrated research and training activities. Phase I will support the development of small collaborative Institutes. Phase II will support a smaller number of larger Institutes, selected from the Phase I Institutes via a competitive process. All Institutes must involve significant, integral participation by all three communities.

Deadlines: LOI: Jan. 19, 2018; Full proposal: March 15, 2018. https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505347

Co-op Studies: Earth's Deep Interior (CSEDI): This opportunity invites proposals for interdisciplinary studies of the Earth's interior within the community-based CSEDI framework. Funding will support basic research on characteristics and dynamics of Earth's mantle and core, their influence on Earth's evolution, and on processes operating within the deep interior that affect or are expressed on the Earth's surface. Projects may employ any combination of field, laboratory, and computational studies with observational, theoretical, or experimental approaches. Interdisciplinary projects are required; international collaborations are supported.

Deadline: September 25, 2017. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11702

Alliances for Graduate Education & the Professoriate (AGEP): The AGEP program goal is to increase the number of historically underrepresented minority faculty, in specific STEM disciplines & education research fields, by advancing knowledge on career success pathways. Objectives include: the development, implementation, and study of innovative doctoral education models, postdoctoral training, and STEM faculty advancement; and to advance knowledge on underlying issues, policies & practices that impact the participation, transitions, and advancement of historically underrepresented minorities in STEM fields.

Projects are collaborative research projects representing new strategic alliances of institutions and non-profit organizations to implement and study transformative, evidence-based models. Embedded social science and education research contributes to the knowledge base about how transformational models eliminate or mitigate negative factors and promote positive policies and practices for historically underrepresented minorities.

Deadline: December 09, 2017. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5474

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

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RESEARCH

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[Office of Research Compliance](#)

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