

Research Enterprise

January 16, 2015

The Office of the Vice Chancellor for Research (OVCR) publishes the RESEARCH ENTERPRISE to keep the academic community and the community at large informed about research activities, opportunities and development on the IUPUI campus.

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If you have a news item or recent noteworthy research-related achievement that you would like to share, please see the [Research Enterprise Submission Guidelines](#).

Please be aware that not all news items will be deemed appropriate or timely for publication, but each item will be carefully considered.

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FEATURE STORY

IU and Regenstrief study named landmark article

A study from the Indiana University Center for Aging Research and the Regenstrief Institute has been [named one of 27 landmark articles in geriatric medicine](#) over the past 20 years by the *Journal of the American Medical Association*.

"Identifying Landmark Articles for Advancing the Practice of Geriatrics," which highlighted the 2007 GRACE study as groundbreaking and influential work, appears in the November 2014 issue of the *Journal of the American Geriatrics Society*. GRACE is the acronym for Geriatric Resources for Assessment and Care of Elders.

GRACE is a unique home-based geriatric care program designed by IU Center for Aging Research, Regenstrief and Eskenazi Health (formerly Wishard Health Services) researchers to keep older adults in their homes. The program's results showed higher-quality medical care, improvement in quality of life, and fewer emergency department visits for a medically and economically vulnerable population. The core elements of GRACE can be effectively used by various types of health care systems. The IU Geriatrics GRACE Training and Resource Center currently engages over 300 physicians nationwide to use the home-based care model now officially known as GRACE Team Care, including at several hospitals in the Veterans Affairs health care system. Blue Cross Blue Shield of Michigan has made GRACE Team Care training the foundation of its High Intensity Care Management program.

Authors on the study are Steven R. Counsell, M.D., Mary Elizabeth Mitchell Professor of Geriatrics; Christopher M. Callahan, M.D., Cornelius and Yvonne Pettinga Professor of Medicine; Daniel O. Clark, Ph.D., assistant research professor of



Steven R. Counsell, M.D.

anatomy and cell biology; and Wanzhu Tu, Ph.D., professor of biostatistics, all of the IU School of Medicine; Timothy E. Stump; Gretchen D. Ricketts, of the IU Center for Aging Research and Regenstrief Institute; and Amna B. Buttar, M.D., of the University of Wisconsin Medical School-Madison. Drs. Counsell, Callahan, Clark and Tu are also members of the IU Center for Aging Research and Regenstrief Institute.

ANNOUNCEMENTS

IU scientists awarded \$1.9 million to advance research on Toxoplasma parasite

The National Institutes of Health has awarded \$1.9 million to IU School of Medicine researcher William Sullivan, Ph.D., to find new ways to attack Toxoplasma, a dangerous parasite that infects an estimated 60 million people in the United States.

For most people Toxoplasma infection produces flu-like symptoms or no symptoms at all. However, for people with immune system deficiencies the disease can cause serious effects, including lung problems, blindness and seizures. Also, infants born to mothers who are infected for the first time during or shortly before pregnancy are at risk for severe complications, miscarriages or stillbirths. The parasite becomes a chronic infection by transforming itself into a latent cyst that invades the immune system.



William Sullivan, Ph.D.

The five-year grant will enable Dr. Sullivan and his team to build on more than a decade of research that began with a simple question: How do the parasites turn genes on and off, which is key to the transformation to the latent state?

The new grant will enable Dr. Sullivan and colleagues to better understand an enzyme named GCN5b, which the team's earlier research found to be necessary for the parasite to replicate, and helps turn on genes needed for the parasite to go latent.

Herron Professor's study of ubiquitous computing attracts Springer Family Innovative Faculty Award

Whether you're resentful of being monetized by your apps or unconcerned about the data you provide with your every keystroke, Aaron Ganci's research findings will likely be relevant to you.

Ganci, assistant professor of visual communication design, has been chosen by his peers as the 2015 recipient of the Frank C. Springer Family Innovative Faculty Award. The award is Herron School of Art and Design's most prestigious and largest faculty research prize.

Ganci's specialty is experience design—a subset of visual communication—that he weaves into his students' coursework. His curiosity led him to propose a research project that will examine the



potential of ubiquitous computing, that is, the integration of data gathering technology into everyday objects, to "enable extremely powerful interaction experiences and a new breed of smart digital interfaces," he said.

Aaron Ganci was selected by his peers for the 2015 Springer Award. (image: Herron staff)

The burgeoning capability to gather data about users and their actions "will enable designers to achieve new levels of engagement, personalization and usefulness through digital interfaces," Ganci predicted.

It is those kinds of interfaces that enable the bookseller on your device to make recommendations on what you might like to read, based on the types of titles you have already ordered, comments you have made about them and people with whom you've shared them.

Ganci said ubiquitous computing will impact many more facets of our lives. "Smart environments are growing exponentially. As this technology becomes more available in the mass market, connected environments—virtual and physical—will become much more prevalent." A big part of what Herron Visual Communication Design graduates will be creating in the next five or ten years is experience design for all manner of digital interfaces.

Thanks to the Springer Prize, Ganci will do a deep dive into what this means for tomorrow's designers through a very specific project that he was inspired to undertake by fellow faculty members Craig McDaniel and Jean Robertson. In their soon to be published book, McDaniel and Robertson assert that a standardized alphabet has outlived its usefulness for expressive visual communication through text.

Artist brings his brand of war to IUPUI campus

Chris Dacre's "OH YEAH!" solo exhibit, featuring soft sculptures of military personal and equipment, screen-printed, surplus army tents, drone-printed kites, videos and audio recordings will run Jan. 16 to Feb. 16 at the Herron School of Art and Design.

Exhibit visitors in their 30s and 40s could have flashbacks to Saturday mornings spent watching "G.I. Joe" and other cartoons interrupted by commercials featuring the Kool-Aid Man breaking through walls and uttering "Oh yeah!"

In the Herron exhibit, "a big, soft sculpture tank and its driver -- have replaced the Kool-Aid Man, breaking through a wall into a young boy's room . . . while outside the room, life-sized sculptures of soldiers wage war," Dacre said during a phone interview.

The subject of war has always fascinated the Denver-based artist who spent eight years in the U.S. Air Force before earning a bachelor's degree in graphic design and a master of fine arts degree in studio art and printmaking.

"What interests me most about war, is the way that we recruit for, stockpile and wage it around the globe, oftentimes in the name of freedom and liberty or some



'OH YEAH!' Tank



Mixed media artist Chris Dacre will bring his humorous, yet satirical depiction of the complexities of war to the IUPUI campus in January.

other guise," wrote Dacre in an online artist statement.

His goal for his art is to spark conversation about the realities of war and the military-industrial-entertainment complex which surrounds it. While he isn't an expert in military history, his art, along with talks he gives based on his research, provide food for thought for exhibit goers.

"My job is to disseminate information that most people won't get in everyday news. My art exhibit can become a platform to have a discussion about these issues," Dacre said.

For example, the tank and its driver bring to mind the hundreds of inflatable tanks crafted for use in World War II. It provides an opportunity to discuss the little known history of the Ghost Army, a secret unit of soldier artists -- including then budding fashion design Bill Blass -- who employed the tanks and recorded sound effects to deceive enemy soldiers.

And many of the images of soldiers aren't human in form. For example, the tank driver resembles a cartoon wolf. Making the players less human serves to reduce the emotionalism often inherent in dialogue about war and violence, Dacre said.

"I try to take the human element out of it," Dacre said. War "is a very depressing subject. I am trying to make it lighter ... I am trying to make it easier for us to talk about it."

While viewers could come away from the exhibit thinking that Dacre is either pro-war or a pacifist, the artist believes that those who are willing to come "with an open mind and take some time to figure it out, they can see what I am trying to say."

Part of the exhibit's message is that "in a world where wars are often fought over the rights to natural resources needed to fuel our transnational consumer culture, we all play a role in world conflicts," Dacre said.

Dacre's work is in the permanent collections of Denver Art Museum, the Museum of Fine Arts, Boston; National Palace of Culture, Sofia, Bulgaria; Brazilian American Institute, Rio de Janeiro, Brazil; Museum of Texas Tech University, Lubbock, TX; and several other museums.

He has held exhibitions at numerous galleries and universities, including the Ohio University Art Gallery, the University of Wisconsin, and the LuLuBell Toy Bodega and Gallery, Tucson, AZ, just to name a few.

"War will be a topic for me for a long time," Dacre said. "I'm always learning something new that I can share."

Medicare Reimbursement Approval for Food and Drug Administration (FDA) Investigational Device Exemption (IDE) Studies

Effective for Category A and B IDE studies approved by the FDA on or after January 1, 2015, interested parties (i.e., study sponsors) that wish to seek Medicare coverage in Category A or B IDE studies must submit a request for review and approval via email to clinicalstudynotification@cms.hhs.gov or via hard copy to the following address:

Centers for Medicare and Medicaid Services
Center for Clinical Standards and Quality
Director, Coverage and Analysis Group
ATTN: Clinical Study Certification
Mail Stop: S3-02-1

7500 Security Blvd.
Baltimore, MD 21244

For more information see: <http://www.cms.gov/Medicare/Coverage/IDE/index.html>

Providers participating in and seeking Medicare reimbursement for items and services in Category A or B IDE studies, prior to submitting claims, are responsible for checking the CMS Coverage Website to identify whether CMS (or its designated entity) has approved the study for purposes of Medicare coverage.

<http://www.cms.gov/medicare-coverage-database/indexes/national-and-local-indexes.aspx>

IDE studies approved by Medicare Administrative Contractors (MAC) prior to January 1, 2015 will continue to be administered by the MAC.

(CMS Manual System, Pub 100-02 Medicare Benefit Policy, Transmittal 198, change request 8921, dated November 6, 2014, Subject: Medicare Coverage of Items and Services in Category A and B Investigational Device Exemption (IDE) Studies):

<http://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/Downloads/R198BP.pdf>

2015 IUPUI Research Day

SAVE THE DATE
IUPUI RESEARCH DAY

OFFICE OF THE
VICE CHANCELLOR
FOR RESEARCH
INDIANA UNIVERSITY

FROM INNOVATION TO IMPACT...FULFILLING THE PROMISE

DATE: APRIL 17, 2015
TIME: 9 AM - 3 PM
LOCATION: IUPUI CAMPUS CENTER
420 UNIVERSITY BLVD. INDIANAPOLIS, IN, 46202

INSTITUTE SPOTLIGHT

Study assesses hospice use in and out of nursing homes and by patients in transition

As hospice for nursing home patients grows dramatically, a new study from the [Regenstrief Institute](#) and the [Indiana University Center for Aging Research](#) compares the characteristics of hospice patients in nursing homes with hospice patients living in the community. The study also provides details on how hospice patients move in and out of these two settings.

Longer lengths of hospice care, rising costs and concerns over possible duplication of services have led to increased scrutiny by policymakers of hospice patients living in nursing homes. Nursing home patients have longer hospice stays compared to individuals living in the community.



Kathleen Unroe, M.D.

The researchers, led by Regenstrief Institute investigator and IU Center for Aging Research scientist Kathleen Unroe, M.D., MHA found that nursing home hospice patients were older, more likely to be women, more likely to be on both Medicare and Medicaid, and more likely to have dementia than individuals receiving hospice services outside a nursing home.

Nationally, an estimated 40 percent of Medicare recipients die with hospice. In the study, one in three Medicare recipients died with hospice. Cancer was the leading primary diagnosis for all hospice patients, although nursing home hospice patients were as likely to have a dementia diagnosis as a cancer diagnosis both nationally and in the study.

"Hospice is a poor fit for many people in nursing homes due to the way eligibility criteria currently are configured," Dr. Unroe said. "Yet nearly a third of hospice patients in the United States live in nursing homes, and the number is growing. Our goal is to understand more about who uses hospice and where they live so that policymakers can make informed decisions as they contemplate redesign of the hospice benefit."

Using 11 years of data, the researchers initially planned to contrast only the two groups: those who received hospice care in nursing homes and those who received hospice care in the community. But according to Dr. Unroe, it became apparent that that there were four groups that needed to be studied:

- *Patients receiving hospice care only in nursing homes.
- *Individuals who received hospice services only in non-nursing-home settings.
- *Crossover patients who used hospice in both settings.
- *A transition group who received hospice care within 30 days of transition in or out of a nursing home.

Medicare spending on crossover and transition hospice patients was higher than Medicare costs for hospice patients in a nursing home or in the community, according to the new study.

While nursing home patients have longer hospice stays compared to individuals living in the community, the number of days on hospice was significantly higher for the crossover group than for any other group. Nearly a third of crossover patients had hospice stays greater than six months. Overall, for the four groups, 28 percent of patients had a hospice stay of less than one week.

"Policymakers need to look at all four groups and consider potential consequences of regulatory decisions for these patients," Dr. Unroe said.

The 3,771 patients in this study were identified through [Eskenazi Health](#) (Wishard

Health Services at that time), one of the largest safety-net health systems in the country. Data from Medicare, Indiana Medicaid and other sources capturing use of hospice services inside and outside Eskenazi Health was evaluated.

"Hospice Use Among Nursing Home and Non-Nursing Home Patients" appears online in advance of publication in a future print issue of the *Journal of General Internal Medicine*. Study authors, in addition to Dr. Unroe, are Regenstrief Institute investigator Greg A. Sachs, M.D.; M.E. Dennis, B.A.; Susan E. Hickman, Ph.D., of the IU School of Nursing; Timothy E. Stump, M.A.; and Regenstrief Institute investigators Wanzhu Tu, Ph.D., and Christopher M. Callahan, M.D. Dr. Callahan is the founding director of the IU Center for Aging Research.

The study was supported by grants from the National Palliative Care Research Center (41836550) and the National Institute on Aging (RO1 AG031222 and K24 AG024078).

FACULTY SPOTLIGHT

Humble homeopathic goop spawns healing discoveries

Richard L. Gregory, Ph.D., is one of the many versatile faculty members at IUPUI serving in multiple capacities: in his case, associate dean for Graduate Education and professor of oral biology and pathology and laboratory medicine, in the IU Schools of Dentistry and Medicine. Professor Gregory states, "I'm fascinated with all sorts of things, how and why they work. I've learned over the years that I need to focus as much as I can...What I love is the 'Aha!' moment that we have. It's a high that you can't imagine."



Richard Gregory (center) with student research team: (left to right) Ruijie Huang, Ali Tahir, Phillip Witcher, and Emily Parker.

For several years, on top of his other duties, Gregory has been nurturing budding researchers on the undergraduate level, for which he was honored with the IUPUI Center for Research and Learning's 2008 Director's Award for Outstanding Leadership and Mentoring of Undergraduate Research. He was drawn to this service by "the opportunity to help them to achieve their goals to get into dental or medical school." He describes the work as, "Very rewarding" and continues, "I had very good mentors. It's another way of giving back. Also helps me to do *my* research." Professor Gregory grins, adding, "Also keeps us young."

Gregory has mentored a number of different undergraduate researchers, both individually through the IUPUI Undergraduate Research Opportunities Program (UROP) and on team projects through the IUPUI Multidisciplinary Undergraduate Research Institute (MURI). Using samples derived from Himalayan peat bogs, this past academic year Gregory and School of Dentistry colleagues L. Jack Windsor, Ph.D., and Fengyu Song, D.D.S., M.S., Ph.D., mentored a MURI project titled, "Determination of the Effect of Fulvic Acid on Oral Bacteria and Human Tissues." Undergraduate students Ali Tahir, Emily Parker, Ghayasul Syed, Mark Botros and Phillip Witcher participated on the research team, the latter garnering awards for his work at both the annual meeting of the Indiana Branch of the American Society for Microbiology (IBASM) March 28-29, 2014, and subsequently at the April 7, 2014 IU School of Dentistry Research Day. Phillip and his mentors concluded that the observed suppressive mechanisms by fulvic acid on both *Streptococcus mutans* (*S. mutans*) and squamous cell carcinoma (SCC-25) cells could improve overall oral health. Gregory, his colleagues and students continue researching the effects of fulvic acid, e.g., (0.5%) on matrix metalloproteinase expression and collagen degradation ability of SCC-25 cells.

STUDENT SPOTLIGHT

IUSM students named Wright Scholarship winners

The IU Simon Cancer Center's William J. Wright Scholarship was awarded earlier this year to a pair of IU School of Medicine students -- Tony Brown and Katie Meyer, who are keen to make a difference in critical health care areas such as women's health and brain cancer. Criteria for earning the \$7,890 scholarship include potential for pursuing cancer-related research, clearly defined professional goals, and outstanding character. Third- and fourth-year medical students, physicians in post-doctoral programs, and/or medical doctors employed by IUSM who are involved in cancer-related fellowship training are all eligible for the scholarship.



Katie Meyer, left, and Tony Brown are recipients of the 2014 Wright Scholarship.

Meyer, 24, hails from Columbus, IN, and is in her third year of studies at IUSM in Indianapolis. As an undergraduate at Wheaton College in Wheaton, IL, she majored in biology and Spanish, graduating in May 2012 with a 3.96 GPA. Meyer expects to receive her M.D. from IU in May 2016.

News of the scholarship came as a bit of surprise, said Meyer, because she's only just beginning her foray into academic medicine and doesn't yet have a lot of research work to her name. However, she spent summer 2013 in the lab of Daniela Matei, M.D., as part of the Student Research Program in Academic Medicine, where she studied the behavior of ovarian cancer cells -- an experience that changed the way Meyer looked at her future in medicine. "The biggest thing that draws me to medicine is the personal relationship side of things," Meyer said. "I will always want to have a good portion of my time spent as clinical time, with patients, but I'm excited to be able to incorporate research into that, and oncology is a great field to be able to do that. You can be treating patients and helping them but at the same time looking into new therapies, clinical trials, and other new innovations in the field that will impact a lot more patients than just your pool that you're able to treat. If I were to go into oncology, I would hope to be able to have a good balance of both of those."

Students who receive the Wright Scholarship are expected to devote at least two months to a cancer-related project during the school year. Such projects can range from lab experiments to health outcome research and cancer awareness programs. Meyer said she plans to fulfill this requirement by spending additional lab time under the tutelage of Dr. Matei, who has since become her faculty mentor, to help her clarify what research area she'd like to focus on during her career.

"It will be a great experience to get to work in Dr. Matei's lab again and see more of what she does, and learn more about oncology because it wasn't really on my radar until a few summers ago," Meyer says.

"At this point," Meyer added, "I haven't narrowed down my interests too much. I am really interested in women's health, so I've thought about doing gynecologic oncology, but also really like hematology, so I could see myself working with leukemias, lymphomas, things like that. I'm leaving my options open. I want to explore different fields."

Brown, 25, is much more assured of his career path. Growing up in Noblesville before

moving to Wabash, the lifelong Hoosier knew he wanted to go to medical school in Indianapolis and study neurology and cancers of the brain, and he enrolled as an undergraduate at IUPUI with that goal in mind, graduating in 2012 with a degree in biology and a perfect 4.0 GPA.

"It was my plan since starting college," said Brown, who, like Meyer, expects to receive his M.D. in May 2016. "IUPUI helped tremendously with that. With the surrounding hospitals and research areas, it was a very obvious choice."

He said the Wright Scholarship will help him pay for lab expenses and travel that will contribute to a cancer research project supervised by renowned neurosurgeon Aaron Cohen-Gadol, M.D., an associate professor of neurosurgery at IUSM.

"The goal will be to get a publication out of this project," Brown said. "Aside from the funds, being a William J. Wright Scholar is a great honor because it will help me reach my fullest potential as a physician-scientist, and I hope to represent the program well."

He said he's aiming to present findings from his project -- which will likely be on the topic of neuro-oncology, specifically the aggressive type of brain tumor known as glioblastoma multiforme -- at the IU Simon Cancer Center Cancer Research Day in May 2015.

"Neurology always caught my attention because of its complexity and uniqueness," Brown said. "The brain is not like any other organ in the body. It defines a person and makes them who they are -- that's always been appealing to me. As well, cancer is a disease that everyone has probably dealt with, either directly or indirectly, at some point in their life. A family friend of mine was diagnosed with brain cancer when I was a freshman in college. I am grateful for the mentors, research projects and internships that I have been a part of over the course of these last six years, and each experience has built on the other and led me to the path that I'm on today."

Brown -- who credits Dr. Cohen-Gadol and Brad Bohnstedt, M.D., a recent neurosurgery chief resident at IUSM, as well as IUSM faculty members Brittney-Shea Herbert, Ph.D., and Brenda Grimes, Ph.D., as inspiring and supporting him -- sees that path leading to a career in neurosurgery with a focus on cancer research.

"That's basically what I've been interested in since starting college. Everything in medicine is exciting to learn about, but neurology and cancer have always been my foremost interests and concerns. I hope I'm a competitive candidate for neurosurgery programs. IU has a great one. But my goal is to take it one step at a time and become the best physician-scientist that I can be."

TRANSLATIONAL RESEARCH IMPACT

Focus on occupational therapy tool brings international collaboration to IUPUI

The Indiana University School of Health and Rehabilitation Sciences at Indiana University-Purdue University Indianapolis recently hosted an international group that is developing a new version of an occupational therapy diagnostic tool used worldwide. The revised tool was created by Patricia Scott, an associate professor in the school's Department of Occupational Therapy.

Established in the 1980s as a diagnostic tool for occupational therapists to develop detailed and personalized intervention plans for their clients as



Patricia Scott, Ph.D.

understood through the Model of Human Occupation, the Role Checklist has become an internationally used tool that has been translated into 13 languages. It is based on the idea that roles are patterns of behavior that allow individuals to be productive members of society and identify their ways of participating in society. The checklist is particularly effective in guiding treatment, then measuring treatment outcomes for people with disabilities whose self-identities may have changed as a result of their disability.

The International Alliance for the Study of Role Participation was created to further develop, widely translate and study the new version, Role Checklist Version 2. Members of the group include researchers from Norway, Scotland, Sweden, Switzerland, Japan and the United States. The group was also joined at the meeting in Indianapolis by Renee Taylor, vice provost and professor of occupational therapy at the University of Illinois Chicago.

"We are truly pleased to host the global team as they continue to research and develop this clinical practice tool that is certain to resonate throughout the occupational therapy profession," said Augustine Agho, dean of the IU School of Health and Rehabilitation Sciences.

Among the team's agenda, researchers reviewed study data collected globally, created a task-list for an administrative manual, reviewed the scoring algorithm and finalized the translation guidelines, and discussed potential funding sources for future projects.

"It was an ambitious agenda, and we made great strides by approving the translation protocol and completing the cross-cultural linking of the Role Checklist Version 2," Scott said. "We next look forward to expanding the network to colleagues in 15 other countries. This expansion will enable us to engage occupational therapy researchers and practitioners on every continent, and every region of our globe."

The team's meeting at IUPUI is an important aspect of the Role Checklist's placement in research and practice because it furthers the ability to measure participation outcomes in translational research on a global scale.

Funding for the team's conference came from the IUPUI Office of the Vice Chancellor for Research in support of establishing a Global Center for Health, Disability and Participation in Society on the IUPUI campus.



International team works on role checklist

Aside from their intense work agenda, the international guests were able to take advantage of Indianapolis' highlights. This included a special request to attend a Pacers/Nuggets basketball game and to experience a traditional American Thanksgiving dinner -- especially turkey. These wishes were made possible through the help of Indianapolis Mayor Greg Ballard and Rick Hofstetter, owner of Story Inn in Brown County, where the group enjoyed a turkey dinner with all the trimmings.

The Indiana University School of Health and Rehabilitation Sciences offers five major academic programs: Health Sciences, Nutrition and Dietetics, Occupational Therapy, Physical Therapy, and Physician Assistant Studies. Current research labs within the school include the Center for Translational Musculoskeletal Research, Advanced Neurorehabilitation Research Lab, Applied Regenerative Medicine Lab, Pulmonary Physiology Lab, Community Mobility and Participation in Society, Silver Hoosiers Health and Aging Research Lab, and Driving Safety and Rehabilitation Research Lab.

OVCR INTERNAL GRANT DEADLINES

Release Time for Research (RTR): IUPUI maintains a robust research enterprise. To support faculty with adequate time to prepare competitive proposals, the IUPUI Office of the Vice Chancellor for Research has developed the Release Time for Research (RTR) internal funding mechanism. This funding program allows IUPUI faculty a "buyout" of teaching time to prepare high-quality grant/contract proposals for submission to external funding agencies. It also supports non-tenure track faculty who are full-time senior lecturers or clinical track faculty possessing terminal degrees relevant to their fields, and who have a desire to engage in research or creative activity in an area that directly relates to their teaching or service mission. *The next RTR application deadline is **February 1, 2015**.* For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

IUPUI ARTS AND HUMANITIES INTERNAL GRANT (IAHI): The IAHI Grant Program exists to support campus-wide attainment of excellence in research and creative activity in arts and humanities. It is designed to enhance the research and creative activity mission of IUPUI by supporting research projects and scholarly activities that are conducted by arts and humanities faculty. *The IAHI application deadline is **February 15, 2015**.* For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

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 under-represented 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, 2015**.* For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

Funding Opportunities for Research Commercialization and Economic Success (FORCES): The FORCES program is designed to support IUPUI researchers in the successful transformation of their research findings into commercially viable outcomes. The key goals of FORCES are to support: 1) realization of short-term projects that will enhance commercial value of IUPUI intellectual property assets, by facilitating commercialization of inventions, technologies, or other intellectual property derived from existing research projects; and 2) development of research initiatives that show great promise for commercialization of the research outcomes. *The next FORCES application deadline is **March 15, 2015**.* For grant guidelines and application forms, go to <http://research.iupui.edu/funding/>.

OTHER INTERNAL GRANT DEADLINES

Young investigator and postdoctoral training awards -- applications sought

****Young Investigator Awards in Clinical and Translational Research --
Due January 21**

Applications for the Indiana CTSI's Young Investigator Awards in Clinical and Translational Research are due 4 p.m. Wednesday, January 21.

These awards are designed to provide promising junior investigator faculty with the opportunity to be mentored in research-intensive, multi-disciplinary settings toward the goal of developing careers in clinical-translational research.

Eligible candidates are clinician-scientists with a doctoral degree (physicians, nurses, dentists, pharmacists, clinical psychologists, optometrists, veterinarians, allied health care professionals, etc.) or basic scientists with a Ph.D. engaged in translational research with high potential for early translation into impacting patient care.

Benefits include partial salary support, as well as tuition and fees for required and elective coursework, pilot research monies and travel funds. Awards will begin May 1.

Complete application guidelines are online. To apply, visit the Indiana CTSI [grants portal](#) and enter your institutional username and password. Applications instructions are located under "CTSI Young Investigator Award in Clinical - Translational Research - 2015.01 (KL2)."

Questions can be directed to Donna Burgett at dfburget@regenstrief.org.

****Postdoctoral training awards in translational research applications --
Due January 30**

Applications for the Indiana Clinical and Translational Sciences Institute postdoctoral training awards in translational research are due 5 p.m. Friday, January 30.

These awards are aimed at postdoctoral students whose research is at any point along the translational research spectrum. Candidates must have received a Ph.D. or equivalent doctoral degree from an accredited domestic or foreign institution with no more than three years combined experience as a postdoctoral fellow in academia or industry.

Funding is for two years with the second year of funding contingent upon review. Benefits include salary support and health insurance. Awards will start July 1.

Complete application guidelines are online. To apply, visit the Indiana CTSI [grants portal](#) and enter your institutional username and password. Applications instructions are located under "CTSI Postdoctoral Training Awards in Translational Research - 2015.01 (TL1)."

Questions can be directed to Andrew Bullock, Ph.D., at sabullock@nd.edu.

New GLUE grants seek to connect experts across campuses -- RFA due February 20

A new joint grant initiative between the Indiana Clinical and Translational Sciences Institute and the Office of the Provost at IU Bloomington is currently seeking applications.

The IU Grant Linking University-wide Expertise, or GLUE, Awards will provide up to \$100,000 to support the cross-campus development of multi-investigator and/or multi-project translational research teams that aim to submit multi-year extramural grant applications with annual budgets of \$500,000 or higher, e.g., NIH Project Planning Grants, "U series" grants, multi-PI R01s, Small Business Technology

Transfer grants or Specialized Programs of Research Excellence grants.

Proposed projects should bring together two or more scientific teams who will develop appropriate administrative and technical "core" supports. Projects at any stage of their development will be accepted for review.

Eligible applications must include a full-time, tenure-track primary investigator from IU Bloomington. Other team members should be from IUPUI or the IU School of Medicine. Team members from other CTSI partner institutions (Purdue or Notre Dame) also will be considered.

Applications are due online 4 p.m. **Friday, Feb. 20, 2015**. To apply, visit [Indiana CTSI's website](#) and log in using your institutional username and password.

Questions can be directed to Anne Nguyen (IUPUI) or Yvonne Lai (IU Bloomington) at ictsi@indianactsi.org.

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 expected to be July 22, 23, and 24, 2015, depending on discipline. If you are interested in applying and would like assistance by OVCR staff, be sure to attend the following sessions.

Session 1: General Information & Eligibility

Target Audience: Early Career Faculty in Disciplines Funded by NSF

When: Friday, February 6, 2015 | 11:30am - 1:00pm

Where: University Library, Room 1126

A brief review of the guidelines and eligibility requirements will be presented. Attendees will also learn what resources are available to support development of a competitive proposal to the National Science Foundation CAREER program. You are welcome to bring your lunch.

Register: <https://crm.iu.edu/CRMEvents/NSFCAREERSession1020615/>

Session 2: Panel of Successful Applicants

Target Audience: Early Career Faculty in Disciplines Funded by NSF

When: Friday, March 27, 2015 | 11:30am - 1:00pm

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/NSFCAREERSession2032715/>

Ins and Outs of Applying for NSF Funding

Target Audience: Faculty and grant administrators

When: Friday, February 13, 2015 | 9:00am - 12:00pm
Where: University Library, Lilly Auditorium

How to prepare and submit grant proposals to the National Science Foundation (NSF) is the focus of presentations by representatives of the Office of the Vice Chancellor for Research, the Office of Research Administration, and NSF awardees on the IUPUI faculty. The workshop will provide an overview of the Foundation, its mission, priorities, and NSF programs that cut across disciplines. Specific topics include a description of the various funding mechanisms and their appropriateness for each career stage, attributes of high quality proposals, and resources available within the University to support proposal development. Highlighting the event is a panel discussion by current NSF reviewers who will provide an in-depth look into the peer review process.

Register: <https://crm.iu.edu/CRMEvents/NSFFunding021315/>

National Science Foundation Research Experiences for Undergraduates

Target Audience: Faculty Interested in Mentoring Undergraduate Researchers

When: Thursday, March 5, 2015 | 2:00pm - 3:30pm
Where: University Library, Room 1126

The NSF REU opportunity focuses on ventures 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 expected to be August 28, 2015. If you are interested in applying and would like assistance by OVCR staff, be sure to attend.

Register: <https://crm.iu.edu/CRMEvents/NSFREU030515/>

Developing Complex, Multi-Investigator, Multi-Institutional Proposals

Target Audience: Senior Faculty with Previous or Current External Funding

When: Thursday, March 26, 2015 | 4:00pm - 5:30pm
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 (limited to 20 registrants).

Register: <https://crm.iu.edu/CRMEvents/ComplexProposals032615/>

Nine Golden Rules to Succeed in Research and Scholarship

Target Audience: Faculty

When: Friday, March 13, 2015 | 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/NineGoldenRules031315/>

Working with Industry on Applied Research & Creative Activity

Target Audience: Faculty

When: Friday, April 24, 2015 | 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 an applied researcher.

Register: <https://crm.iu.edu/CRMEvents/WorkingwithIndustry042415/>

OTHER EVENTS AND WORKSHOPS

RESPECT Center annual conference -- registration due February 20

The IUPUI [RESPECT Center](#) will host a conference for health care clinicians and researchers focused on best practices in palliative and end-of-life care from 8am to 4 pm Friday, March 6, at the Ritz Charles in Carmel.

The keynote speaker for "Let's Talk Palliative Care: Comprehensive Care for Seriously Ill Patients, Their Families and Their Care Providers" will be William Breitbart, M.D., Jimmie C. Holland Chair in Psychiatric Oncology at the Memorial Sloan-Kettering Cancer Center and professor of clinical psychiatry at Weill Medical College of Cornell University.

IU School of Medicine presenters include Ella Bowman, M.D., Ph.D., assistant professor of clinical medicine; Shelley Johns, Psy.D., assistant professor of medicine; Karen Moody, M.D., associate professor of clinical pediatrics; and Greg Sachs, M.D., co-director of the RESPECT Center and professor of medicine and neurology. Dr. Moody also serves as director of pediatric palliative care at Riley Children's Hospital at IU Health.

The IUPUI Research in Palliative & End-of-Life Communication & Training Center aims to create a collaborative, interdisciplinary scientific community of researchers and clinicians to work together to advance the science of communication in palliative and end-of-life care across the lifespan.

Poster applications will be accepted until 5 p.m. **Friday, January 30**. Event registration is due **Friday, February 20**. Cost is \$150 for physicians and nurse practitioners; \$100 for healthcare professionals. To register or apply, [visit the conference's website](#).

This event is eligible for up to six AMA PRA Category 1 Credits.

Questions can be directed to Laura Holtz at respectc@iupui.edu or 317-274-9114 

How to write grants workshop geared to grad students, post-docs, clinical fellows

The IU Simon Cancer Center is hosting a workshop to provide detailed information to graduate students, post-doctoral fellows, and clinical fellows on how to write competitive F30, F31, and F32 fellowships and K99/R00 grants. The workshop will also outline the importance of obtaining such awards for one's career.

The workshop is 9-11:30 a.m. Tuesday, January 20 in R4-101.

The workshop's agenda is:

- *Advantages of receiving F and K series awards from the eyes of the faculty search and screen committee
- *Writing a competitive proposal: A mentor's role
- *Writing a competitive proposal: How difficult it is? (From a student's point of view)
- *F-series review process: What is expected?
- *K99-R00 Review
- *Q&A

Questions should be directed to Hari Nakshatri, the IU Simon Cancer Center's associate director of education, at hnakshat@iupui.edu.

Caitlin Pollock presents Introduction to TEI for Digital Humanities

When: Wednesday, February 11, 2015 | 12:00pm - 2:30pm

Where: University Library, Room 2120

Introduction to Text Encoding: Encoding with XML and Text Encoding with XML and Text Encoding Initiative Guidelines

The Text Encoding Initiative (TEI) sets the standards for text-encoding, born-digital editing, and digital humanities projects. It is the preferred format for granting agencies such as the National Endowment for the Humanities (NEH). TEI's guidelines define an XML format for textual materials represented in a digital form. This workshop provides attendees with a hands-on introduction to basic text encoding with TEI. It assumes attendees have some basic knowledge of XML or other markup languages.

Registration: <http://www.iupui.edu/~iahi/?event=workshop-caitlin-pollock-presents-introduction-to-tei-for-digital-humanities>

IUPUI Arts and Humanities Institute (IAHI) Spring 2015 Lineup

For details and to register, visit http://www.iupui.edu/~iahi/?page_id=39.

RECENT EXTERNAL FUNDING AWARDS

The Office of the Vice Chancellor for Research recognizes and congratulates all IUPUI faculty and researchers for recent awards they have received and that help to advance the IUPUI research enterprise. The following table highlights those receiving \$100,000 or more in external grants.

Grants and Awards – November 2014

PI	Agency	Project Title	School	Department	Total
McAllister, Thomas W	U.S. DEPARTMENT OF DEFENSE	THE NCAA-DOD GRAND ALLIANCE: Concussion Assessment, Research and Education (CARE) Consortium	MEDICINE	PSYCHIATRY	\$5,000,000

Xu, Xiao-Ming	CRAIG H NEILSEN FOUNDATION	Schwann cell migration-mediated axonal regeneration after SCI	MEDICINE	NEUROLOGICAL SURGERY	\$600,000
Tempel, Eugene R	LILLY ENDOWMENT, INCORPORATED	Lilly Family School of Philanthropy Transition Project	Lilly Family School of Philanthropy	PHILANTHROPY	\$574,462
Foroud, Tatiana M	MICHAEL J FOX FOUNDATION FOR PARKINSONS RESEARCH	Access Data & Biospecimen Program	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$429,119
Tillema, Erik	UNIVERSITY OF WISCONSIN	Generalization Across Multiple Mathematical Areas (GAMMA)	EDUCATION	EDUCATION	\$305,100
Serban, Karina A.	ALPHA-1 FOUNDATION	Endothelial-monocyte interactions modulated by A1AT	MEDICINE	PULMONARY	\$225,000
Yoder, Mervin C.	UNIVERSITY OF MARYLAND	Embryonic Pathways to HSC Development	MEDICINE	PED-NEONATAL BASIC RESEARCH	\$195,000
Johnson, Matthew S	BIOCOMPATIBLES UK LTD	Post-TheraSphere Radioembolization PET/CT Imaging Data Analysis	MEDICINE	RADIOLOGY & IMAGING SCIENCES	\$150,680
Vittal, Ragini	ALEXION PHARMACEUTICALS INC.	Complement Inhibition in Experimental Lung Fibrosis	MEDICINE	PULMONARY	\$144,100
Rogan, Patricia M.	INDIANA GOVERNOR'S PLNG COUNCIL PEOPLE WITH DISAB	Back Home in Indiana Alliance Proposal for the GCPD	EDUCATION	EDUCATION	\$140,000
Royalty, Anne B	THE ROBERT WOOD JOHNSON FOUNDATION	Early Evidence on Employment Responses to the Affordable Care Act	LIBERAL ARTS	ECONOMICS	\$138,813
Carlesso, Nadia	MPN RESEARCH FOUNDATION	Impact of the infamed bone marrow niche on the progression of myeloproliferative neoplasia and marrow fibrosis	MEDICINE	PED-NEONATAL BASIC RESEARCH	\$100,000

Grants and Awards – December 2014

PI	Agency	Project Title	School	Department	Total
Broeker, Camille M	LILLY ENDOWMENT, INCORPORATED	Renovation of the Natatorium	EXEC MGT	NATATORIUM	\$10,000,000
Osili, Una O	JOHN TEMPLETON FOUNDATION	Generosity for Life: The Science and Art of Living Generously	LILLY FAMILY SCHOOL OF PHILANTHROPY	PHILANTHROPY	\$2,867,145
Broxmeyer, Hal E	NATIONAL HEART, LUNG AND BLOOD INSTITUTE	Basic Sciences Studies on Gene Therapy of Blood Diseases	MEDICINE	MICROBIOLOGY & IMMUNOLOGY	\$2,357,940
Sullivan, William J.	NATIONAL INSTITUTE ALLERGY & INFECTIOUS DISEASES	The GCN5b acetylation complex in the AIDS pathogen Toxoplasma	MEDICINE	PHARMACOLOGY & TOXICOLOGY	1,929,000
Meyer, Jason	NATIONAL EYE INSTITUTE	Derivation and disease modeling of human stem cell-derived retinal ganglion cells	SCIENCE	BIOLOGY	\$1,786,302
Li, Lang	NATIONAL LIBRARY OF MEDICINE	Evidence-based Drug-Interaction Discovery: In-Vivo, In-Vitro and Clinical	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$1,770,716
Orschell, Christie M	UNIVERSITY OF MARYLAND	Radiation/Nuclear Medical Countermeasure Product Development Support Services	MEDICINE	HEMATOLOGY/ONCOLOGY	\$1,132,755
Li, Lang	UNIVERSITY OF PENNSYLVANIA	Drug-Drug Interactions Involving Antidiabetic Agents	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$820,298
Foroud, Tatiana M	MICHAEL J FOX FOUNDATION FOR PARKINSONS RESEARCH	PPMI Biorepository	MEDICINE	MEDICAL & MOLECULAR GENETICS	\$636,343

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 online search tools listed below.

DEPARTMENT OF DEFENSE

Medical Practice Initiative Team Communications Training Research Program (MPI-TCT): The primary purpose of the MPI-TCT is to solicit research that will

improve communication skills and team performance in medical settings with the goal of reducing medical errors and improving medical care. Research funded through the MPI-TCT BAA is intended and expected to benefit and inform both military and civilian medical practice and knowledge. Results are expected to inform the Government (DOD and civilian agencies) on the potential viability of a software simulation, technology and/or programming gaps, and on evaluation criteria and/or metrics to improve performance in this domain.

This announcement is soliciting research into methods and technology that would support future development of a prototype medical communications skills and/or medical team performance team-training simulation system. Under this announcement, a proof of concept or prototype of the proposed technical high risk work is being sought. A prototype system that undergoes validation may be proposed and developed, provided that it is supported by critical research and analysis of data regarding the nature and extent of improving communication skills and team performance in medical settings that a prototype purports to address and it is supported by valid metrics that support efficacy. *Deadline: April 15, 2015.*
<http://www.grants.gov/web/grants/view-opportunity.html?oppld=249255>

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 two-page summary of their research project and a CV or bio sketch to the VP for Research Office at vrpr@iu.edu. Prior to submission, the IUPUI Office of the Vice Chancellor for Research is offering preparation assistance with the two-page summaries. For more information, contact Ann Kratz, akratz@iupui.edu.

NATIONAL INSTITUTES OF HEALTH

Effects of Secondhand Smoke on Cardiovascular and Pulmonary

Mechanisms: This opportunity invites applications that propose to better characterize the dose-response relationship between secondhand smoke (SHS) exposure and the cardiovascular and pulmonary diseases by improving our understanding of the mechanisms by which SHS contributes to these diseases. The recent Institute of Medicine (IOM) report on *Second-hand Smoke Exposure and Cardiovascular Effects: Making Sense of the Evidence* serves as the basis for this initiative. A wide range of research including animal and human laboratory studies, cohort and case control studies, and natural experiments resulting from home, workplace, and/or community changes in SHS exposure are consistent with this initiative. Components of Participating Organizations: National Heart, Lung, and Blood Institute (NHLBI) and National Institute of Environmental Health Sciences (NIEHS). *Deadline: June 05, 2015.* <http://grants.nih.gov/grants/guide/pa-files/PA-11-244.html>

Prevention Innovation Program (PIP): This Funding Opportunity Announcement (FOA), the Prevention Innovation Program (PIP), encourages Research Project Grant (R01) applications in non-vaccine biomedical prevention (nBP) research. The PIP is intended to support high-risk/innovative research and development efforts to establish and maintain a sustainable pipeline for the prevention of HIV acquisition/transmission. The PIP will support discovery and development of novel and under-explored nBP candidates/strategies, nBP delivery strategies, studies of the impact of nBP prevention strategies on genital and gastrointestinal (GI) mucosa function and emerging technologies that support microbicides, pre-exposure prophylaxis (PrEP), and Multipurpose Prevention Technologies (MPT) for prevention of HIV acquisition/transmission. *Deadlines: Letter of Intent: June 10, 2015; Application: July 10, 2015; February 05, 2015.*
<http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-13-059.html>

Opportunities for Collaborative Research at the NIH Clinical Center (U01):

The goal of this program is to support collaborative translational research projects aligned with NIH efforts to enhance the translation of basic biological discoveries into clinical applications that improve health. It encourages high-quality science demonstrating the potential to result in understanding an important disease process or lead to new therapeutic interventions, diagnostics, or prevention strategies within the research interests and priorities of the participating NIH Institutes/Centers (ICs). Specifically, the program seeks to broaden and strengthen translational research collaborations between basic and clinical researchers both within and outside NIH to accelerate and enhance translational science by promoting partnerships between NIH intramural investigators (e.g., those conducting research within the labs and clinics of the NIH) and extramural investigators (e.g., those conducting research in labs outside the NIH), and by providing support for extramural investigators to take advantage of the unique research opportunities available at the NIH Clinical Center by conducting research projects in collaboration with NIH intramural investigators. In order to be eligible for this program, the application must include at least one intramural scientist as Program Director/Principal Investigator or collaborator, and at least some of the research must be conducted at the NIH Clinical Center. Through this collaboration, external researchers may gain access to the NIH Clinical Center and leverage the diverse Clinical Center resources, expertise, and infrastructure available to test promising laboratory- and animal-based discoveries with potential for advancing disease diagnosis, treatment and prevention. The special environment of the Clinical Center can support studies that may not be readily supported elsewhere. *Deadline: March 20, 2015.* <http://grants.nih.gov/grants/guide/pa-files/PAR-13-358.html>

NATIONAL SCIENCE FOUNDATION

Mechanics of Materials and Structures (MOMS): This program supports fundamental research in mechanics as related to the behavior of deformable solid materials and respective structures under internal and external actions. A diverse and interdisciplinary spectrum of research is supported with emphasis on research that leads to advances in 1) theory, experimental, and/or computational methods in mechanics; and/or 2) uses contemporary mechanics methods to address modern challenges in materials and structures.

Proposals related to material response are welcome, and would propose advances in fundamental understanding of deformation, fracture, fatigue, as well as on contact and friction through constitutive modeling, multi-scale (spatial or temporal) and multi-physics analysis, computational methods, or experimental techniques. Proposals that relate to structural response are welcome and would propose advances in the understanding of nonlinear deformation, instability and collapse in the context of large deformation, wave propagation, multi-scale (spatial or temporal) and multi-physics analysis, computational methods, or experimental techniques.

Proposals at the intersection of material and structure (such as metamaterials, hierarchical, micro-architected and low-dimensional materials) are especially welcome. Of particular interest are research questions that address the integration and combination of geometry, topology of material distributions, length-scales and deformation/failure mechanics. *Deadline: February 27, 2015.* http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13355

Earth Sciences-Instrumentation and Facilities (EAR/IF): The EAR/IF Program supports meritorious requests for infrastructure that promotes research and education in areas supported by the Division. EAR/IF will consider proposals for: 1. Acquisition or Upgrade of Research Equipment that will advance laboratory and field investigations, and student research training opportunities in the Earth sciences. 2. Development of New Instrumentation, Analytical Techniques or Software that will extend current research and research training capabilities in the Earth sciences. 3.

Support of National or Regional Multi-User Facilities that will make complex and expensive instruments or systems of instruments broadly available to the Earth sciences research and student communities. 4. Support for Early Career Investigators to facilitate expedient operation of new research infrastructure proposed by the next generation of leaders in the Earth Sciences. This opportunity allows for submission of a proposal for Acquisition or Upgrade of Research Equipment that includes budget line items associated with support of a new full-time technician who will be dedicated to manage the instrument(s) being requested.

Deadline: Continuous. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6186

Combustion and Fire Systems: The goal of this program is to generate cleaner global and local environments, enhance public safety, improve energy and homeland security, manufacture new materials, and create more efficient manufacturing. The program endeavors to provide basic engineering knowledge that is needed to develop useful combustion applications (such as flame-assisted synthesis of novel materials) and for mitigating the effects of fire. Broad-based tools - experimental, diagnostic, and computational - that can be applied to a variety of problems in combustion and fire systems are the major products of this program.

Research areas of interest for this program include: 1) Basic Combustion Science: Laminar and turbulent combustion of gas, liquid, and solid fuels in premixed, non-premixed, partially premixed, and homogeneous modes over a broad range of temperatures, pressures and length scales. Burning of novel and synthetic fuels. Development of models and diagnostic tools. 2) Combustion Science related to Climate-change: Increasing efficiency and reducing pollutants. Production and use of renewable fuels. Technologies such as oxy-fuel combustion and chemical looping combustion for carbon sequestration. 3) Fire Prevention: Improved understanding of fires to prevent their spread, inhibit their growth, and suppress them. 4) Turbulent Combustion Modeling and Validation: This is an NSF-AFOSR (Air Force Office of Scientific Research) joint funding area focusing on team efforts closely coordinating experimental and modeling efforts for validating fundamental turbulent combustion model assumptions. *Deadlines: October 20, 2015.*

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13366

U.S. DEPARTMENT OF ENERGY (DOE)

Advanced Research in Dry-Cooling Program (ARID): This program seeks to fund transformative new power plant cooling technologies that enable high thermal-to-electric energy conversion efficiency with zero net water dissipation to the atmosphere. Of particular interest to this program are technologies that incorporate air cooling, sorption-based cooling, multimode (convection/radiant) cooling, large capacity cool storage, or any other innovative heat rejection technology that addresses the programmatic goals. Successful technologies emerging from this program will enable continued reliable and efficient domestic electric power production, independent of population growth and climatic variations and with minimal impact on the aquatic environment. Market penetration of these technologies will significantly reduce the risk of lost thermoelectric power production. This program aims to bridge the gap between fundamental scientific advances, such as those arising from the NSF Thermal Transport Processes Program, ONR Ship Systems and Engineering Research Program (Thermal Energy Management), and the NSF/EPRI Advanced Dry Cooling for Power Plants program, and technology that will have a transformative impact in dry-cooling of power plants. *Deadline: November 10, 2015.* <https://arpa-e-foa.energy.gov/#Foaldfba1c006-c1b0-4f5d-8522-3f814a217edd>

Scientific Discovery Through Advanced Computing (SciDAC), Multiscale Integrated Modeling for Fusion Energy Science: Applications are solicited for the development of advanced multiphysics and multiscale integrated simulation capabilities for magnetically confined plasmas addressing problems of direct relevance to burning plasma science and ITER. While developing a full Whole Device

Modeling (WDM) simulation capability is beyond the scope of this opportunity, this is intended to be a first step toward this goal. Responsive applications are expected to integrate the most critical physical processes across all relevant regions and on all relevant temporal and spatial scales, using an appropriately justified combination of first principles models and high physics fidelity reduced models. Simulation codes should be able to exploit the massive concurrency of the SC leadership class computing facilities and not merely their high capacity. Applications focused solely on the development of computational frameworks are not responsive to this FOA. However, since advanced computational frameworks are essential for enabling and facilitating the coupling and integration of component modules, allocation of resources to adapt, maintain, upgrade, and extend existing frameworks, including those developed by the Fusion Simulation Prototype Centers or "proto-FSPs", is permissible provided they satisfy the above stated requirement of exploiting the capabilities of the SC leadership computing facilities. Deadlines: Letter of Intent: March 26, 2015; Application: May 2, 2015. <http://science.energy.gov/fes/funding-opportunities/>

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

Program Support- HIBS Structures and Structural Engineering Team: The Federal Highway Administration (FHWA) Office of Bridges and Structures (HIBS) develops regulations, policies, and guidelines to assure the successful delivery of the national bridge and tunnel program. The staff supports research of state-of-the-art technologies and provides leadership in the deployment of emerging technologies to improve the condition and durability of the Nation's bridges, tunnels, and other highway structures. Injecting new technologies during hands-on design and construction reviews of major and unusual bridge and tunnel projects, as well as geotechnical and hydraulics features is just one way the staff advances technology deployment. Technical leadership is provided through the development of manuals, guidance, and training on bridge and structure design, geotechnical and hydraulic feature design, construction, inspections, load ratings, system preservation and management. HIBS staff also advances the body of knowledge through active participation in technical committees of TRB and AASHTO. The HIBS staff is comprised of three teams: the Structural Engineering Team, the Hydraulics and Geotechnical Engineering Team, and the Inspection, Preservation, and Management Team. *Deadline: April 25, 2015. [website](#)*

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 Ann Kratz akratz@iupui.edu.

IDENTIFYING FUNDING OPPORTUNITIES

On-line search tools are available to IUPUI investigators who are interested in identifying funding opportunities in their areas of interest.

Community of Science (COS): COS is a primary on-line search tool for identifying funding opportunities. To take advantage of this tool, register at <http://www.cos.com/login/join.shtml>. Once you have completed the short registration process, you can personalize your search by selecting the option entitled "launch your workbench". You can access federal, local, corporate, foundation, nonprofit and other funding opportunities using key terms and save the results of up

to 20 searches and have them delivered to you weekly via email.

National Institutes of Health (NIH) "NIH Guide": To take advantage of this search tool, register at <http://grants.nih.gov/grants/guide/listserv.htm>. It allows you to receive discipline specific funding opportunities that are delivered to you weekly via email.

National Science Foundation (NSF) "MyNSF": To take advantage of this search tool, register at http://service.govdelivery.com/service/multi_subscribe.html?code=USNSF&custom_id=823. It allows you to receive discipline specific funding opportunities that are delivered to you weekly via email.

Federal Business Opportunities "FedBizOpps": FedBizOpps is the single government point-of-entry for Federal government procurement opportunities over \$25,000. To take advantage of this search tool, visit <https://www.fbo.gov>. Opportunities found at this site include, but are not limited to, presolicitations and special notices for research and service contracts for specific projects and some national centers and surveys that would not be found in Grants.gov and may not be found in the Community of Science.

Limited Submission Funding Opportunities:

Many federal agencies and foundations offer grants, awards and fellowships that limit the number of applications that can come from one institution or require special handling. In order to comply with agency and foundation guidelines and increase the chances of Indiana University (IU) succeeding in such limited submissions and special handling opportunities, IU policies and procedures are in place and are utilized by the Office of the Vice Chancellor for Research and other IU research offices to facilitate internal coordination and competitions.

Individuals interested in responding to limited submission opportunities must inform the Office of the Vice Chancellor for Research about their intent to apply to a given limited submission opportunity, such that they can be included in the internal review and selection process. Failure to do so may disqualify individuals from consideration for submission to the funding opportunity.

Individuals interested in a limited submission opportunity or have any questions about the internal coordination process, contact Etta Ward at emward@iupui.edu 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.

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