



• Research Development

Office of the Vice Chancellor for Research

November 28, 2016

Inside this issue:

- [Feature Story](#)
- [Announcements](#)
- [Center Spotlight](#)
- [Faculty Spotlight](#)
- [Student Spotlight](#)
- [Translational Research Impact](#)
- [Internal Grant Deadlines](#)
- [Events and Workshops](#)
- [Current External Funding Opportunities](#)



Susan Rawl, PhD

IU cancer researcher awarded nearly \$2.6 million to increase colorectal cancer screening

An Indiana University cancer researcher has been awarded nearly \$2.6 million to compare interventions to increase colorectal cancer screening among underserved patients with limited resources.

Susan Rawl, PhD, professor of adult health at the [IU School of Nursing](#) and a researcher at the [Indiana University Melvin and Bren Simon Cancer Center](#), received the award from the Patient-Centered Outcomes Research Institute (PCORI).

Dr. Rawl and colleagues will compare two interventions -- a mailed tailored DVD alone to a mailed tailored DVD plus a telephone-based patient navigator -- to usual care to increase colorectal screening rates. The researchers will target 750 patients between the ages of 50 and 75 who were referred and scheduled to have a colonoscopy, but they

either cancelled or did not attend the scheduled appointment. The DVD and the DVD plus the patient navigator are designed to educate people about the importance and benefits of screening as well as provide assistance to overcome each individual's barriers.

According to Dr. Rawl, patient navigation and computer programs that are personalized to the unique needs of each user have been shown to be effective approaches to increasing colorectal cancer and other cancer screening, but no studies have combined them to examine their effectiveness.

"We will examine whether these interventions improve knowledge about colon cancer and screening and change health beliefs about screening," Dr. Rawl said. "Ultimately, the goal is to test whether these interventions are effective approaches to getting people screened."

People do not go to their appointments for a variety of reasons, including a lack of awareness of the need for screening and the benefits of screening, fear of pain, fear of finding cancer, unpleasantness of bowel preparation, cost, transportation issues, and an unwillingness to undergo invasive testing while not experiencing any symptoms.

Colorectal cancer is the third most common cause of cancer deaths in the country. About one-half of the deaths could be prevented if appropriate colon cancer screening was widely implemented.

Screening varies from annual stool testing with fecal occult blood tests or fecal immunochemical tests, sigmoidoscopy every five years, or colonoscopy every 10 years. The effectiveness of any screening depends on the rate of adherence. In 2014, only 41 percent of the people referred for colonoscopy completed the test in a local health system.

"Through this study, we seek to learn how to best educate and motivate people to get a colorectal cancer screening test because it can be a life saver," Dr. Rawl said. "This study

– when completed – has the potential to change how health care providers and health care systems educate, counsel, and prepare patients for screening. Our results may lead them to implement one or both of these interventions in a variety of health systems as a way to increase this much-needed screening."

"This project was selected for PCORI funding not only for its scientific merit and commitment to engaging patients and other stakeholders, but also for its potential to fill an important gap in our health knowledge and give people information to help them weigh the effectiveness of their care options," said PCORI Executive Director Joe Selby, MD, MPH. "We look forward to following the study's progress and working with Indiana University to share the results."

Dr. Rawl's study was selected for PCORI funding through a highly competitive review process in which patients, clinicians, and other stakeholders joined clinical scientists to evaluate the proposals. Applications were assessed for scientific merit, how well they will engage patients and other stakeholders, and their methodological rigor among other criteria.

Dr. Rawl, director of the nursing school's National Institute of Nursing Research-funded T32 training program in behavioral nursing research, and director of the PhD in Nursing Science program, is co-leader of the IU Simon Cancer Center's [Cancer Prevention and Control](#) research program. The 50 scientists in the program work to decrease cancer morbidity and mortality and are involved in the prevention and early detection of debilitating symptoms caused by cancer treatment while tailoring cancer treatment to individuals.

Her research interest is focused on behavioral oncology, with a special emphasis on interventions to promote cancer screening and reduce cancer risk. Her studies, funded by the National Cancer Institute and the National Institute for Nursing Research, have tested computer-based, tailored health promotion interventions to motivate colorectal cancer

screening.

PCORI is an independent, nonprofit organization authorized by Congress in 2010. Its mission is to fund research that will provide patients, their caregivers, and clinicians with the evidence-based information needed to make better-informed healthcare decisions.

For more information about PCORI's funding, visit

[Back to top of page](#)

Mamlin and Biondich to receive innovation in informatics award

Burke Mamlin, MD, and Paul Biondich, MD, of Indiana University School of Medicine and the Regenstrief Institute, will be honored this week with the 2016 Donald A.B. Lindberg Award for Innovation in Informatics. The award will be presented by the American Medical Informatics Association, the largest international professional biomedical informatics association, at its annual symposium.

Dr. Mamlin, associate professor of clinical medicine, and Dr. Biondich, associate

professor of pediatrics, are pioneers in the development, testing and use of open source software to support the delivery of health care in developing countries.

[Back to top of page](#)



Susan Hickman

Study to examine use, understanding of advance care preferences in nursing homes

Do nursing homes routinely record the treatment preferences of long-term residents when it comes to questions such as whether they want cardiopulmonary resuscitation if their heart and breathing stop? Do residents fully understand the decisions they are asked to make?

The Retirement Research Foundation has awarded a \$161,779 grant to [Susan Hickman](#), an IU School of Nursing professor who is also co-director of the [RESPECT -- Research in Palliative and End-of-life Communication and Training -- Center](#) at Indiana University-Purdue University Indianapolis, to answer these questions.

Researchers will examine documentation for advance care planning in Indiana nursing homes and speak to residents and their family members about the advance care planning process. The findings will be applicable to nursing homes in other states as well as Indiana, Hickman said.

"This grant will allow us to assess whether nursing homes are accurately recording residents' current advance care planning preferences in their records and identify ways to help nursing homes improve their practice," Hickman said.

"That is really important because the likelihood that residents' treatment preferences will be honored dramatically increases when time is taken to discuss and record their preferences," she said.

The most common decision nursing home residents are asked to make is whether they want CPR attempted if their heart and breathing stop, Hickman said. Other decisions include whether to go to the hospital or have a feeding tube.

Researchers expect to find that a majority of residents will have orders in the medical record about CPR, Hickman said. "But it is also possible there have been no conversations about this order or that the conversations were very brief and didn't provide enough information for people to really understand the pros and cons of a resuscitation attempt."

For example, many residents might not know that the success rate for CPR among long-term nursing home residents is very low or that residents who survive will most likely spend time in an intensive care unit on a ventilator. Other risks include brain damage, broken ribs and punctured organs, according to Hickman. Some residents are willing to risk these complications for a chance at a longer life, but others might not understand how low the odds are of success.

Another important advance care decision that should be reflected in the nursing home medical record is whether a nursing home resident will be transferred to a hospital and under what circumstances, Hickman said. There is a growing body of evidence that hospitalizations carry significant risks for nursing home patients.

Hickman is already in the midst of a \$2.2 million National Institutes of Health-funded study examining the use of an advance care planning tool called the Physician Orders for Scope of Treatment, or POST, in Indiana nursing homes.

Authorized by legislation adopted by the Indiana General Assembly in 2013, the Indiana POST is for patients near the end of life. Preferences for life-sustaining treatments, including resuscitation as well as medical interventions such as comfort care, hospitalization, intubation, mechanical ventilation, antibiotics and artificial nutrition, are documented as medical orders on the form. The POST form transfers throughout the health care system, and the orders are valid in all settings, unlike most nursing home advance care planning orders.

The new grant from the Retirement Research Foundation will also allow the researchers to compare advance care planning practices in nursing homes that use POST with those in nursing homes that do not use POST.

[Back to top of page](#)



Carolyn Gentle-Genitty is a key figure in IUPUI's efforts to enhance distance learning for current and future students.

Gentle- Genitty to lead international truancy and dropout prevention association

Opportunity is knocking for IUPUI's digital-minded students, and [Carolyn Gentle-Genitty](#) is eager to do her part to help faculty and students make the most of enhancements to online education courses and programs.

Gentle-Genitty was appointed an Online Education Faculty Fellow this summer, making the School of Social Work associate professor also part of the [Office of Academic Affairs](#). □

She brings a wealth of know-how to her new role: She taught her first distance-education course in 1999, served as an expert consultant on the campus's online task force, and taught and developed online courses in the School of Social Work.

Gentle-Genitty will help IUPUI solidify its presence in distance education and assist faculty members in harnessing the power of online infrastructure and tools such as Canvas, Zoom and proctoring services to support student success.

Beyond faculty and their individual courses, she is tasked with convening the 17 IUPUI schools in conversations about expected growth in online courses, programs and degrees, in partnership with [Indiana University Online](#) and IUPUI's [Degree Completion Office](#).

"My position is new, so we are uncertain of exactly what path must be taken," said Gentle-

Genitty, a Belize native who earned a Ph.D. from IUPUI and is now the director of the [Bachelor of Social Work](#) program. "What we do know is that it is imperative that our campus be on the cutting edge of online education if we want to remain competitive."□

Chancellor Nasser H. Paydar introduced Gentle-Genitty and the value of her new role during his [State of the Campus](#) address earlier this month. "We must increase our presence in this key area, expanding our capacity to provide programs that are fully online or blended, to give students the innovative teaching they need," he said.□

For her new position, Gentle-Genitty has much to offer:

- A knowledge of people.
- An ability to translate the world of online technology for faculty members more familiar with traditional teaching methods.
- A passion for blending the two worlds in unique and breathtaking ways.

"I believe I have those abilities," Gentle-Genitty said. "The field of social work is all about connecting with people. I have become knowledgeable about the power of technology, and I believe I can help faculty put the tools and infrastructure that IU has made available to good use. And I have more than enough experience to know the impact that technology offers to students in putting that information into action."

She's only a few months into her one-year renewable position, but the educator is already intrigued by the possibilities.

"This is like a new playground for me," Gentle-Genitty said. "I am excited to serve as a conduit or a convener to help our faculty and campus harness the amazing power of online education."

She believes that once faculty members see what kind of power they have at their fingertips, they'll embrace the many opportunities distance education provides. It's my job

to help them navigate the resources available to see what they find most useful to help students succeed," she said. "And that's the part of my job I like the best."

Students, on the other hand, don't need any convincing of the value of online education. "Many of our students have grown up with technology," Gentle-Genitty said. "Nothing fazes them other than technology not used to its maximum. IUPUI is on the cutting edge of online education with numerous courses, programs and degrees that can be achieved partially or fully online."

Gentle-Genitty believes her research work on student engagement through school bonding, in conjunction with the new fellowship, fits well with IUPUI's [strategic plan](#), helping transform online education and focus on student success. And because the velocity of change is so rapid in our digital age, she believes a key moment has arrived.

"The time to expand those options is now," she said. "We must be ready to respond to the next market of students who see brick-and-mortar education as a barrier to their time-sensitive success. From now on, students will make their choices of colleges and universities based on what resources a campus can provide them."

[Back to top of page](#)



Researchers in a Cuban lab

IUPUI students, researchers begin collaboration with Cuban university to study neglected diseases

Scientists in Indianapolis and Cuba are now collaborating to discover treatments for neglected diseases. □

Indiana University-Purdue University Indianapolis undergraduate students and researchers recently traveled to Cuba to conduct a workshop and begin a partnership with the University of Havana implementing [IUPUI's Distributed Drug Discovery, or D3, program](#). The American Chemical Society and the School of Science at IUPUI funded the workshop.

D3 not only teaches students about chemistry concepts and lab techniques; it also contextualizes what they do in the lab, with the mission of discovering treatments for neglected diseases. These diseases often have no financial incentive for discovery because they affect small or poverty-stricken populations. D3 makes researching treatments affordable by breaking down drug-discovery steps into small components that can be distributed to multiple low-cost sites.

Many of these sites are in the classroom, where students at IUPUI and across the world synthesize, during organic chemistry lab courses, molecules that have drug potential. They can be tested for drug efficacy in biology lab courses or through open-access testing resources. Distributing drug discovery to undergraduate classrooms is not only cost-effective; it provides university students with more meaningful learning experiences.

"During the workshop in Havana, I could see the excitement students had because they understood that the work they were doing could have an impact -- not only in chemistry, but for health around the world," said Juan Sanchez, an IUPUI undergraduate student.

"It's incredible that the collaboration of students from universities around the world might result in breakthroughs for neglected diseases."

D3 was developed by IUPUI researchers [William Scott](#), [Martin O'Donnell](#) and [Geno Samaritoni](#). The National Institutes of Health and the National Science Foundation have funded its basic research foundation and educational components over many years. Since 2003, D3 has trained more than 1,600 IUPUI undergraduate students and prepared 25 undergraduate researchers for their future careers.

The five-day D3 workshop was conducted at the University of Havana by IUPUI undergraduate students Priya Dave and Juan Sanchez, as well as Santa Clara University undergraduate Daniel Tiano, along with professors William Scott (IUPUI), Amelia Fuller (Santa Clara University) and Amy Dounay (Colorado College). They shared D3's mission and processes with University of Havana professor Daniel Garcia Rivera and students at the university. D3's first Latin American partnership created unique opportunities for Sanchez and Dave to translate D3's laboratory procedures into Spanish, serve as interpreters during the trip and act as teaching assistants in University of Havana classrooms.

With Cuban and United States diplomatic relations only recently renewed, this workshop provided an experience for students from both countries to learn about more than just chemistry.

"The Cuban students opened up their worlds to us -- they showed us their favorite ice-cream shops and the best views of the city, and they shared with us the difficulties they face," Dave said. "This trip showed me that chemistry has no language, boundaries or limits. It brought us all together."

IUPUI's Scott, O'Donnell and Samaritoni will continue to collaborate with Rivera in areas of complementary expertise and interest. Last week, Scott hosted Rivera's visit to

Indianapolis, during which the two professors began planning future collaborative work, including extending D3 workshops to sites in Mexico and Brazil as well as promoting future student exchanges that include Cuban visits to the United States. Rivera and Scott also plan to develop new D3 procedures for making additional classes of potential drug molecules.

"D3 provides a mechanism to positively impact -- at a scientific, educational and cultural level -- neglected-disease discovery," Scott said. "With so much conflict and misunderstanding in the world, D3 can bring us together as we collaborate in a common effort to address problems that we all agree need solutions. It was extremely gratifying to see Cuban and U.S. students enthusiastically working together, learning science and about each other as they shared a common goal."□

With the new University of Havana partnership, D3 now has seven global collaborators and hopes to continue to help students and researchers across the world have meaningful learning experiences for a humanitarian cause.

[Back to top of page](#)



Amber Comer

Data suggests lack of physician awareness of surrogate decision-making laws in Indiana

A researcher from the IU School of Health and Rehabilitation Sciences is working to uncover misunderstandings surrounding Indiana's health care surrogate decision-making laws. □

With the goal of aiding Indiana lawmakers' efforts to improve antiquated laws, [Amber Comer](#), an assistant professor in the school's Department of Health Sciences, and colleagues from the IU School of Medicine and Richard M. Fairbanks School of Public Health have investigated the effectiveness of the laws, releasing valuable data on physician awareness of surrogate decision-making.

In a recently published study that surveyed more than 400 Indiana physicians, the researchers discovered that only 48 percent of the health care providers fully understood the state laws regarding surrogate decision-making, and 98 percent would willingly disregard the law to allow non-legal surrogates, such as grandchildren, to make critical health care decisions.

"Physicians are being placed in a position where they are forced to decide whether they will follow the law or do what is ethically appropriate," said Comer, lead author of the study. "When physicians follow the law, families are hurt because they must pursue legal action through the courts in order to make health care decisions for their ill loved one. The issues with the health care consent law should be addressed to protect families. Indiana is behind other states, as the majority have already addressed these surrogate decision-making issues in their health care consent laws."

Under current Indiana law, once a person is unable to make their own medical decisions, a legally appointed surrogate is called upon to determine health care choices. This is usually based on representation forms that must be completed before any issues arise.

But in many cases, physicians find themselves working with patients who have no legally appointed health care surrogate. It is becoming more common for grandchildren or long-term partners to be caretakers, but under current law, they would not be able to determine care.

While more than 90 percent of the respondents recognized that grandchildren are not legally considered surrogates, these physicians indicated that health care decision-making would be granted to the grandchildren in a clinic setting. In addition, more than 40 percent of the survey's respondents would consult with unmarried same-sex and common-law partners about health care decisions for an incapacitated patient.

Comer and her colleagues theorize that regardless of the laws, these physicians believe that these choices are ethically appropriate

While it has been acknowledged that Indiana's health care surrogate laws are antiquated, this data shines a light on what is actually happening every day in hospital settings across the state.

"Families have changed in recent years. For many people, an unmarried partner may be their closest companion. Many older adults rely on in-laws or grandchildren to care for them -- but these relatives currently have no legal standing to make health decisions in Indiana without filling out a legal document such as a health care representative form," said Dr. Alexia Torke, a faculty member at the IU School of Medicine and co-author on the study.

This study was conducted in collaboration with Dr. Margaret Gaffney of the IU School of Medicine and Cynthia Stone of the Fairbanks School of Public Health.

[Back to top of page](#)

January deadline to apply for Showalter Trust awards

Applications are being accepted for grant awards from the Ralph W. and Grace M. Showalter Research Trust. The areas of eligible biomedical research are broad and described by the benefactors as “the type of medical research that is most likely to permanently benefit mankind.” Donor intent prohibits the use of Showalter Trust funds for research in psychiatry, sociology or social studies. □

Applications for funding will be reviewed in two stages. First, the IU School of Medicine Biomedical Research Committee will select the most meritorious proposals for further discussion and ranking. The committee will then provide a recommended ranking to the Showalter trustees who conduct a second review. Final funding decisions are made by the Showalter trustees. □

An electronic version of the application for Showalter funding must be fully routed using the IU Quali Coeus (KC) system by 5 pm, Tuesday, Jan. 10. (For submission purposes, the agency deadline should be listed as Jan. 17.) The Office of Research Administration (ORA) will review applications and contact the principal investigator (PI) if any revisions

are needed. The PI will receive the signed application from ORA which then needs to be uploaded to the Indiana CTSI website at indianactsi.org.

For more details, visit the [Showalter Sharepoint site](#).

[Back to top of page](#)

Scientific Writing from the Reader's Perspective

& Advanced Scientific Writing from the Reader's Perspective



George D. Gopen, Ph.D., J.D.
Creator, "The Reader Expectation Approach"
Professor Emeritus, Duke University

Intro Workshop

Tuesday, December 6

8:00 a.m. - 5:00 p.m.

Walther Hall (R3) 203/205

Advanced Workshop

Wednesday, December 7

7:30 a.m. - 4:30 p.m.

Neuroscience Building
Goodman Hall, 1030 Auditorium

As competition for external funding becomes more challenging, getting one's scholarly work successfully published is more important than ever. This year, Dr. Gopen will present the foundational workshop on Tuesday, December 6. If you are planning to attend the advanced workshop on Wednesday, December 7 you **MUST** attend this workshop or

have attended one in the years prior.

Intro Workshop Registration:

<http://faculty.medicine.iu.edu/events/1169/scientific-writing-from-the-readers-perspective/>

Advance Workshop Registration:

<http://faculty.medicine.iu.edu/events/1170/advanced-scientific-writing-from-the-readers-perspective/>

Stepping Stones of Women in Leadership

January 26th, 2017 | 11:45 a.m. - 1:00 p.m. | Fairbanks Hall (FS) 1112



Maureen Harrington, Ph.D.

Associate Dean of Medical Student Education in Foundational Sciences
Indiana University School of Medicine



Women have achieved significant accomplishments in medicine and science, yet comprise a relatively small proportion of faculty leadership positions, and tend to have smaller professional networks and fewer role models than male colleagues. This series creates a forum where all faculty and students can learn about the personal career journeys of successful women. Please join us in honoring the career of Dr. Maureen Harrington.

Register at <http://faculty.medicine.iu.edu/registration/indexDirect.php?id=2177>

Save the date: RESPECT Center conference is March 3

Mark your calendar for IUPUI RESPECT Center's 2017 conference, "Let's Talk Palliative Care: Challenges, Controversies, and the Cutting Edge," on Friday, March 3, at Ritz Charles, in Carmel, Indiana. Keynote speaker is Angelo Volandes, MD, Harvard Medical School. Poster abstract submissions will be accepted through Jan. 20. For details, [view the call for poster abstracts](#) .

HANDS in Autism offers intensive workshop series

HANDS in Autism is conducting a series of intensive three-day programming and workshop events from now until early June 2017. The intensive training, Hands Model in Practice, focuses on providing hands-on experience and coaching in a simulated work environment. Individuals with disabilities participate, facilitating a rich learning environment for all.

While the program includes traditional methods such as lectures and discussion, the

emphasis of the training is building increased knowledge and skill of the process of making appropriate programming decisions for each individual, workplace and/or intervention team through hands-on application and learning. □

The HANDS in Autism Interdisciplinary Training and Resource Center extends the outreach and training offered by the Christian Sarkine Autism Treatment Center at Riley Hospital for Children at Indiana University Health and the Indiana University School of Medicine. □

For more information about the workshops, including dates and cost, [view this informational flyer](#) □.

[Back to top of page](#)

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.

INSTITUTE OF MUSEUM & LIBRARY SERVICES

National Leadership Grants for Libraries (NLG): The NLG program supports projects that address challenges faced by the library and archive fields and that have the potential to advance practice in those fields. Successful proposals will generate results such as new tools, research findings, models, services, practices, or alliances that can be widely used, adapted, scaled, or replicated to extend the benefits of federal investment. The funding categories are: Project Grant, Research Grant, Planning Grant, or National Forum Grant.

IMLS is interested in work that will support the national digital platform: the combination of software applications, social and technical infrastructure, and staff expertise used by libraries, museums, and archives to provide online content and services to all users in the United States. Libraries have made important advancements in this area over the past 20 years, but much of that work was experimental or isolated. IMLS wants to bridge gaps between disparate pieces of the existing digital library infrastructure, for increased efficiencies, cost-savings, access and services. The program cannot support the digitization of content, or pre-digitization activities like inventorying collections.

Issues to consider may include: 1) increasing access to shared digital services for libraries and archives through existing platforms; 2) expanding the range, types and diversity of existing digital content available through shared infrastructure; 3) improving the discoverability and functionality of digital content; 4) improving the interoperability, usability and community involvement of widely used open source digital library software applications; 5) tackling problems facing libraries in providing digital access to users today at scale (digital stewardship, data curation, applications of linked data, and crowdsourcing); and 6) addressing access to in-copyright and licensed content.

IMLS is interested in work that builds institutional capacity, develops STEM learning, engages community and encourages partnerships to support all types of learning and

inquiry, including participatory inquiry-based, and/or other forms of learning in libraries. Competitive proposals in this category should focus on supporting and enhancing libraries' ability to make their own decisions and investments, rather than the development of learning spaces or programs in individual libraries and communities. Deadlines: Preliminary Proposal: February 01, 2017; Full Proposal: June 09, 2017.

<https://www.imls.gov/grants/available/national-leadership-grants-libraries>

NATIONAL INSTITUTES OF HEALTH

Global Noncommunicable Diseases & Injury Across the Lifespan: Exploratory Research (R21): This opportunity supports planning, design and initial pilots for locally relevant and catalytic research on non-communicable diseases (NCDs) or injury in low and middle-income countries (LMICs). Research addressing multiple NCDs and their risk factors and research addressing NCDs as comorbidities for/with infectious diseases including HIV/AIDS is encouraged. Scientists in the US or upper middle income countries (UMICs) are eligible to partner with scientists in LMIC institutions. Pilot activities and research are expected to inform the development of more comprehensive research programs that contribute to the long-term goals of building sustainable research capacity in LMICs to address NCDs and injury throughout life and to lead to diagnostics, prevention, treatment and implementation strategies. The proposed work may also contribute to developing a base for research networking and evidence-based policy beyond the specific research project. For applications on any research topic related to the brain, nervous system, mental health and substance abuse please see: PAR-14-331 "Global brain and nervous system disorders research across the lifespan (R21)." Applications on those topics are not appropriate for this FOA. Income categories used are defined by the World Bank at <http://data.worldbank.org/about/country-classifications/country-and-lending-groups>.

Deadlines: Letter of Interest (optional): January 23, 2017; Application: February 22, 2017.
<http://grants.nih.gov/grants/guide/pa-files/PAR-16-052.html> □

Advanced Development & Validation of Emerging Biospecimen Science Technologies for Basic & Clinical Cancer Research (R33): This Opportunity solicits grant applications

proposing exploratory research projects focused on further development and validation of emerging technologies that improve the quality of the samples used for cancer research or clinical care. This includes new capabilities to address issues related to pre-analytical degradation of targeted analytes during the collection, processing, handling, and/or storage of cancer-relevant biospecimens. This opportunity solicits R33 applications where major feasibility gaps for the technology or methodology have been overcome, as demonstrated with supportive preliminary data, but still requires further development and rigorous validation to encourage adoption by the research community. The overall goal is to support the development of highly innovative technologies capable of maximizing or otherwise interrogating the quality and utility of biological samples used for downstream analyses. This FOA will support the development of tools, devices, instrumentation, and associated methods to preserve or protect sample integrity, or establish verification criteria for quality assessment/quality control and handling under diverse conditions. These technologies are expected to accelerate and/or enhance research in cancer biology, early detection and screening, clinical diagnosis, treatment, epidemiology, or address issues associated with cancer health disparities, by reducing pre-analytical variations that affect biospecimen sample quality. Deadlines: Letter of Interest (optional): April 26, 2017; Application: May 26, 2017.

<https://grants.nih.gov/grants/guide/rfa-files/RFA-CA-17-013.html>

Data & Resource Generation Centers for Illuminating the Druggable Genome (U24): The overarching goal of this opportunity and its companion announcements is to generate a research consortium to facilitate the unveiling of the functions of selected understudied proteins in the Druggable Genome, using experimental and informatics approaches. This research consortium will be a part of the Implementation Phase of the Common Fund program, "Illuminating the Druggable Genome" (IDG; <https://commonfund.nih.gov/idg/index>) and will be composed of multiple Data and Resource Generation Centers (DRGCs; RFA-RM-16-026), a Knowledge Management Center (KMC; RFA-RM-16-024), and a Resource Dissemination and Outreach Center (RDOC; RFA-RM-16-025). Pending availability of funds, a future initiative may be issued

to focus on Cutting Edge Informatics Tools (CEITs).

This opportunity calls for utilization of ensembles of scalable technology platforms to characterize functions of understudied non-olfactory G protein-coupled receptors (GPCRs), protein kinases, and ion channels at molecular and cellular levels in medium- to high-throughput fashion, rather than by a "one at a time" approach. The objective is to establish a set of integrated technology platforms and generate novel data and tools revealing the molecular, cellular, and/or physiological role of understudied proteins in these three families. Each DRGC should incorporate scalable technology platforms via streamlined experimental workflows, with an emphasis on reproducibility in analyses of protein functions in cellular models, complex biological tissues, living organisms, or another physiologically relevant system. Deadlines: Letter of Intent: February 14, 2017; Application: March 14, 2017.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-16-026.html>

NATIONAL SCIENCE FOUNDATION

Energy, Power, Control & Networks (EPCN): The EPCN Program invests in systems and control methods for analysis and design of cyber-physical systems to ensure stability, performance, robustness, and security. Topics of interest include modeling, optimization, learning, and control of networked multi-agent systems, higher-level decision making, and dynamic resource allocation as well as risk management in the presence of uncertainty, sub-system failures and stochastic disturbances. EPCN also invests in adaptive dynamic programming, brain-like networked architectures performing real-time learning, and neuromorphic engineering. EPCN supports innovative proposals dealing with systems research in such areas as energy, transportation, and nanotechnology. EPCN places emphasis on electric power systems, including generation, transmission, storage, and integration of renewables; power electronics and drives; battery management systems; hybrid and electric vehicles; and understanding of the interplay of power systems with associated regulatory and economic structures and with consumer behavior. Also of

interest are interdependencies of power and energy systems with other critical infrastructures. Topics of interest include energy scavenging and alternate energy technologies such as solar, wind, and hydrokinetic. The program also supports innovative tools and test beds, as well as curriculum development integrating research and education. Deadline: November 01, 2017

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505249

Macromolecular, Supramolecular & Nanochemistry (MSN): The MSN Program focuses on basic research that addresses fundamental questions regarding the chemistry of macromolecular, supramolecular and nanoscopic species and other organized structures and that advances chemistry knowledge in these areas. Research of interest to this program will explore novel chemistry concepts in the following topics: 1) The development of novel synthetic approaches to clusters, nanoparticles, polymers, and supramolecular architectures; innovative surface functionalization methodologies; surface monolayer chemistry; and template-directed synthesis. 2) The study of molecular scale interactions that give rise to macromolecular, supramolecular or nanoparticulate self-assembly into discrete structures; and the study of chemical forces and dynamics that are responsible for spatial organization in discrete organic, inorganic or hybrid systems (excluding extended solids). 3) Investigations that utilize advanced experimental or computational methods to understand or to predict the chemical structure, unique chemical and physicochemical properties, and chemical reactivities that result from the organized or nanoscopic structures. Research in which theory advances experiment and experiment advances theory synergistically is of special interest. Deadline: October 31, 2017.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503422

Communications, Circuits & Sensing-Systems (CCSS): The CCSS program is intended to spur visionary systems-oriented activities in collaborative, multidisciplinary, and integrative research. CCSS supports systems research in hardware, signal processing techniques, and architectures to enable the next generation of cyber-physical systems

(CPS) that leverage computation, communication, and algorithms integrated with physical domains. CCSS offers new challenges at all levels of systems integration to address future societal needs. CCSS supports innovative research and integrated educational activities in micro- and nano-systems, communications systems, and cyber-physical systems. The goal is to design, develop, and implement new complex and hybrid systems at all scales, including nano, micro, and macro, that lead to innovative engineering principles and solutions for a variety of application domains including, but not limited to, healthcare, medicine, environmental monitoring, communications, disaster mitigation, homeland security, transportation, manufacturing, energy, and smart buildings. CCSS also supports integration technologies at both intra-and inter-chip levels, new and advanced radio frequency (RF), millimeter wave and optical wireless and hybrid communications systems architectures, and sensing and imaging at terahertz (THz) frequencies.

Hao Ling

- RF, Analog, and Mixed Signal Integrated Circuits and Systems
- RF, Microwave, Millimeter-Wave and THz Technology
- Energy-Efficient, Low-Noise, Reconfigurable Electronics
- Antennas and Wave Propagation for Communications and Sensing
- High-Fidelity Modeling & Simulation of Electronic, Photonic and Electromagnetic Systems

Chengshan Xiao

- RF/Wireless, Optical, and Hybrid Communications and Networking
- Integrated Sensing, Communication, and Computational Systems
- Spectrum Access and Spectrum Sharing, Cognitive Radio
- Signal Processing and Compressive Sampling
- Cyber Physical Systems and Security

Mona Zaghoul

- Micro, Nano, and Bio Systems (MEMS/NEMS)
- Chemical, Biological, and Physical Sensors, Sensors & Actuators, & Electronic Interfaces
- Ultra-Low Power Wearable and Implantable Sensing and Imaging Systems
- Real-Time Monitoring/Stimulation of Brain/Other Body Functions, Natural Environments.

Deadline: October 01, 2017.

[https://www.nsf.gov/funding/pgm_summ.jsp?
pims_id=505248&WT.mc_id=USNSF_39&WT.mc_ev=click](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505248&WT.mc_id=USNSF_39&WT.mc_ev=click)

U.S. DEPT. OF DEFENSE

Psychological Health/Traumatic Brain Injury Research Program (PH/TBIRP)— Cognitive Resilience & Readiness Research Award: This opportunity solicits research that will increase our understanding of what and how key scientific and biomedical elements influence and correlate with cognitive skills assessment, enhancement, and training for Service members, and related specialty occupations. This is focused on delivering solutions for Service member performance sustainment and health protection and should demonstrate broader potential public use benefit of the research. Novel approaches which contribute to cognitive resilience and readiness are encouraged. Solutions that can be translated from laboratory environments and integrated into existing military training and practice with minimal disruption (noninvasive) to existing routine operations are encouraged. Both applied (preclinical) research and clinical trials within specific topic areas addressing the prevention of military-relevant psychological health issues and enhancement of operational performance are allowed.

The general focus of this opportunity is to build and sustain cognitive resilience in service

members and to ensure short- and long-term readiness of the force. The expectations of a successful project will be to demonstrate utility of cognitive resilience tools and promote Service member readiness. These expectations will be met through the discovery and transition/translation of scientific findings for performance sustainment and health protection in training and operational environments.

The application must address one or more of the following topics: 1 Cognitive resilience: Tools and strategies to confer robustness and adaptability in cognitive performance; 2) Cognitive readiness: Translating cognitive resilience to military operational performance and Service member health; 3) Cognitive readiness measures to validate cognitive readiness assessment tools and strategies for relevant military training and/or in operational environments; and to set and validate standards of cognitive resilience in individuals and small (e.g., operational) groups; and 4) Cognitive resilience and readiness training program implementation. Deadlines: Pre-Application: June 27, 2017; Application: Sept. 07, 2017. <http://cdmrp.army.mil/funding/phtbi.shtml>

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.

[Back to top of page](#)

**OFFICE OF THE VICE
CHANCELLOR FOR
RESEARCH
IUPUI**

755 W. Michigan Street
UL 1140
Indianapolis, IN 46202-
5195
Main phone: 317-274-
1020
Fax: 317-274-1024
Email: ovcr@iupui.edu
Web: research.iupui.edu

[Vice President for Research](#)
[Office of Research Administration](#)
[Office of Research Compliance](#)
[IU Research & Technology Corporation](#)
[Innovate Indiana](#)
[Undergraduate Research](#)
[Graduate Research](#)

[One.IU](#)
[Outlook Web Access](#)
[A-Z List](#)
[Campus Maps](#)
[Emergency Information](#)

Give Now

