# IUPUI indiana university-purdue university indianapolis

# Research Enterprise

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

Research Offices:

Development Administration Compliance Enterprise Archive

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If you have a news item or recent noteworthy researchrelated achievement that you would like to share, please see the Research Enterprise

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

May 9, 2013

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# **FEATURE STORY**

### **Building Bridges between Art and Health**

Sir William Osler, one of the founders of Johns Hopkins Hospital in the 19th century, once said, "The practice of medicine is an art." Juliet King of the IU Herron School of Art & Design believes that sentiment may not go far enough -- as the director of her school's fledgling art therapy program, King believes that the art-making process has its own therapeutic benefits to offer.

The program, in its first full year of operation, is the only one of its kind in the state. But it's already building relationships and connections across the IUPUI campus and throughout central Indiana,



Juliet King

using artistic skills like painting, sculpture and drawing to help people with deepseated needs find their way back to sound mental health.

The field isn't widely understood, King believes. "So many people don't know what art therapy is, so it is important for pioneers who are expanding it to explain it clearly," she said. "We all relate to the world around us non-verbally, through symbolic expression. It's the way we are made. At its heart, art therapy is a bridge between art and science."

Though Herron's program is new, the field has been in existence for years. King herself is a veteran, dating back to her own education and early professional years in her native Pennsylvania. She is a natural for the field, since she has roots in both art and psychology.

"I understand first-hand the importance of the creative process. But I also have an interest in psychology, in understanding why people work the way they do," she said. What excites her is that the Herron program offers current and future students a wide range of career paths to choose from as they follow in her footsteps. "The coolest thing about art therapy is it's so flexible. Our grads can be

clinicians and work at children's hospitals, in corrections facilities, in public and private schools, and even in the nonprofit sector."

The art therapy program has hit the ground running and is taking full advantage of the resources available at IUPUI, thanks to the planning and preparation by leaders such as Herron dean Valerie Eickmeier, plus key figures in the IU School of Medicine and throughout the IU Health system.

"This campus has so much to offer a program like ours, and I believe we have a lot to offer, too," King said. "Art therapy is a valuable tool to help people cope with the problems they face, from depression to physical and emotional trauma. So much of what people have to face is locked inside parts of the brain and body that we can't easily access. But that part of the brain that can be reached by artistic thoughts and expressions becomes a way for people to express the things that are bothering them. Then they can begin to deal with those problems."

The campus offers potential partnerships, including IUPUI's programs on behalf of U.S. military veterans and working with patients in Riley Hospital for Children and other IU Health facilities. Off-campus collaborations in community-based programs like mental health facilities, public schools, and Wishard/Eskenazi Health provide practical experience and training, blended with real-world assistance, for the next generation of art therapists.

## **ANNOUNCEMENTS**

# IUPUI Environmental Researcher to Serve as Senior Scientist for U.S. State Department

Dr. Gabriel Filippelli, professor in the Department of Earth Sciences at IUPUI, has been named a Jefferson Science Fellow. In this prominent advisory position with the U.S. Department of State, he will serve as a senior scientist on international matters related to the climate and the environment.

Dr. Filippelli, director of the Center for Urban Health in the School of Science, is one of only 13 scientists and engineers from across the country to be named a fellow for 2013. He is the first faculty from an Indiana University campus to be appointed to the post.

"This is a really important service, and I'm very honored to do it," he said. "I see this as a great statement about the School of Science at IUPUI, which is being recognized as an institution with wonderful intellectual assets."



Gabriel Filippelli, Ph.D.

Dr. Filippelli has traveled the world researching climate change and a host of environmental issues. For the past decade, he has served as a science advisor to the Integrated Ocean Drilling Program, a longstanding research effort that studies the history of the Earth recorded in sediments and rocks beneath the sea floor.

He also is an expert on the relationship between contaminated soil and children's blood lead levels. His future interests include international health issues in major cities and the impacts of climate change on human health.

For the next year, Dr. Filippelli will be on leave from IUPUI as he works full time in Washington, D.C., in this advisory role. He expects to receive his specific

assignments this summer.

"Fellows are expected to have a nuanced understanding of U.S. interests and how the scientific policies of other countries can impact international health and environmental issues," Dr. Filippelli said, adding that he looks forward to working with the current administration on climate control issues.

The <u>Jefferson Science Fellowship</u> program, which functions as a partnership between the State Department and universities nationwide, began in 2003 and is administered by the National Academies of Science. Its purpose is to enhance expertise in science, technology and engineering with the government and to create significant opportunities for tenured scientists and engineers to contribute to international policy and issues.

Scientists are assigned based on their expertise and interests. Fellows will have the opportunity to travel to U.S. embassies and missions overseas. After their one-year service, they return to their universities and continue to serve as a resource to the State Department for the next five years.

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Dr. Simon Rhodes, dean of the School of Science said, "We are very proud that Dr. Filippelli has been nominated to this position. It reflects his remarkable international research reputation and his academic productivity."

"Dr. Filippelli is a highly talented researcher at IUPUI, whose service through this new position will not only bring distinction to him and his institution, but above all will have a very positive impact on the advancement of environmental issues confronting the nation and the world," said Vice Chancellor for Research Kody Varahramyan.

Dr. Filippelli added: "I've always been passionate about the use of science to inform decisions and policies. I hope to bring back some useful knowledge to the classroom and more of an international focus to the work we do at the Center for Urban Health."

# IUPUI Innovation-to-Enterprise Central Program Supports Student Entrepreneurship

The IUPUI Innovation-to-Enterprise Central program recently wrapped up its second-year projects, which included the prototype for a mobile application that helps users answer the question "What's for dinner tonight?"

Innovation-to-Enterprise Central is an exciting entrepreneurship and innovation initiative hosted by the IUPUI Office of the Vice Chancellor for Research, with support from the IUPUI Center for Research and Learning and the IUPUI Solution



Four members of MyMenu team: Meagan Gardner (left to right), James Plew, Romil Verma, and Josh Rafail.

Center. The program engages multidisciplinary student teams who work to enhance research commercialization and entrepreneurship on the IUPUI campus.

The program offers practical training in entrepreneurship to students like James Plew and Ajay Bohra. seniors in the Kelley School of Business. Plew and Bohra teamed up this year to pursue an idea for a mobile application to help consumers do more with the food in their kitchen.

The main impetus for their project was the desire to make meal-planning a digital reality, with the ability to find recipes that took advantage of food sitting in a pantry, fridge or freezer. But such a decision can only be made at home, where consumers can see all the available food. If they could turn the "physical inventory" of food in the pantry into a "digital inventory," consumers could browse their pantry on the go and, more importantly, prepare for dinner in advance.

Plew, who is also an International Studies major in the School of Liberal Arts, and Bohra recruited three other undergraduate students to join their team. Together, they worked to validate the technology, develop a working prototype of the app -- named MyMenu -- gain feedback on the user experience and create a business plan to launch it.

Josh Rafail, a senior studying computer engineering, was one of the team members working to produce a prototype of MyMenu.

According to Rafail, "The most valuable thing I learned from Innovation-to-Enterprise Central was that the primary resource for deploying a product is people; and it's hard to find that, but ITEC brings those people together. I used this as a key talking point in job interviews, and this was a valuable source of experience for potential employers."

Plew hopes to continue with launch of a product based on the MyMenu prototype.

"Beyond anything, I can take away from this experience new insights into earlystage startup culture, common issues, technical challenges, leadership principles, and best practices for team building and business development," Plew said.

Innovation-to-Enterprise Central projects are selected to give IUPUI students meaningful opportunities beyond what they would typically encounter in academic coursework or other campus activities.

An IUPUI campus priority is to play a key role in supporting the economic development of Indiana and the nation through the transfer and commercialization of research-generated intellectual property.

"The ITEC program is a giant step forward for IUPUI's initiative for making positive impact," said Center for Knowledge Diffusion Director Margaret Clements, who attended the initial project kickoff and expressed strong support for the initiative. "By connecting good ideas with good team members and good advisers, the ITEC program is imbuing the IUPUI campus with an ethos of entrepreneurship."

LSAMP Indiana Hosts Annual Research and Alliance Enrichment Conference



Wayne Hilson - LSAMP Conference Speaker

Friday and Saturday, April 19-20, 2013, Louis Stokes Alliance for Minority Participation (LSAMP) Indiana hosted its annual Research and Alliance Enrichment Conference. LSAMP supports sustained and comprehensive approaches that facilitate achievement of the long-term goal of increasing the number of students who earn doctorates, particularly those from populations underrepresented in STEM fields. The conference created a forum for LSAMP students to present their research projects and to share their experiences with students from other Alliance campuses from throughout the country. In order to enhance the LSAMP students' identifications with STEM disciplines, conference speakers included industry and academic leaders, outstanding research scholars and/or LSAMP alumni who discussed their experiences as a member of an underrepresented group in STEM.

Wayne Hilson, program leader for the IUPUI Diversity Scholars Research Program in the Center for Research and Learning, spoke at this year's conference. In keeping with this year's conference theme "SySTEMatically Developing Global Leadership," Mr. Hilson's presentation focused on "The Economic Impact of a STEM Educated Society." There are estimates that increasing the math proficiency of U.S. students to that of Canada and Korea would increase U.S. GDP growth rate by up to 1.3 percentage points annually. This equates to approximately \$1 trillion of economic growth each year over the next 80 years.

### IUPUI Well-represented at National Undergraduate Research Conference

Sixteen undergraduate students from IUPUI traveled to La Crosse, Wisconsin, April 10-13, 2013, to present their research projects at the National Conference on Undergraduate Research (NCUR). This annual conference attracts over 3,000 undergraduate students from across the country and is considered the premier event of its kind. Participants are selected through a rigorous faculty review process. The IUPUI delegation of students represented the schools of Science, Nursing, Liberal Arts, and Education and their research covered topics from fields of public health, educational



Dr. Richard E. Ward (far right) with IUPUI students and faculty

attainment, neuroscience, bone biology, drug discovery, African American history, and stem cell research. Eleven of the students were sponsored by the Office of the Vice Chancellor for Research and the Center for Research and Learning (CRL) as these students are participants in programs affiliated with the CRL, including the Diversity Scholars Research Program, The Ronald E. McNair Program, and the Louis

Stokes Alliance for Minority Participation program. The group also included students from the Olaniyan Scholars Program and the IU School of Nursing Honors Program. The three day event was held on the campus of the University of Wisconsin La Crosse and included opportunities for students to participate in graduate fairs and hear internationally known researchers describe their own intellectual journeys.

# **Center for Research and Learning Gears Up for Summer Research Programs**



The IUPUI Center for Research and Learning is preparing to launch nine Summer Undergraduate Research Programs:

- Bridges to the Baccalaureate Program (Bridges)
- Summer Diversity Scholars Research Program (S-DSRP)
- Multidisciplinary Undergraduate Research Institute (MURI)
- Indiana Clinical and Translational Sciences Institute (Indiana CTSI)
- <u>IUPUI Nanotechnology Discovery Academy (INDA) for High School Students and Teachers</u>
- <u>IU Simon Cancer Center Summer Research Program (IUSCCSRP)</u>
- <u>Undergraduate Research Opportunities Program (UROP) Grant</u>
- <u>Undergraduate Research Opportunities Program (UROP) Summer Fellows</u>
- <u>IUPUI Undergraduate Research Mentoring in the Biological Sciences (URM)</u>

Depending on the program, student participants range in age from high school to college undergraduates and come from a variety of high schools and colleges in addition to IUPUI. Students accepted to the full-time programs will engage in a nine-week session from June through the beginning of August. In addition to working with faculty and staff research mentors on specific research projects, students will attend a variety of skill-building sessions and professional-development activities. The programs culminate in a campus-wide poster session at the end of the summer. Many of the programs provide stipends to students, and some participants may also qualify for the "R" portion of the RISE transcript notation for research. (RISE represents extensive participation in research, international study, service learning, and other qualifying experiential learning.)

Faculty, staff, and students are invited to attend the final poster symposium on July 25, 2013.

### Kuali Coeus IRB Is Here

Kuali Coeus IRB is a web-based system for the submission, processing, and review of human subjects research studies. The Kuali Coeus system is an electronic research administration system currently serving the needs of researchers and staff at Indiana University in areas associated with proposal submission and award management. With the addition of the KC IRB module the electronic submission, processing, and review of IRB protocols will be possible thus enhancing efficiency for researchers, reviewers, and the HRPP (Human Research Protection Program) staff. The move to KC IRB will, as well, permit researchers and staff to link IRB submissions to other modules such as KC proposal development and award. To learn more, please visit our newsletter at: Office of Research Compliance Newsletter

### **IUPUI** to Host Regional Tech Event

More than 200 Midwestern university technology managers, researchers and administrators will gather in Indianapolis this summer at a meeting that could have an impact on economic development in Indiana's thriving life sciences and information technology industries.



These professionals are members of the central region of the Association of University Technology Managers who work to bring discoveries at universities and other nonprofits to the marketplace, unlocking the discoveries' potential to create new companies and jobs, and benefit individuals and the economy as a whole.

Association members include Indiana University Research & Technology Corporation officials; technology transfer and research directors and staff at other universities in Indiana and the Midwest; representatives from industry and government organizations; patent attorneys and accountants who place a value on technology; and other support professionals.



Research & Technology Corp.

The AUTM 2013 Central Region Meeting, July 17 to 19, will take place at the Hyatt Regency in downtown Indianapolis. Its theme is "Raising the Game."

"The meeting enables colleagues to come together and share best practices and discuss where things are going in the technology transfer field," said Tony Armstrong, president and CEO of the IU

At its core, technology transfer is about how best to take technologies and put them into the marketplace in some way, Armstrong said. "Sometimes that is licensing it to an existing company, and sometimes that means creating a company around the technology to help move it along. That is a big part of the discourse at the AUTM meeting as well."

IU Research & Technology Corp has worked with IU faculty and students to develop more than 1,800 inventions, about 500 patents and more than three dozen start-up companies.

Association of University Technology Managers meetings attract venture capitalists and other capital providers to see what technologies are available, Armstrong said. "The meeting in July is focused on professional development, but it offers opportunities for deal making, and I would not be surprised if that occurs. It's a chance for companies that are potential licensees to be involved, to hear what's happening and to interact with people who are managing technology."

Because the Association of University Technology Managers Central Region meeting is in Indianapolis, it also offers the opportunity to showcase what's occurring at

IUPUI, including new construction that's related to research, Armstrong said. "All that activity surprises people, particularly if they are visiting the city for the first time. Every time you have a chance to showcase the city and the campus, it's a great opportunity."

For more information and to register, go here: **Event Registration** 

## **CENTER SPOTLIGHT**

# Polis Center at IUPUI launches nontraditional GIS website for study of religion in America

A new digital tool developed by The Polis Center and two co-collaborators uses advanced geographic information systems technology to aid the study and teaching of American religious history.

The Polis Center, a research center of the IU School of Liberal Arts at Indiana University-Purdue University Indianapolis, invites scholars and researchers to explore the <u>Digital Atlas of American Religion</u>, a new website for the study of America's multi-dimensional religious life within a geographical and multimedia framework.



Dr. Digital Atlas of American Religion

The American religious landscape has always been complex, with many denominations and faith traditions competing for members. Traditional GIS technology does not support the easy exploration and visualization of such complex data. For instance, it typically shows only the dominant religious group in a county even though dozens or even hundreds of such groups may exist within the same geographic space.

The Digital Atlas of American Religion, to be known as DAAR, overcomes this limitation by providing advanced tools and methods that capture multi-dimensional data in ways that are more visually dynamic and easily interpreted.

With DAAR, users can explore and visualize data via maps, cartograms, tree maps, pie charts and motion charts to reveal patterns, trends and relationships that otherwise are not apparent with traditional GIS.

"We want students, researchers and anyone with interest in American religion to see how much variety exists across the United States among denominational and faith traditions," said David Bodenhamer, executive director of The Polis Center. "We invite them to examine how patterns of adherence change within and among states and to see how these patterns have changed over time. Unlike the simplistic red state-blue state maps that dominate election coverage, DAAR presents the user with a rich and varied landscape of faith and practice. In making this complex world accessible within a GIS, DAAR has created new and better tools for students and researchers alike."

DAAR allows scholars to understand the multiple dimensions and diversity of religion across geographies, or within geographies. Paired with historic census data, it allows them to explore relationships to give better context and meaning to the patterns and trends. Maps provide the spatial patterns and relationships; tree maps show relative strength and relationships; charts show trends; cartograms reveal relative numbers of adherence; and motion charts animate trends over time.

DAAR contains historic religion data on adherence, membership and congregations for more than 600 denominations across 120 years. Researchers can drill further into religion data to explore trends in religion practices and beliefs by state or county. And finally, researchers can view religion data in comparison to key

variables from the U.S. census, such as race, income and educational attainment.

DAAR was supported by a grant for the National Endowment for the Humanities and is a product of the Virtual Center for the Humanities, a collaboration among The Polis Center, Florida State University and West Virginia University. It replaces the North American Religion Atlas.

## FACULTY SPOTLIGHT

# IUPUI Stem Cell Researcher Gets Special Grant to Explore Interactions of Novel Molecule

School of Medicine researcher, Dr. <u>Edward F. Srour</u>, has been awarded a research grant offered by the world's largest professional hematological organization to augment a decrease in National Institutes of Health grants.

Dr. Srour, a professor of medicine, pediatrics, and microbiology and immunology, is one of 17 researchers nationwide to receive an inaugural American Society of Hematology Bridge Grant of \$100,000 each. Dr. Srour also is the Robert J. and Annie S. Rohn Professor of Leukemia Research at the Indiana University Melvin and Bren Simon Cancer Center and a member of the Herman B Wells Center for Pediatric Research.

The American Society of Hematology in July <u>announced</u> <u>its commitment of \$9 million</u> over a three-year period to provide resources for the continuation of important, yet unfunded, biomedical research.



Edward F. Srour, Ph.D.

Dr. Srour's research seeks to better understand the relationship between hematopoietic stem cells and their microenvironment and how to increase the clinical usefulness of these blood stem cells available for treatment of diseases such as cancer and autoimmune disorders. Hematopoietic stem cells are small in number compared to other blood cells, perhaps 1 in 100,000 or fewer. All blood cell types are derived from these stem cells.

In order to have enough stem cells for research projects, the number available has to be increased or enriched. Scientists use antibodies that recognize certain surface molecules on stem cells to identify them for collection in research. However, the research process has been complicated by the fact that markers on mouse stem cells and those on human stem cells are not the same.

In addition, the process of identifying and separating stem cells has not been foolproof. Isolation of stem cells is not absolute, yielding populations containing other types of blood cells.

In earlier collaborative research with IU assistant professor of orthopaedic surgery Melissa Kacena, Ph.D., Dr. Srour found a molecule, CD166, present on both mouse and human stem cells. The molecule also helps purify research samples by further improving the identification of stem cells.

"The reason this molecule is exciting is that, unlike the others identified, this one is functional," Dr. Srour said. "If CD166 is not present on the surface of the stem cell, the cell loses its function."

Another important factor is that CD166 is also present on osteoblasts, the cells

responsible for the formation of new bone. Osteoblasts are important building blocks of the hematopoietic microenvironment and are critical in the process of self-renewal and maintenance of hematopoietic stem cells. However, little is known about molecules that mediate or control interactions between osteoblasts and stem cells.

"This is the first molecule identified on stem cells of mice and humans and on cells in the microenvironment that are critical for the survival of stem cells," Dr. Srour said.

The ASH Bridge Grant will allow Dr. Srour to better understand the role of CD166 in interactions between stem cells and osteoblasts and how these interactions contribute to the function and survival of the stem cell. With those answers, Dr. Srour hopes his project will receive NIH funding in the future.

A member of the <u>IU School of Medicine</u> research faculty since 1986, Dr. Srour says federal grant funding over the past four or five years has been the tightest he has experienced. There have been other ups and downs in availability of grant monies, but this stretch is the longest and tightest he recalls.

The \$100,000 ASH Bridge Grants are designed to allow scientists, whose proposals have great merit but did not make the funding cut from the National Institutes of Health, to continue their biomedical research. The grant will provide a cushion to allow for additional laboratory discoveries to strengthen the researchers' chances of obtaining federal funding.

According to the American Society of Hematology, the NIH has had a decade of flat funding and, after adjustment for inflation, award dollars are nearly 20 percent lower today than in 2003.

# STUDENT SPOTLIGHT

## Student Enjoys the Many Scientific Wonders in the Environment

Jason Walsman describes himself as an explorer, a guy who would rather be out digging in dirt instead of sitting behind a desk in a pressed suit and tie.

Not that he doesn't have ambition. Although he officially is declared as a biology and environmental science major with a minor in chemistry, he also has extensive coursework in mathematics and biophysics. All areas of science hold mysteries for him, and he said he is driven to discover new and exciting things.

"I see all fields of science as being fundamentally integrated and connected with one another. I think each discipline has interesting ways it can inform the other," said Walsman, a junior in the School of Science at IUPUI.



Jason Walsman Undergraduate, Biology & Earth Sciences Major School of Science

Walsman was homeschooled in Indianapolis and his parents were used to seeing his curiosity about the environment lead him on many adventures, he said. It was common for him to come home with snakes, turtles, frogs and any other creatures he happened upon. He has been caring for a brown recluse spider in captivity in his bedroom for nearly three years now.

The environment, Walsman said, consists of many different layers of science and

life. After earning his Ph.D. in ecology, he plans to spend a career learning as much as he can about the world around him.

"When I set out to look for the right university, I wanted to find something close to home that would allow me to be outside, learning and practicing science outdoors," he said.

So far, IUPUI's programs have offered him all of these research opportunities and more. He has completed two service-learning projects with the Center for Earth and Environmental Science (CEES) and has taken samples and collected data for geology and ecology courses

He also has benefitted from his work in the biophysics laboratory of Horia Petrache, Ph.D., and associate professor of physics. He has studied how bacteria respond to different stresses in their environment. The research has been meaningful and has integrated several science disciplines, which he said has opened his eyes even more to the possibilities of research available at IUPUI.

He has presented his research at the Biophysics Society Annual Conference. He also has been involved in several mentoring and volunteer teaching programs on and off campus. Walsman, a Chancellor's scholar, has been honored with the Chemistry Resource Center Freshman Chemistry Achievement Award.

"I've found that all the professors are so open to undergraduates being involved in their research," Walsman said. "Getting involved in research has really helped me as a student. It's given me a much more practical focus and has provided context for what I'm learning in class."

In fact, he now can envision himself conducting research as a career. His goals prior to graduation are to co-author a research publication and study abroad in a developing country. He's interested in one day teaching and researching ecology overseas, ideally in a location involving some sort of sustainable development efforts.

When he does find some spare time, Walsman enjoys playing ultimate Frisbee on campus and is a member of the Intervarsity Christian Fellowship group. He has an older sister who is an interior design student at IUPUI.

Walsman can be seen in this <u>recent video</u> from the Department of Physics promoting the interdisciplinary nature of research at IUPUI.

# TRANSLATIONAL RESEARCH IMPACT

### Indiana CTSI Clinical Research Center Educates Undergraduates in Clinical Research

For the past five years, the Indiana Clinical and Translation Sciences Institute Clinical Research Center, located at Indiana University Hospital, has been helping undergraduate students learn the basics of clinical research administration through a partnership with the IU School of Medicine Life-Health Sciences Internship Program.

Mentoring two students a year, Sharon Cromer, administrative manager at the Indiana CTSI Clinical Research Center, aims to broaden the horizons of her interns -- whose majors range from nursing to forensics -- by opening their eyes to the role of



Sharon Cromer, administrative manager at

clinical research in health care, including the many careers available in the field.

the Indiana CTSI Clinical Research Center, with Life-Health Science Program interns Sandeep Dhadwal (left) and Emily Jones.

"It really gives the students a step up because they are in the middle of research; they're not just going through a textbook," said Cromer. "It's not a classroom; no one's standing there telling them what is going to happen. They're here in the day-to-day workings of clinical research itself and that is something that is very important for future health care professionals to understand."

The Indiana CTSI Clinical Research Center, which supports and conducts academicand industry-sponsored clinical research studies for both inpatient and outpatient visits, has a reputation for good research practices and innovation, she added. Although the internship focuses primarily on administrative aspects of research, Cromer points out that the center's connection to other research entities on campus gives students the opportunity to see first-hand each of the steps involved in the clinical research process -- an important experience for anyone planning to work in the health care industry.



Sandeep Dhadwal and Emily Jones work next to a crash cart at the Clinical Research Center at IU Health University Hospital.

"This Life-Health Sciences Internship experience has done a tremendous job at opening my eyes to clinical research," said Sandeep Dhadwal, a Life-Health Sciences Internship program participant at the Indiana CTSI Clinical Research Center majoring in health sciences. "I've gotten to see how studies progress and the amount of effort put into them, which I would never have been able to do without the program."

With a background in teaching, Cromer took full advantage of the opportunity to mentor undergraduate students the moment she heard about its creation in 2007. Starting with one student the first three years, she says she decided two years

ago that she wanted to start providing guidance to a second student.

"All the students participating in the program will have a big head start into their career path," said Cromer who builds a foundation for the intern' experience with projects on specific administrative aspects of clinical research, including monthly, quarterly and annual reports, and entering and reconciling research subjects' activity and protocol data.

"I've come to expect a great deal of accountability and specificity," she said. "They need to understand that everything related to research in medicine is very detail-oriented."

This past year in particular, she said the student have played a vital role in the day-to-day activity at the center due to an absence at the outpatient receptionist area. The interns rotate in and out of the position, which involves greeting clinical research participants, summoning the appropriate study coordinator and tracking the time in and out of research subjects.

The internship provides real insight into how much effort goes into carrying out clinical research, added Dhadwal, who once never imagined working in clinical research. However, since starting the internship, she said she has become more interested in potentially pursuing a career in the field.

Cromer added that many Life-Health Science Internship participants at the Indiana CTSI Clinical Research Center have gone on to great success, including two selected for IUPUI's Top 100 Award and several others who chose to enroll in dental or



Sharon Cromer works with Sandeep Dhadwal, an intern at the Indiana CTSI Clinical Research Center.

and several others who chose to enroll in dental or medical school.

"We really take great pride in our interns," Cromer said. "I really think that the Life-Health Sciences Internship Program is an outstanding program."

## OTHER EVENTS AND WORKSHOPS

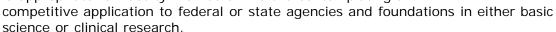
### **Write Winning Grant Proposals**

Wednesday, June 19th 8am-5pm Van Nuys Medical Science Building (MS), Room 326 Register:

faculty.medicine.iu.edu/registration/indexDirect.asp?id=982

#### About the Workshop

This seminar comprehensively addresses both conceptual and practical aspects that are associated with the grant writing process, often called "grantsmanship." This program is appropriate for faculty members who are contemplating a



Emphasis is given to such things as idea development, identification of the most appropriate granting agency, how to write for reviewers, and tips and strategies that are of proven value in presenting an applicant's case to reviewers.

It is stressed that applicants are writing for two different audiences – the assigned reviewers, who have read the application in its entirety, and non-assigned reviewers who may have read little, or nothing, of the proposal before the meeting of the review panel. Strategies designed to merit a fundable priority score are emphasized.

All participants will receive light breakfast, boxed lunch, and a copy of *The Grant Application Writer's Workbook*. This event is free and open to all IUSM and IUPUI faculty and learners.

**Presenter:** John Robertson, Ph.D. is an associate with Grant Writers' Seminars and Workshops, LLC. He has been the recipient of competitive extramural funding from both the NIH and non-federal sources. He is the author of 27 peer-reviewed journal articles and three book chapters. Dr. Robertson has been a member of grant review panels, a reviewer for a number of biomedical journals, and served on editorial boards.

This event is sponsored by the IU School of Medicine Office of Faculty Affairs and Professional Development and the IUPUI Office of the Vice Chancellor for Research

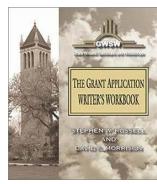
### Scientific Writing from the Reader's Perspective

Presented by Dr. George Gopen

As competition for external funding becomes more challenging, getting one's scholarly work successfully published is more important than ever. Dr. George Gopen's approach is based on a single idea: learning to write for the reader allows the writer to control what readers learn.

This year, Dr. Gopen will present this workshop in a SINGLE DAY format. To register for the Tuesday, July 9th or the Wednesday, July 10th





#### session, please visit faculty.medicine.iu.edu.

As in past years, Dr. Gopen will also conduct hour-long, individualized consultations. ONLY faculty members who participate in the day-long event will have access to the individual consultation registration. Instructions will be sent to participants after their registration for the workshop is complete. More about Dr. Gopen's original approach to scientific writing can be found in his article, *The Science of Scientific Writing*.

#### **About the Presenter**

George D. Gopen is a Duke University Professor of the Practice of Rhetoric. He is also Senior Lecturing Fellow, Department of English and Senior Lecturing Fellow, School of Law. Professor Gopen received both his J.D. and his Ph.D. in English from Harvard University. Dr. Gopen is a pioneer in the mastery of scientific writing. His scientific clients have included the NIH, the FDA, Bristol-Myers Squib, Bayer, and Duke University School of Medicine.

This event is sponsored by the IU School of Medicine Office of Faculty Affairs and Professional Development, the Department of Emergency Medicine, the IUPUI Office of the Vice Chancellor for Research and the IUPUI Center for Teaching and Learning.

# 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 - January 2013**

PI	Agency	Project Title	School	Department	Total
Kelley, Mark R.	NATIONAL CANCER INSTITUTE	Novel Role of Ref-1 in Pancreatic Cancer Etiology and Progression	MEDICINE	PED-HEME/ONC BASIC RESEARCH	\$2,346,324
Zhang, Xin	NATIONAL EYE INSTITUTE	Regulation of FGF signaling in lacrimal gland development	MEDICINE	INDIANA CAMPUS COMPACT	\$900,000
Rooney, Patrick M.	CONRAD N HILTON FOUNDATION	Sister Support Initiative	LIBERAL ARTS	CENTER ON PHILANTHROPY	\$1,900,000
Zhang, Zhong- Yin	NATIONAL CANCER INSTITUTE	Structure/Function of Protein Tyrosine Phosphatases	MEDICINE	BIOCHEMISTRY/MOLECULAR BIOLOGY	\$1,358,168
Kelley, Mark R.	AMERICAN CANCER SOCIETY, INCORPORATED	IU Simon Cancer Center Institutional Research Grant	MEDICINE	CANCER CENTER	\$ 450,000
Payne, R. Mark	MUSCULAR DYSTROPHY ASSOCIATION	Mechanism of Heart Failure in Friedreich Ataxia	MEDICINE	PED-CARDIAC DEV BIOLOGY WELLS	\$298,048
Nalim, Mohamed Razi	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	Hybrid Wave-Rotor Electric Aero- Propulsion (HyWREAP)	E&T	MECHANICAL ENGINEERING	\$200,000
Koch, Michael O	UNIVERSITY OF FLORIDA	IL-18 Mediates Obstruction-Induced Renal Injury via TLR4 Signaling	MEDICINE	UROLOGY	\$132,732
Khan, Babar Ali	VANDERBILT UNIVERSITY	The MIND USA Study	MEDICINE	PULMONARY	\$115,284
Dai, Guoli	ELI LILLY AND COMPANY	Activin A Signaling and Progression of Liver Fibrosis	SCIENCE	BIOLOGY	\$100,000
Zhu, Likun	AMERICAN CHEMICAL SOCIETY	Identification of Lithium Ion Battery Electrode Structural Inhomogeneity and Its Effect on Battery Performance	E&T	MECHANICAL ENGINEERING	\$100,000

#### **Grants and Awards - February 2013**

PI	Agency	Project Title	School	Department	Total
Crabb, David W	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	Center on Genetic Determinants of Alcohol Ingestion and Responses to Alcohol	MEDICINE	GASTROENTEROLOGY	\$8,675,038
Gunst, Susan J	NATIONAL HEART, LUNG AND BLOOD INSTITUTE	Smooth Muscle Mechanisms in Dynamic Airway Properties	MEDICINE	CELLULAR & INTEGRATIVE PHYSIO	\$1,560,000
Bodenhamer, David J	INDIANA OFFICE COMMUNITY & RURAL AFFAIRS	Identification and Assessment of Artificial Levees in Indiana	LIBERAL ARTS	POLIS	\$849,300
Tucker Edmonds, Brownsyne	THE ROBERT WOOD JOHNSON FOUNDATION	Using simulation to assess the influence of race and class on periviable counseling among obstetricians and neonatologists	MEDICINE	OBSTETRICS AND GYNECOLOGY	\$420,000
Martin, Pamela A	CITIZENS ENERGY GROUP	Seasonal Occurrences, Production and Biodegradation of Algal Metabolites (MIB, Geosmin and Microcystin) in Eagle Creek Reservoir, a drinking water supply reservoir in Central Indiana	SCIENCE	GEOLOGY	\$375,000
Lahm, Tim	GILEAD SCIENCES, INC.	Sex differences in the right ventricular autophagy response to exercise in experimental pulmonary hypertension	MEDICINE	PULMONARY	\$260,000
Varma- Nelson, Pratibha	EDUCAUSE	Project 2 for Cyber Peer-Led Team Learning: Using communications technologies to support learning and persistence	ACADEMIC	FACULTY DEVELOPMENT	\$166,179
Davis, Stephanie D	UNIVERSITY OF PENNSYLVANIA	Data Coordinating Center for the Prematurity and Respiratory Outcomes Program	MEDICINE	PED-PULM CRITICAL CARE/ALLERGY	\$135,000
Keiski, Michelle Anne	INDIANA STATE DEPARTMENT OF HEALTH	Imaging the Microglial Response to Traumatic Brain Injury Using TSPO Tracer PBR28	MEDICINE	RADIOLOGY & IMAGING SCIENCES	\$120,000

#### **Grants and Awards - March 2013**

PI	Agency	Project Title	School	Department	Total
Orschell, Christie M	UNIVERSITY OF MARYLAND	Radiation/Nuclear Medical Countermeasure Product Development Support Services	MEDICINE	HEMATOLOGY/ONCOLOGY	\$3,881,864
Tune, Johnathan David	NATIONAL INSTITUTES OF HEALTH	Cardiovascular effects of GLP-1 in obesity/metabolic syndrome	MEDICINE	CELLULAR & INTEGRATIVE PHYSIO	\$3,370,060
Jones, Kathryn J	NATIONAL INSTITUTE NEUROLOGICAL DISORDERS & STROKE	Immune regulation of neural injury and repair	MEDICINE	ANATOMY & CELL BIOLOGY	\$2,456,129
Clapp, D Wade	NATIONAL INSTITUTE OF CHILD HEALTH, HUMAN DEVL.	Indiana Pediatric Scientist Award (IPSA)	MEDICINE	PED-CHAIRMAN'S OFFICE	\$2,158,400
Einterz, Robert M	RUTH LILLY PHILANTHROPIC FOUNDATION	Primary Care and Chronic Disease Center building	MEDICINE	GENERAL INTERNAL MEDICINE	\$2,000,000
Barton, William H.	INDIANA DEPARTMENT OF CHILD SERVICES	The Indiana Title IV-E Waiver Demonstration Project Evaluation: 2012-2018	SOCIAL WORK	SOCIAL WORK	\$1,599,803
Bodenhamer, David J	INDIANA OFFICE COMMUNITY & RURAL AFFAIRS	Fluvial Erosion Hazard Mapping-Phase II; An Indiana Silver Jackets Initiative to Protect Indiana Communities through Interagency Cooperation	LIBERAL ARTS	POLIS	\$731,000
Weinstein, Elizabeth	HEALTH RESOURCES AND SERVICES ADMINISTRATION	Indiana Emergency Medical Services for Children State Partnership Competing Continuation	MEDICINE	EMERGENCY MEDICINE	\$500,000
Schmidt, C Max	LUSTGARTEN FOUNDATION FOR PANCREATIC CANCER RES	Detection of Early Pancreatic Neoplasia	MEDICINE	GENERAL SURGERY	\$360,036
Vreeman, Daniel J	MAYO CLINIC, ROCHESTER	SHARP Area 4: Secondary Use of EHR Data	MEDICINE	GENERAL INTERNAL MEDICINE	\$250,019
Mather, Kieren J	GEORGE WASHINGTON UNIVERSITY	Glycemia Reduction Approaches for Diabetes: A Comparative Effectiveness Study (GRADE)	MEDICINE	ENDOCRINOLOGY	\$233,361
Moe, Sharon M.	MASSACHUSETTS GENERAL HOSPITAL	Clinical, Biochemical and Genetic Risk Factors for CAC and Left Ventricular Hypertrophy (LVH).	MEDICINE	NEPHROLOGY	\$200,000
Nguyen, Kim Sa T	CHICAGO STATE UNIVERSITY	PILOT REGIONAL LOUIS STOKES CENTER MIDWEST CENTER OF EXCELLENCE	EDUCATION	EDUCATION	\$184,923
Picard,	TEXAS A&M	Genomic tools to reduce error in PMI			

Christine Johanna	UNIVERSITY	estimates derived from entomological evidence	SCIENCE	BIOLOGY	\$183,397
Wang, Xiaofei	INDIANA STATE DEPARTMENT OF HEALTH	Transplantation of Activated Schwann Cells to Repair the Injured Spinal Cord	MEDICINE	NEUROLOGICAL SURGERY	\$120,000
Subbarao, Girish C	UNIVERSITY OF PITTSBURGH	A Multi-Center Group to Study Acute Liver Failure in Children	MEDICINE	PED-GASTROINTESTINAL DISEASES	\$118,187
Mirmira, Raghu G	JUVENILE DIABETES RESEARCH FOUNDATION INTERNATIONA	Deoxyhypusine synthase: a novel target for beta cell protection	MEDICINE	PED-ENDOCRINOLOGY BASIC RES	\$108,172
Dagher, Pierre C.	DIALYSIS CLINIC, INC. (DCI)	CD14 and Renal Endotoxin Tolerance	MEDICINE	NEPHROLOGY	\$100,000

## CURRENT EXTERNAL FUNDING OPPORTUNITIES

Funding opportunities in this section include selected current grant announcements from federal agencies for new initiatives and changes to existing programs. Announcements with limited scope are not listed here but are, instead, sent directly to IUPUI School Deans. For comprehensive coverage of funding opportunities please use the on-line search tools listed below.

#### NATIONAL ENDOWMENT FOR THE HUMANITIES

Sustaining Cultural Heritage Collections (SCHC): SCHC helps cultural institutions meet the complex challenge of preserving large and diverse holdings of humanities materials for future generations by supporting preventive conservation measures that mitigate deterioration and prolong the useful life of collections. Libraries, archives, museums, and historical organizations across the country are responsible for collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art, and historical objects that facilitate research, strengthen teaching, and provide opportunities for life-long learning in the humanities. To preserve and ensure continued access to such collections, institutions must implement preventive conservation measures, which encompass managing relative humidity, temperature, light, and pollutants in collection spaces; providing protective storage enclosures and systems for collections; and safeguarding collections from theft and from natural and man-made disasters. This program helps cultural repositories plan and implement preservation strategies that pragmatically balance effectiveness, cost, and environmental impact. Projects should be designed to be as cost effective, energy efficient, and environmentally sensitive as possible, and they should aim to mitigate the greatest risks to collections rather than to meet prescriptive targets. To help institutions develop sound preventive conservation projects, NEH encourages collaborative and interdisciplinary planning. Such planning should include consideration of the following factors: the nature of the materials in a collection; the performance of the building, its envelope, and its systems in moderating internal environmental conditions; the capabilities of the institution; the nature of the local climate and the effects of climate change; the cost-effectiveness and energy efficiency of various approaches to preventive conservation; and the project's impact on the environment. SCHC offers two kinds of awards: 1. Grants for planning - To help an institution develop and assess preventive conservation strategies, which may encompass site visits, risk assessments, planning sessions, monitoring, testing, modeling, project-specific research, and preliminary designs for implementation. 2. Grants for implementation - Implementation projects should be based on planning that has been specific to the needs of the institution and its collections within the context of its local environment. Projects that seek to implement preventive conservation measures in sustainable ways are especially encouraged. Sponsor ID: 20121204-PF; deadline is December 4, 2013;

http://www.neh.gov/grants/preservation/sustaining-cultural-heritage-collections

#### NATIONAL INSTITUTES OF HEALTH

Hearing Health Care (R21/R33): This solicitation invites

Exploratory/Developmental Phased Innovation (R21/R33) grant applications to support research and/or infrastructure needs leading to more accessible and affordable hearing health care (HHC). The proposed research aims should lead to the delivery of better healthcare access and outcomes and be directed to solutions that are effective, affordable and deliverable to those who need them. Outcomes and health services research are also responsive to this FOA. This FOA provides support for up to two years (R21 phase) for preliminary or development studies, followed by possible transition of up to 4 years of expanded research and development support (R33 phase). The total project period for an application submitted in response to this FOA may not exceed 5 years. This FOA requires measurable R21 milestones. Sponsor ID: RFA-DC-14-001; deadline is October 24, 2013 (letter of intent due by 09/24/13); <a href="https://grants.nih.gov/grants/guide/rfa-files/RFA-DC-14-001.html">http://grants.nih.gov/grants/guide/rfa-files/RFA-DC-14-001.html</a>

Early Phase Clinical Trials in Imaging & Image-Guided Interventions (R21):

This FOA is intended to support clinical trials conducting preliminary evaluation of the safety and efficacy of imaging agents, as well as an assessment of imaging systems, image processing, image-guided therapy, contrast kinetic modeling, and 3D reconstruction & other quantitative tools. This solicitation will provide investigators with support for pilot (Phase I and II) cancer imaging clinical trials, including patient monitoring and laboratory studies. The imaging and Image-guided Intervention (IGI) investigations, if proven successful in these early clinical trials, can then be validated in larger studies via competitive R01 mechanisms, or through clinical trials in the Specialized Programs of Research Excellence, Cancer Center or Cooperative Groups. *Sponsor ID: PAR-11-216; deadline is November 13, 2013; http://grants.nih.gov/grants/guide/pa-files/PAR-11-216.html* 

#### NATIONAL SCIENCE FOUNDATION

Joint Domestic Nuclear Detection Office-NSF: Academic Research Initiative (ARI): The ARI is a joint Domestic Nuclear Detection Office (DNDO) and NSF program seeking novel cross-cutting research that will enhance the nation's ability to detect and interdict nuclear or radiological material outside of regulatory control, and otherwise help prevent nuclear or radiological attacks. This year's solicitation topics will encompass a range of subjects, with an emphasis on unconventional, multidisciplinary approaches to threat detection. A number of small to medium awards are intended in the areas of novel approaches to extremely low-cost threat detection, orthogonal and informatics approaches to threat detection, deterrence analytics, and advanced forensics techniques. A single large award is intended for an integrated, multidisciplinary approach to shielded special nuclear material detection. Primary objectives of the ARI include advancing fundamental knowledge in the above areas and developing intellectual capacity in scientific fields relevant to long-term advances in these areas. Proposals outside of the scope described in this solicitation will be returned without review. Research proposals specific to detection of biological, chemical, and conventional weapons are excluded from the scope of this solicitation, however approaches that consider explosives detection and nuclear or radiological materials detection are of interest. For the purposes of this solicitation multidisciplinary means two or more investigators from substantially different disciplines, departments or organizations within a single university or from multiple universities. Sponsor ID: NSF 13-554; deadline is July 10, 2013; http://www.nsf.gov/funding/pgm\_summ.jsp?pims\_id=503223

#### U.S. DEPARTMENT OF STATE

Study of the U.S. Institutes for Student Leaders on U.S. History &

**Government:** This solicitation invites proposal submissions for the design and implementation of 6 Study of the U. S. Institutes for Student Leaders on U.S. History and Government, pending the availability of funds. Participants will be drawn from countries throughout Central/South America and the Caribbean. Three institutes will be conducted entirely in Spanish, and the remaining three in English. The Study of the U.S. Institutes for Student Leaders on U.S. History and Government are intensive academic programs whose purpose is to provide groups of Western Hemisphere undergraduate students with a deeper understanding of the U.S. The principal objective of the Institutes is to enhance participants' knowledge of U.S. history, government, institutions, society, and culture. In this context, the Institutes should incorporate a focus on American historical events as well as contemporary American life including current political, social, and economic debates. The role and influence of principles and values such as democracy, the rule of law, individual rights, freedom of expression, equality, and diversity and tolerance should be addressed. The Institutes should address topics such as: civil rights, minority rights, politics, religion, economics, and U.S. relations with Latin America. In this context, the academic programs should include seminars, workshops, and activities that focus on topics such as leadership, teambuilding, collective problem solving skills, effective communication, and management skills. The Institutes should include a community service component, in which the students experience civic engagement as a core American value firsthand. Throughout the course of the Institutes, participants should have ample opportunities to interact with Americans. In addition to exposing the participants to various aspects of American life and culture, these activities should aim to allow the participants to share their culture and experiences with Americans. Sponsor ID: ECA-A-E-USS-12-21; deadline is January 13, 2015 (anticipated); http://exchanges.state.gov/non-us/program/study-us-institutes-student-leaders

**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 <a href="mailto:vpr@iu.edu">vpr@iu.edu</a>. 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 <a href="mailto:akratz@iupui.edu">akratz@iupui.edu</a>.

## 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 <a href="http://www.cos.com/login/join.shtml">http://www.cos.com/login/join.shtml</a>. 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 <a href="http://grants.nih.gov/grants/guide/listserv.htm">http://grants.nih.gov/grants/guide/listserv.htm</a>. 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 <a href="http://service.govdelivery.com/service/multi-subscribe.html?">http://service.govdelivery.com/service/multi-subscribe.html?</a>

<u>code=USNSF&custom\_id=823</u>. 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 <a href="https://www.fbo.gov">https://www.fbo.gov</a>. 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 <a href="mailto:emward@iupui.edu">emward@iupui.edu</a> or 317-278-8427. For a description of upcoming limited submission funding opportunities, as well as guidelines and application forms, go to: <a href="http://research.iu.edu/limited\_sub.shtml">http://research.iu.edu/limited\_sub.shtml</a>. Please note that this is not a comprehensive list, and that any external funding opportunity that imposes any type of submission limitation is subject to the IU limited submission policy and procedures.

The Special Handling list was created in order to communicate donor restrictions and/or preferences for managing solicitation requests from Indiana University. The list reflects special relationships that exist between donors and the university and includes corporations and foundations that the President's office wishes to review prior to submission in order to coordinate Indiana University's requests to these donors.

The Special Handling List was compiled and is maintained by the Indiana University Foundation office of Corporate and Foundation Relations. Please contact <u>Dee Metaj</u> at 317-278-5644 if you have any questions regarding this list.

IU Authentication is required to view the following attachments:

IUF Special Handling List and Principal Gifts Review Template

Office of the Vice Chancellor for Research - <a href="mailto:ovcr@iupui.edu">ovcr@iupui.edu</a>
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