Indiana CTSI, IU School of Medicine and CHIIS lead $46.4 million federal program for clinical transformation

November 10, 2015

The Indiana CTSI, the Center for Health Innovation and Implementation Science and Indiana University School of Medicine will lead a four-year, $46.4 million federally funded project to support 11,500 physicians, advance practice providers and clinical pharmacists in Indiana, Illinois and Michigan to facilitate the transformation of their practices in providing the triple aim of better health and better care at lower costs.

The Great Lakes Practice Transformation Network, led by Malaz A. Boustani, chief operating officer of the Center for Health Innovation and Implementation Science at the Indiana CTSI and IU School of Medicine, is a coalition of 33 partners including the three states' health departments and eight universities, among others.

The Great Lakes network is one of just 29 organizations to receive funding as part of the $685 million Transforming Clinical Practices Initiative created to help drive changes in the practice of medicine by the Centers for Medicare and Medicaid in the U.S. Department of Health and Human Services.

"Our healthcare system is rapidly changing. In order to deliver improved value to our patients, we need to support our clinicians in their journey of improving patient care while driving down costs. The Great Lakes Practice Transformation Network will provide clinicians with personalized and locally sensitive tools needed to accomplish this," said Dr. Boustani, Richard M. Fairbanks Professor of Aging Research and professor of medicine at IU Center for Aging Research.

"Our network will deploy quality improvement advisors to support clinicians in their transformation journey. This journey will provide high-value and personalized care for 10 million people in the three states and reduce inappropriate hospitalization, emergency department visits and unnecessary testing. Such high-valued care will produce $1 billion in cost savings for federal government spending on Medicare, Medicaid and the Childrens' Health Insurance program," he said.

At the heart of the project, the network will train 52 quality improvement advisors to coach the 11,500 clinicians on patient-centered transformation of their practices, incorporating three key approaches:

- Implementation science to develop tools, process and strategies for rapid implementation of evidence-based medicine into the local real world.
- Lean and Six Sigma process improvement tools.
- Patient-centric, personalized population health management.

The network will focus on implementing evidence-based practices and evidence-based management to improve care for high blood pressure, chronic obstructive pulmonary disease, congestive heart failure, depression and diabetes management amongst other clinical areas.

The operations of the network will be led by Nadia Adams, executive director of the Center for Health Innovation and Implementation Science at the Indiana CTSI and IU School of Medicine. Adams will work with the board of directors to execute the overall strategies. Each state will have a localized operations team overseeing daily activities of the program, supported by a central consortium of faculty experts in such fields as preventive health, chronic disease management and pediatrics health services research. There will also be a stakeholders advisory board including patient and family representatives from each state.

For more information on the Transforming Clinical Practice Initiative, please visit CMS.gov.

Contact:
info@indianactsi.org

Indiana CTSI, IU School of Medicine researchers bring in record amount of grants in fiscal year 2015

November 10, 2015

Bucking a national trend of tight resources for biomedical research, Indiana CTSI and Indiana University School of Medicine scientists brought a record $302.3 million in research grants and awards to the school in fiscal year 2015, a 17 percent increase over 2014.

The Indiana CTSI and the school attracted $111.5 million in research funds from the National Institutes of Health, the single largest source of research dollars for the school and the nation's primary source of funds for academic biomedical research. NIH awards were up by nearly 10 percent, or nearly $10 million, over fiscal year 2014.

Along with the growth in NIH awards during the year ended June 30, 2015, research funding rose significantly from several other important sources of research funding:

- A 22 percent increase in funds to $63 million, from foundations and other non-profit organizations.
- A 10 percent increase, to $65 million, from corporations, much of it to test potential new drugs.
- A 24 percent increase, to $25 million, from other federal government agencies, such as the Department of Defense.

"This growth in research funding is a credit to hundreds of investigators at the IU School of Medicine who are both persistent and successful in demonstrating to funding agencies that they have creative ideas for new research," said Anantha Shekhar, M.D., Ph.D., executive associate dean for research affairs and director of the Indiana CTSI.

Dr. Shekhar also credited resources made available by the Physician Scientist Initiative and the Strategic Research Initiative that supported the recruitment of senior scientists whose research programs have continued to attract new grants. The Lilly Endowment funded the Physician Scientist Initiative with a $60 million gift in 2009. More than half of the money was allocated to recruiting physician-scientist researchers. The Strategic Research Initiative is a $150 million collaboration between the IU School of Medicine and IU Health that has, in part, supported recruitment of faculty scientists.

Significant grants during the year included:

- $13 million as part of the NCAA-Department of Defense Grand Alliance project to study concussions in college athletes
- $5 million from the Indiana Economic Development Corp. to the Indiana CTSI for several new initiatives to move research discoveries from the laboratory to new therapies and new businesses.
- $2.4 million from the National Institutes of Health for a study to identify biomarkers in Type 1 diabetes.
- Among many clinical trials under way at the school, seven new trials each bringing in more than $1 million to test new drugs, primarily in cancer.
- $750,000 from the National Human Genome Research Institute to implement a program of pharmacogenotyping -- testing to enable physicians to choose appropriate prescription drugs based on patients' genetic profiles -- at Eskenazi Health.

Contact:
info@indianactsi.org

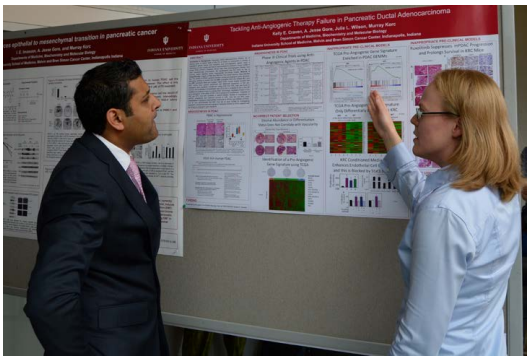
The Indiana CTSI/IUSM Multi-PI Program Project Planning (P4) Project Development Team (P4-PDT)

November 10, 2015

The P4-PDT is a joint initiative between the Indiana University School of Medicine and the Indiana CTSI that supports the development of large multi-investigator and/or multi-project, milestone-driven, bench to bedside T1 and T2 studies with annual direct budgets of $500K or higher in direct costs per year.

Examples of such grants include PPGs, U series, multi-PI R01s, STTRs, and SPORE grants. These projects typically bring together two or more distinct scientific projects with appropriate administrative and technical 'core' supports, but projects are accepted for review at any stage of development. It is expected that facilitation of these grants will increase multidisciplinary collaborations, institutional competitiveness, opportunities for extramurally funded training positions and grants, as well as overall institutional funding. Applications are expected to have a maximum requested amount of $100K, typically to be used over 24-36 months. Although the primary investigator must be an IUSM faculty member, collaborators are not limited to IUSM.

Please see the P4 guidelines for more specific eligibility requirements. For any inquiries regarding this PDT, please email Lane Coffee (rlcoffee@iu.edu). See the P4-PDT page to learn more about this opportunity.



To learn more about each of the eight Project Development Teams, visit https://www.indianactsi.org/research/pdt.

Contact:
info@indianactsi.org

CHEP announces 14 new and renewed pilot project awardees

November 10, 2015

The Indiana CTSI's Community Health Engagement Program recently announced 14 pilot program projects to recieve new or renewed funding. Thanks to matched funds through a grant from the Indiana State Department of Health, CHEP was able to fund additional projects for this funding cycle.

Each community-based research project is rooted in a community-academic partnership aimed at improving one of four focus areas to improve the health of Indiana citizens and beyond The focus areas include: Reducing infnant mortality, increasing immunizations, decreasing tobacco use and decreasing obesity. A summary of each pilot project is listed below. To learn more about CHEP, visit https://www.indianactsi.org/chep.

Know Your Numbers 46041

Lorra Archibald, Healthy Communities of Clinton County & Vicki Simpson, Purdue School of Nursing

Know Your Numbers 46041, a collaborative project of Healthy Communities of Clinton County, faculty from the Purdue University School of Nursing and multiple community partners, will provide screenings for BMI, blood pressure and blood sugar. In addition, this project will provide nutrition information and physical fitness testing with a baseline assessment concerning tobacco use, pregnancy, physical activity and nutritional habits. After the assessment, education about how lifestyle behavior choices affected screening numbers and health outcomes will be available in both English and Spanish, along with individually tailored counseling and referrals.

Fostering Community Maternal-Child Health Advocates: A pilot study

David Bell, Indiana University & Lisa Crane, Goodwill Industries of Central Indiana

With the goal of improving child health and reducing infant mortality rates, this pilot project will collect qualitative and quantitative network data in an exploratory study to identify the factors that lead Nurse Family Partnership mothers to share their knowledge and skills related to maternal-child health with other members of the community. The NFP, a program of Goodwill Industries of Central Indiana, is designed to help low income mothers who may lack information on childhood milestones and health risks, but is currently limited by the number of new mothers who can be directly served. This project, with support from the IU Department of Sociology, will explore opportunities to extend the direct effect of the NFP by empowering mothers to become community maternal-child health advocates.

Reducing Obesogenic Home Environments in Low-Income Households with Mothers of Preschool-Aged Children

Julia Braungart-Rieker, University of Notre Dame & Kathy Guahardo, Elkhart and St. Joseph Counties Head Start Consortium

This project, an academic/community partnership of Elkhart and St. Joseph County's Head Start Consortium and the University of Notre Dame's William J. Shaw Center for Children and Families, will focus on reducing obesogenic home environments for low-income families. Research indicates that mothers are the nutritional gatekeepers of the home, with young children receiving about two-thirds of their nutrition from home. Experimental studies involving adults in laboratories have shown that differences in portions, ingredients, presentation and distractions are related to differences in food consumption. This study will focus on implementing these changes in the home environments, with next steps being an NIH or USDA grant for a larger-scale study.

Mid-North Health Matters: Reducing Obesity in Mapleton-Fall Creek

Susan Hyatt, Indiana University-Purdue University, Leigh Evans, Mapleton Fall Creek Community development Corporation

An initiative of the Mapleton-Fall Creek Community Development Corporation (MFCDC) and the IUPUI School of Liberal Arts Department of Anthropology, this project will involve students in projects aimed to help reduce obesity in Mapleton-Fall Creek, with the ultimate goal of increasing life expectancy for its residents. The top goals of this project include assisting the MFCDC in ongoing efforts to encourage healthy

eating and increased activity, using ethnographic methods to help residents overcome barriers to healthy eating and exercise, and creating mapping tools that residents can use to locate resources for nutritious food and physical activity.

Engagement in Quality of Life in Under Represented Older Adults

Ellen Brown, Catholic Charities Indianapolis, Karen Hanson, Catholic Charities Indianapolis, Mary Austrom, Indiana University School of Medicine & Hugh Hendrie, Indiana University School of Medicine

A program of the Catholic Charities of Indianapolis and the IU School of Medicine Department of Psychiatry, this community-based participatory research project has three aims: (1) Identify the elements of participation in the Senior Companion Program (SCP) by underrepresented groups that lead to positive outcomes in psychological well-being, physical health and quality of life; (2) determine elements of the SCP that created success in senior companions and; (3) test the acceptability of the NIH Toolbox emotional questionnaire in this elderly population and select useful items for small-group testing. Next steps of this project would be incorporating the findings in an educational intervention for a larger sample of older volunteers.

Enhancing IHB-FIMR Data to Stimulate Fetal and Infant Mortality Reduction Strategies in Marion County

Teri Conard, Marion County Public Health Department & Carol Shieh, Indiana University

In an effort to reduce infant mortality county-wide, Marion County established the Indianapolis Healthy Babies - Fetal Infant Mortality Review (IHB-FIMR) program, but lack of a control group has been a barrier to fully utilizing IHB-FIMR's data. Together, the Health and Hospital Corporation of Marion County, the Marion County Public Health Department and faculty of the IU School of Nursing will conduct an enhanced IBH-FIMR data analyses to produce an empirical dataset that will help generate recommendations that reflect local needs and realities. Findings from this community-engaged research project will be used to evaluate the impact of perinatal interventions, inform practice and reduce infant mortality disparities in Marion County.

Community-Based Adapted Group Yoga for People with Stroke or Acquired Brain Injury: Efficacy and Feasibility

Kristine Miller, Indiana University & Carol Hanna, YMCA of Madison County

The focus of this pilot project, a partnership between Carol Hanna, a yoga therapist with the YMCA of Madison County, and the IU School of Health & Rehabilitation Sciences Physical Therapy Department, is to establish a sustainable, community-based, adapted group yoga program for people with physical impairments following stroke or acquired brain injury. This project will offer a much-needed community-based exercise program for people with physical impairments following rehabilitation, with next steps being an NIH application for continued, larger-scale funding.

Optimizing the Care of Chronic Conditions with an Adverse Drug Reaction Event Side Effect Screener (The ADDRESS Pilot Study)

Mathew Murrawski, Purdue University & Harry Webb, Webb's Family Pharmacy

A collaborative project of Harry Webb, R.Ph., of Webb's Family Pharmacy, and Matthew Murawski, R.Ph., Ph.D., associate professor, Purdue University College of Pharmacy, this initiative will build upon previous foundation work in improving side effect management and adherence to medication regimens, as well as creating an app that identifies the frequency and severity of side effects experienced by patients with chronic conditions and multiple medication prescriptions. Desired outcomes include enhanced understanding and identification or resolution strategies for implementation barriers, and a better understanding of the frequency and severity of side effects -- and the extent to which side effects are associated with medication adherence.

Achieving a Better Understanding of the Impact of Sickle Cell in IndianaGary Gibson, Martin Center Sickle Cell Initiative & Marc Rosenman, Indiana University School of Medicine

In a community/academic engagement between the Martin Center Sickle Cell Initiative (MCSCI) and the IU School of Medicine Department of Pediatrics Children's Health Services Research (CHSR) center, with support from the IU School of Medicine department of Biostatistics and the IU Department of Economics, this project will conduct analyses to increase screening for and education about the sickle cell trait and to improve the health and quality of life of those with sickle cell disease. This project also seeks to develop sustainable, ongoing partnerships between the MCSCI, CHSR, IU School of Medicine Department of Pediatrics, the Indiana State Department of Health and the Indiana Office of Medicaid Policy and Planning with the goal of submitting applications for federal funding.

An Evaluation of the Early Care and Education Learning Collaborative Project: Identification of the Level of Support Needed to Optimize Implementation of Nutrition and Physical Activity "Best Practices" in Child Care Settings

Carol Friesen, Ball State University & Marta Fetterman, Indiana Association for Child Care Resource & Referral

This pilot project to reduce and prevent childhood obesity is a collaborative effort between the Indiana Association for Child Care Resource & Referral and the Ball State University Department of Family and Consumer Sciences, with additional funding provided by Nemours, a nonprofit organization dedicated to children's health. The project's purpose is to conduct an external evaluation of the Early Care and Education Learning Collaborative Project by using group training and/or personalized technical assistance across 60 child care centers in Marion County and central Indiana in four test groups to determine the most effective way to reduce and prevent the incidence of childhood obesity.

Reducing Fetal and Infant Mortality through Improved Data Workflow Integration

Mindi Dugard, Michiana Health Information Network & Ella Harmeyer, Saint Mary's College

Perinatal mortality rates in Indiana, specifically St. Joseph and Elkhart counties, are among the highest in the nation, with apparent ethnic disparities. With continued funding from CHEP, Ella Harmeyer, R.N., M.S., associate professor in the department of Nursing at St. Mary's College will partner with the Michiana Health Information Network to better understand the different types of prenatal care provider data collection workflows and determine how they can be improved through continuity of care and improved data exchange.

The Northwest Area Food Forest Project to Address Childhood Obesity

Kathryn Coe, Indiana University & Shalonda Murray, Flanner House

The Northwest Area Community (NWA) in Indianapolis, a USDA-designated food desert, represents a high number of overweight children and adults who are contributing to the reported number of obesity-related diseases. To address the issue and implement the NWA's 2014 Quality of Life Plan, the IU Richard M. Fairbanks School of Public Health and the Flanner House will support a project to establish and evaluate the "Preschool Initiative: Building a Healthy Foundation for Life" program, in addition to building a food forest and re-developing the Flanner House community garden.

Development of a Mobile Application for Children and Teens in a Community-Based Weight Management Program

Carol-Weiss Kennedy, Indiana University Health Bloomington, Catherine Sherwood-Laughlin, Indiana University, Katherine Connelly, Indiana University & Lesa Huber, Indiana University

Get Onboard Active Living (GOAL) is a local 12-week program focused on improving children's nutritional, behavioral, mental and overall wellness through parent and group support. This project supports interdisciplinary, collaborative research between the IU school of Informatics & Computing, the IU School of Public Health and IU Health to design and deploy a program-specific mobile app that provides new tools and insights addressing the challenge of childhood obesity. This research will result in an app designed to assist GOAL participants in tracking their physical activity and nutrition.

And the Patients Say … Exploring Patients' Perceptions towards Shared Medical Appointments

Carol-Weiss Kennedy, Indiana University Health Bloomington & Priscilla Barnes, Indiana University

The goal of this project, a partnership between IU Health-Bloomington and the IU Bloomington School of Public Health, is to determine the motivation in clients being treated for Type 2 diabetes to attend shared medical appointments developed using simpler/lean tools to define potential waste in terms of time and cost to better improve the care of the patient. Research has shown that shared medical appointments decrease hemoglobin A1C and improve other clinical outcomes among diabetic patients. This project will provide a clearer understanding of what motivates the client to begin and complete the program, and ultimately adopt healthier lifestyles.

Support & Feedback
Citing CTSI
Newsletter
Grants Login

This website is supported by Indiana and Purdue universities. Design by IUPUI; concept by Tufts CTSI.

Contact:
info@indianactsi.org

Lane Coffee joins Indiana CTSI as PDT program project manager

November 10, 2015

R. Lane Coffee Jr., Ph.D., M.S., has recently joined the Indiana CTSI as project manager of the Project Development Team program and visiting assistant research professor of emergency medicine at Indiana University School of Medicine.

In his new position, Coffee will be responsible for managing research portfolios of investigators utilizing the PDT program as well as direct oversight and management of the Multi-PI Program Project Planning PDT (P4-PDT), a mechanism that supports the development of large multi-investigator and/or multi-project, milestone-driven, bench-to-bedside studies with annual direct budgets of $500K and higher.

He will also work with colleagues within the Indiana CTSI and School of Medicine to develop and implement a new grant writing resource (e.g. one-on-one meetings, workshops, courses) that will be available to investigators for assistance with all aspects of grantsmanship.

Before coming to IU, Coffee was in research and grants administration at the University of South Dakota. He received a Ph.D. in neuroscience from Vanderbilt University, a M.S. in chemistry from Clemson University, and completed postdoctoral training at Northwestern University.

Contact:
info@indianactsi.org

Core facility updates from the Access Technology Program

Core facility updates from the Access Technology Program

Highlights:

- The Translational Core in the Center for Diabetes and Metabolic Disease is now designated as a CTSI core facility
- Purdue's Biomolecular Screening and Drug Discovery Core has new instrumentation for high throughput screening
- The Center for Medical Genomics in Indianapolis is moving back to campus this month and will reside in Walther Hall (R3)
- An update from the Electron Microscopy Center in Indianapolis, newly renamed to The Vincent H. Gattone II Electron Microscopy Center to honor the memory of the previous director

The Translation Core in the recently established Center for Diabetes and Metabolic Disease provides services that reduce or eliminate barriers to conducting research related to diabetes involving human subjects. The goal of the core is to facilitate the testing of novel hypotheses and fundamental scientific discoveries relevant to human physiology and metabolism. The core supports investigators in the design and performance of studies utilizing human tissue or blood, and physiologic studies in human subjects; provides measurement of hormones, fuel substrates, adipocytokines, inflammatory markers and other analytes of interest; and can provide training to individuals and research teams in human subjects research to enable them to more easily pursue applications of their preclinical and clinical discovery work. The translation core has developed materials and formalized a stepped approach that provides easy access to broadly phenotyped human samples for early testing, then allows investigators to pursue more specific and targeted study collections tailored to the needs of the specific research project. The core director Kieren J. Mather, M.D., is internationally recognized for expertise in measures of beta cell function, and glucose and lipid metabolism in humans. Associate Director Robert V. Considine, Ph.D., has extensive expertise in the measurement of adipokines, cytokines, gut peptides and other hormones.

Purdue's Biomolecular Screening and Drug Discovery Core has recently acquired an Octet family instrument from ForteBio. The Octet Red 384 utilizes bio-layer interferometry (BLI) to perform label-free, real-time biomolecular interaction detection and protein quantification. There are no microfluidics involved, because a simple Dip and Read method is used, which makes the Octet Red 384 very suitable for higher throughput scale experiments. With the possibility of 16 channels operating simultaneously, the Octet Red 384 can be used at every step of the drug discovery and development process. So far monitoring of protein-protein, protein-peptide, and protein-small molecule interactions are the most popular applications at our facility. Investigators hope to utilize the Octet Red 384 for a variety of other assays including as a replacement for ELISA assays and screening of small molecule libraries or chemical fragment libraries. Another possible application includes assay optimization with screening of multiple conditions or protein quantitation in bioprocessing. For more informaiton, contact Natasha Nikolaidis at nnikolai@purdue.edu, or 765-494-5997.

The Center for Medical Genomics on the Indianapolis campus is moving from BRTC to the 4th floor of Walther Hall (R3). The Center will be closed from Nov. 9 to 29, 2015 for the move. Although the core cannot handle samples during this time, please feel free to call or email for consultations. After Nov. 29, the new facility will be in labs accessed through R3-C417. This relocation will make it much easier to handle consultations and sample drop off.

The phone numbers and contact information will remain the same:

Dr. Xiaoling Xuei, 278-5201, xxuei@iu.edu, R3-413, for sequencing or genotyping

Dr. Jeanette McClintick, 274-8450, jnmcclin@iu.edu, R3-436, for microarray

Lab access through R3-C417, 278-9743 & 278-9744

Electron Microscopy Center in Indianapolis: An update from Caroline Miller, assistant director and laboratory manager

I thought it would be good to give an update on the EM Center and what has been happening since the passing of its director, Prof. Vincent Gattone in 2014. Although the facility was already established, it really blossomed under Prof. Gattone when he took over as Director.

From 2002-2015 the EM Center has helped well over 70 researchers to acquire data using electron microscopy and to get their projects funded. The EM Center is recognized as an important Core facility by both CTSI and INDI on the IUPUI campus and is into its 7th year as an International Core Facility for the Polycystic Kidney Disease Foundation. Numerous publications resulting from use of the Core are

recognized internationally.

The motivation behind the EM Center had always been, and will continue to be, the lab's ability to provide all the technical expertise needed, especially with specimen preparation in all disciplines using both Transmission and Scanning Electron Microscopy. As the assistant director and lab manager, I know Vincent would be proud of our Core and that we are continuing to build the legacy he started.

Please check out our website, and feel free to call or email with any questions about electron microscopy.

Are You an Investigator Needing Help?

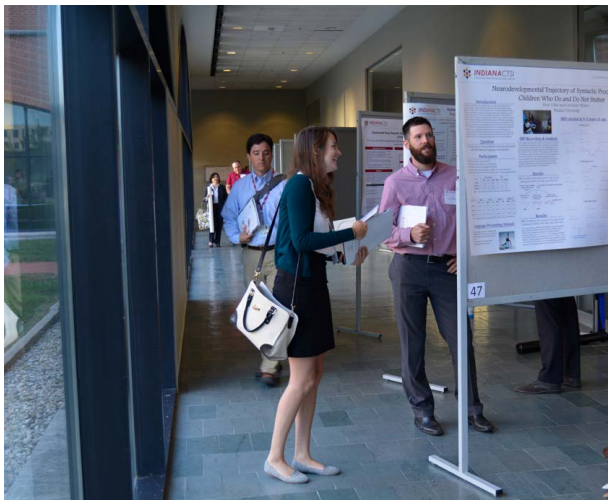
About
News & Events
Research Resources
Training & Education
Grants & Funding
Community Engagement
Volunteer for Research
Tools

News Center | Newsletter | Announcements | Meetings | Archives | Contact

Indiana CTSI posters presented at Lilly Science day 2015

November 10, 2015

The following posters, originally presneted at the Indiana CTSI Annual Meeting on Sept. 11, 2015 were invited to present at the Eli Lilly Science Day 2015.



Indiana Biobank- A powerful biobank designed to accelerate scientific discoveries

Brooke Patz, Indiana CTSI

The Indiana Biobank - A powerful biobank designed to accelerate scientific discoveriesa Biobank (IB) was established in 2010 as a statewide resource of human biological specimens that are linked to electronic medical records (EMR). The mission of the IB is to create a collection of well characterized specimens that can serve as a research resource to enhance translational research. To date, samples and data from over 22,000 individuals have been collected. In addition to banked samples, the IB, using its extensive network of research sites, has the capacity to collect specific specimens (e.g., plasma, serum, PBMC, saliva, urine) through its custom collection service to meet an investigator's unique research needs. With informed consent, all individuals provide approval to link their specimens to the electronic medical record. In addition, with the consent of individuals, specimens can be used for broad, unspecified future research; thereby allowing broad-based biomedical research questions to be addressed, and hypotheses tested.

MEOX2 regulation of fetal endothelial progenitor cell senescence

Cassanda Gohn, Department of Cellular and Integratice Physiology, IU School of Medicine

Additional authors: Laura Haneline, Departments of Pediatrics, Cellular and Integrative Physiology, and Microbiology and Immunology, Herman B. Wells Center, Indiana University School of Medicine

Intrauterine exposure to diabetes mellitus (DM) can result in long-term complications for children of DM mothers, including a predisposition for hypertension. Endothelial colony forming cells (ECFCs) from DM pregnancies have decreased vessel formation and increased senescence in vitro. Additionally, Mesenchymal Homeobox 2 (MEOX2) is upregulated in ECFCs from DM pregnancies. MEOX2 is a transcription factor that inhibits angiogenesis by upregulating cyclin dependent kinase inhibitors. We believe these alterations result from increased MEOX2 in ECFCs from DM pregnancies. We hypothesize MEOX2 is upregulated in cord blood ECFCs from DM pregnancies, leading to increased senescence. Immunoblotting demonstrated MEOX2 was increased in ECFCs from DM pregnancies (n=11, p=0.04). Further, a lentivirus encoding recombinant MEOX2 was used to transduce ECFCs from control pregnancies. Flow cytometry indicated an increase in MEOX2 protein resulted in an increase of p16 protein (n=4, p=0.02). Additionally, increased MEOX2 enhanced senescence when measured by senescence associated β-galactosidase assays (n=4, p=0.01). Our data suggest exposure to a diabetic milieu has long-term effects on fetal ECFCs and may impact overall endothelial health. Research aimed at delineating the pathologic mechanism involved and establishing MEOX2 as a biomarker for children at highest risk for vascular complications would have clinical value in preventative care measures.

Elucidating Retinal Ganglion Cell Development and Disease Using Human Pluripotent Stem Cells

Sarah Ohlemacher. Biology, IUPUI

Additional authors: Akshayalakshmi Sridhar, Biology, IUPUI; Yucheng Xiao, Stark Neuroscience Research Institute, Indiana University; Alexandra Hochstetler, Biology, IUPUI; Mansoor Sarfarazi, Human Molecular Genetics, University of Connecticut; Theodore Cummins, Stark Neuroscience Research Institute, Indiana University; Jason Meyer, Biology, IUPUI

The ability to derive retinal ganglion cells (RGCs) from human induced pluripotent stem cells (hiPSCs) provides an unlimited supply of cells for RGC development studies, with implications for disease modeling and cell replacement therapies. However, as the capacity to derive RGCs from hiPSCs has been largely overlooked to date, this ability was explored in the current study. Control hiPSCs were induced to differentiate towards a retinal fate and were subsequently characterized for expression of RGC related features. Skin fibroblasts from a glaucoma patient exhibiting an E50K mutation in the OPTN gene were used to generate patient-specific OPTN hiPSCs. OPTN hiPSCs were differentiated to a retinal lineage and phenotypic differences between wild type and OPTN hiPSC-derived RGCs were explored. Within 40 days of differentiation, RGCs could be readily identified due to the expression of RGC-associated markers, distinct morphology and

electrophysiological characteristics. In addition, OPTN hiPSC-derived RGCs displayed striking differences in apoptosis and Golgi organization compared to wild type cells. The data presented demonstrates the ability of hPSCs to serve as a reliable source of patient derived RGCs. These results will facilitate future studies into the disease-related degeneration of RGCs and will be instrumental as a tool to elucidate potential therapies.

Mathematical Modeling of Hematopoietic Stem Cell Dynamics

Joyatee Sarker, Biomedical Engingeering, Purdue University

Additional authors: Serena Pearce, Biomedical Engineering, Purdue University; David Umulis, Biomedical Engineering and Agricultural and Biological Engineering; Robert P. Nelson, Jr., Department of Medicine and Pediatrics, Indiana University School of Medicine; Ann Rundell, Biomedical Engineering, Purdue University

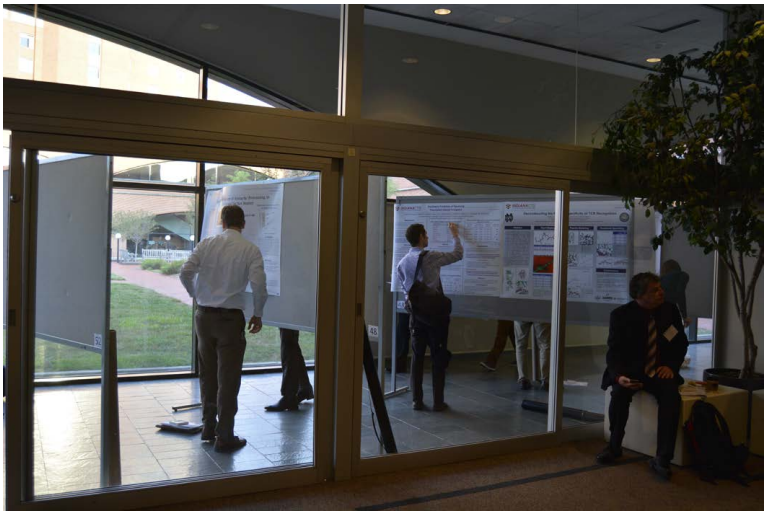
Patients with leukemia or other myelogenous disorders undergo chemotherapy to reduce their disease. The interplay of chemotherapy and the homeostatic physiological relationships amongst all of the cells of the hematopoietic stem cell (HSC) lineage is not fully understood. Through mathematical modeling, we can characterize how HSCs proliferate and differentiate in response to chemotherapy. An ordinary differential equations (ODE) semi-mechanistic model was developed to describe the proliferation and differentiation of HSCs. Thirty-two uncertain parameters were screened and evaluated to identify parameter values that lead to acceptable cell concentrations at homeostasis. To further constrain the acceptable ranges on the uncertain parameters, we use eight dynamic constraints, tuned to accept most of the real peripheral blood data of 47 patients who underwent HSC transplants at the Indiana University Simon Cancer Center. Our analysis has determined that for acceptable chemotherapy simulations that satisfy the dynamical criteria, the differentiation rate and the mitosis rate of neutrophils and monocytes are linearly separated on a log-log scale. Mathematical modeling of HSC dynamics helps elucidate how chemotherapy regimens affect leukemic patients. Acceptable parameter spaces and parameter relationships were determined and are valuable towards a greater understanding of the dynamical and homeostatic processes of the HSC lineage.

A Bioinformatics Approach for the Precision Medicine Off-Label Drug Usage among Triple Negative Breast Cancer Patients

Lijun Cheng, Department of Medical & Molecular Genetics, IUPUI

Additional authors: Lang Li, Professor, Department of Medical and Molecular Genetics,Indiana University School of Medicine; Bryan P. Schneider, M.D., Division of Hemotology and Oncology, Department of Medicine, School of Medicine

The increasing usage of sequencing technology in cancer research and clinical practice has enormously advanced our understanding of cancer mechanisms, and the cancer precision medicine is becoming a reality. Although off-label drug usage is a common practice in treating cancer, it suffers from the lack of knowledge base for proper cancer drug selections. This eminent need has become even more apparent considering the upcoming genomics data. In this paper, a personalized medicine knowledge base is constructed by integrating various cancer drugs, drug-target database and knowledge sources for the proper cancer drugs and their target selections. Based on the knowledge base, a bioinformatics approach for cancer drugs selection in precision medicine is developed. It integrates personal molecular profile data, including copy number variation, mutation, and gene expression. By analyzing the 85 triple negative breast cancer (TNBC) patient data in the Cancer Genome Altar (TCGA), we have shown that 71.7% of the TNBC patients have FDA approved druggable targets, and 51.7% of the patients have more than one druggable targets. 65 drug targets are identified as TNBC treatment targets and 85 candidate drugs are recommended. Many existing TNBC candidate targets, such as PARP1, CDK6, EGFR and etc., were identified. On the other hand, we found some additional targets that are not yet fully investigated in the TNBC, such as GGH, TYMS, PTK6, TOP1MT, SMO and etc. Our additional analysis of target and drug selection strategy is also fully supported by the drug screening data on TNBC cell lines in the Cancer Cell Line Encyclopedia (CCLE). Therefore, our proposed bioinformatics approach lays a foundation for the cancer precision medicine. It supplies much need knowledge base for the off-label cancer drug usage in clinics.



Transcription factor modulation of amyloid-beta precursor protein (APP) and beta site APP cleaving enzyme (BACE1) activity as a novel drug target in Alzheimer's disease (AD)

Bayon Baindu, Medical & Molecular Genetics, IU School of Medicine

Additional authors: Kwansik Nho, Dept. of Radiology and Imaging Sciences, Indiana University School of Medicine; Bryan Maloney, Dept. of Psychiatry, Indiana University School of Medicine; Nipun Chopra, Dept. of Medical Neuroscience, Indiana University School of Medicine; Debomoy K. Lahiri, Dept. of Psychiatry, Dept. of Medical Neuroscience, Dept of Medical & Molecular Genetics, Indiana University School of Medicine

The Latent Early-life Associated Regulation (LEARn) model posits that environmental agents epigenetically disturb gene regulation in a long-term manner, but that the pathology may not manifest until much later in life. The LEARn model's molecular mechanisms include changes in DNA methylation within the promoters of specific genes. Expression levels of some transcription factors (TFs) such as Sp1 are perturbed in this latent fashion. Expression of Sp1 parallels expression levels of disease associated genes in AD. BACE1 is the β-secretase responsible for the rate-limiting cleavage of APP to amyloid-β (Aβ), which can reach the pathological levels seen in AD. Sp1 positively regulates APP and induces BACE1 via their respective promoters. We chose single nucleotide polymorphisms (SNPs) within the Sp1 gene from the AD

Neuroimaging Initiative GWAS data, performed an association analysis with an AD-specific imaging biomarker (entorhinal cortex thickness), and identified a significant SNP (rs11170553) associated with entorhinal cortex thickness. rs11170553 was also associated with cerebral amyloid deposition. We tested Sp1-mediated regulation of APP with Mithramycin A (MTM), a selective inhibitor of Sp1, and Tolfenamic acid (TA), an inducer of Sp1 degradation, and with siRNAs in mammalian cell lines (rat neuronal PC12 and human glioblastoma U373), a primary human fetal neuron culture (HFN) and mixed cultures derived from human fetal neurospheres (NSPc). Treatment of PC12 reveals minimal changes in confluence, cytotoxicity, neurite length, and neurite outgrowth after Sp1 knockdown via siRNA or treatment with Sp1 modulating drugs. Morphology and cell death tracking studies from U373 reveal increasing cytotoxicity in MTM concentrations above 10 µM after 36 hours. Treatment of HFN with TA did not affect cell viability with doses up to 5 µM. Western blotting shows a significant decrease in expression of BACE1 after MTM treatment in NSPc and U373. Treatment with TA does not significantly decrease APP or BACE1 in NSPc or U373. APP siRNA knocks down expression of APP in both of these cell types. APP expression is not altered by treatment with TA in NSPc, perhaps due to disparate mechanisms of these Sp1-inhibiting drugs. MTM reduces APP and BACE1 expression. Neither treatment with Sp1-inhibiting drugs nor transfection with Sp1 siRNA affects cell viability of primary neurons nor differentiated NSPc. Compounds that can modify Sp1 binding to sites on the BACE1 and APP promoters could provide a means to limit the production of Aβ peptide and may slow the symptoms of AD. These results show that appropriate modulation of a specific TF could potentially be a novel drug target for AD.

Engineering T-Cell Receptors to Optimize Recognition of Tumor Antigens

Timothy Riley, Biochemistry, Notre Dame

The T cell receptor (TCR) is a membrane-bound heterodimer on the surface of T cells that recognizes peptide antigens bound and displayed by major histocompatibility complex (MHC) proteins. The identification of many tumor associated antigens recognized by TCRs has bolstered the field of cancer immunotherapy, and manipulating the immune system has exhibited promising results in treating metastatic melanoma and other cancers1. When measured in solution, TCR affinity for a peptide/MHC is relatively weak. There is evidence to suggest that binding affinity correlates with in vivo potency, which has led to the generation of several high affinity TCR variants1. However, increases in affinity can result in cross-reactive, off target recognition. The potential negative consequences of TCR cross-reactivity has led to the suggestion that the most critical property for an engineered TCR is a high affinity, high specific interaction. Our research combines structural biology, computational mutagenesis, and conformational sampling to predict energetically favorable mutations at the TCR binding interface. Previous work with the A6 and DMF5 TCRs were able to identify several affinity-enhancing mutations with some correlation between predicted and measured changes in binding energy. This approach was refined and improved with the B7 TCR, predicting the effects of 7 point mutations with 100% accuracy. This method was then modified to model variants of the Melanoma associated MART-1 peptide to probe changes in TCR specificity. These data suggest that TCR modifications may have potentially dangerous off-target effects and should be considered for receptor immunotherapy.

The Role and Therapeutic Potential of miRNAs in Colorectal Liver Metastasis

Ruchi Bansal, Medical and Molecular Genetics, IU School of Medicine

Additional authors: Smiti Snigdha Sahu, Department of Medical and Molecular Genetics, Indiana University School of Medicine; Sarah C. Nabinger, Department of Medical and Molecular Genetics, Indiana University School of Medicine; Jiang Guanglong, Center for Computational Biology and Bioinformatics, Indiana University-Purdue University Indianapolis; Alison Bates, Department of Medical and Molecular Genetics, Indiana University School of Medicine; Sangbin Lee, Department of Medical and Molecular Genetics, Indiana University School of Medicine; Hiromi Tanaka, Department of Medical and Molecular Genetics, Indiana University School of Medicine; Yunlong Liu, Department of Medical and Molecular Genetics, Indiana University School of Medicine;vJanaiah Kota, Department of Medical and Molecular Genetics, Indiana University School of Medicine; The Melvin and Bren Simon Cancer Center, Indiana University School of Medicine; Center for Pancreatic Cancer Research, Indiana University- Purdue University Indianapolis

Colorectal cancer (CRC) is the third most common malignancy worldwide. Liver metastasis occurs in 60% of CRC patients and responds poorly to available treatments making it the major cause of their mortality.MicroRNAs (miRNAs) are small,non-coding RNA molecules that regulate global gene expression and their role in cancer pathogenesis,including CRC,has been well documented.However,in-depth miRNA expression analysis on a large cohort of CRC tumors is needed to identify clinically relevant miRNAs and explore their therapeutic potential.We analyzed miRNA expression data of 406 CRC tumors from the publicly available CRC genome sequencing project.10 significantly downregulated miRNAs were selected for further analyses that were either known to target genes in cellular pathways or located within the commonly lost chromosomal loci associated with CRC liver metastases.miR-132,-378f,-605 and -1976 showed significant downregulation with >2 fold change in primary and CRC liver metastasis tissues and in CRC cell lines.Ectopic expression of miR-378f,-605 and -1976 in 3 different CRC cell lines (SW620,HCT-116 and CT-26) suppressed cell proliferation,anchorage independent growth,migration and invasion and induced apoptosis.CRC patients with high miR-378f and miR-1976 had better survival compared to low expressing patients.Our in vitro data suggest the anti-tumorigenic/metastatic properties of miR-378f,-605 and -1976 in CRC.Further understanding of their functions and in vivo therapeutic evaluations may help in developing novel therapeutic strategies for this malignancy.

Predictors of Diffusion-Weighted Imaging Lesions and One-Year Case-Fatality in Intracerebral Hemorrhage

Jason Mackey, Neurology, IU School of Medicine

Additional authors: Kevin F. O'Connor, Neurology, Indiana University School of Medicine; Ashley D. Blatsioris, Neurology, Indiana University School of Medicine; Elizabeth A.S. Moser, Biostatistics, Indiana University School of Medicine; Susan Ofner, Biostatistics, Indiana University School of Medicine; Ravan J.L. Carter, Regenstrief Institute; Alec Stevenson, Neurology, Indiana University School of Medicine; Abigail Hulin, Neurology, Indiana University School of Medicine; Darren P. O'Neill, Radiology, Indiana University School of Medicine; Aaron A. Cohen-Gadol, Neurosurgery, Indiana University School of Medicine; Thomas J. Leipzig, Neurosurgery, Indiana University School of Medicine; Daniel Woo, Neurology, University of Cincinnati College of Medicine; Chelsea S. Kidwell, Neurology, University of Arizona College of Medicine; Linda S. Williams, Neurology, Indiana University School of Medicine

Diffusion-weighted imaging (DWI) lesions in intracerebral hemorrhage (ICH) have been associated with vasculopathy, blood pressure (BP) lowering, and poor functional outcomes. We sought to identify predictors of DWI lesion formation and one-year case-fatality in ICH. Methods: In this retrospective study of primary ICH at our institution from 2009-2011, cases were identified by ICD-9 code and verified by physician review. Univariate analysis was stratified by DWI lesion presence; logistic regression analyses assessed predictors of DWI lesions and one-year case-fatality. Results: 98 subjects met inclusion criteria, of which 20 (20.4%) had DWI lesions. In the best clinical model fit, intraventricular extension (OR 5.63 (1.60, 19.85), p=0.007), microbleeds (OR 3.43 (0.95, 12.34), p=0.06), and delta systolic BP lowering (((max systolic BP-min systolic BP)/max systolic BP)*100) (OR 0.97 (0.95, 0.99), p=0.0005) were associated with DWI lesion presence. Overall one-year case-fatality was 16.3%; age (OR 1.04 (1.00, 1.07), p=0.05), GCS (OR 1.30 (1.09, 1.56), p=0.004), and DWI lesions (OR 3.80 (1.14, 12.61), p=0.03) were independently associated. Conclusions: Predictors of DWI lesions in ICH include underlying vasculopathy but the impact of BP lowering on DWI lesion formation remains unclear. Future trials of BP control in ICH should consider stratifying by imaging biomarkers for underlying vasculopathy.

Interferon-Beta Provides Protective Effects in Ischemic Stroke Through Its Anti-Inflammatory Properties

Ping-Chang Kuo, Department of Microbiology and Immunology, IU School of Medicine

Additional authors: Barbara A. Scofield, Department of Microbiology and Immunology, Indiana University School of Medicine, Fort Wayne, IN; Jui-Hung Yen, Department of Microbiology and Immunology, Indiana University School of Medicine, Fort Wayne, IN.

Stroke is a leading cause of death in the world. In over 80% of strokes the initial acute phase of ischemic injury is due to the occlusion of a blood vessel resulting in severer focal hypoperfusion, excitotoxicity and oxidative damage. Interferon beta (IFNβ), a cytokine with immunomodulatory properties, was FDA-approved for the treatment of multiple sclerosis (MS) for more than a decade. Its anti-inflammatory properties and well characterized safety profile suggest that IFNβ has therapeutic potential for the treatment of ischemic stroke. We tested the therapeutic effect of IFNβ on the treatment of ischemic stroke in the murine transient middle cerebral artery occlusion/reperfusion (tMCAO/R) model. Our results show IFNβ treatment markedly attenuated infract size of ischemic brains that correlates with dramatically decreased CNS infiltration of peripheral inflammatory cells. In addition, the expression of adhesion molecules and the production of inflammatory mediators were significantly lower in the ischemic brains of IFNβ-treated tMCAO/R mice. At the cellular level, we observed IFNβ suppressed the activation of ischemia-activated MG in vivo and LPS-activated primary MG in vitro. In conclusion, our results demonstrate IFNβ confers a protective effect in ischemic stroke through its anti-inflammatory properties in addition to its beneficial effects in MS.

Molecular Dynamics Studies of the Role of Protein Flexibility in Immunological Molecular Recognition

Cory Ayers, Notre Dame

Conserved residues in TCR CDR loops and their role in influencing MHC recognition

Sydney Blevins, Notre Dame

Novel Combination Therapy of DNMT inhibitor SGI-110 and PARP inhibitor BMN-673 (Talazoparib) for BRCA-proficient Ovarian Cancer

Nicholas Pulliam, Molecular and Cellular Biochemistry, Indiana University-Bloomington

Additional authors: Jay Pilrose, Indiana University, Medical Sciences; Pietro Taverna, Astex Pharmaceuticals, Inc., Pleasanton, CA;, John Lyons, Astex Pharmaceuticals, Inc., Cambridge, United Kingdom; Kenneth P. Nephew, Medical Sciences, Molecular and Cellular Biochemistry, Department of Cellular and Integrative Physiology Indiana University

Ovarian cancer (OC) is initially chemoresponsive but the majority of patients relapse after first line platinum-, taxane-based chemotherapy. Recurrence has been shown to be associated with increased DNA damage response (DDR) mediated by poly-(ADP)-ribose polymerase 1/2 (PARP1/2), which can be therapeutically targeted by PARP inhibitors (PARPi). Although PARPi are indicated for platinum-responsive, BRCA-mutated OC, most OC patients have BRCA-proficient disease. Based on our previous studies supporting a role for DNA methylation in chemoresistant OC, mediated by the enzyme DNA methyltransferase 1 (DNMT1), and reports on a functional role for DNMT1 in DNA double strand break repair mediated by BRCA1/2, we hypothesize that combining the DNMTi SGI-110 and the PARPi talazoparib (BMN673) will impair BRCA-mediated DDR, resulting in cytotoxicity. Conclusion: Combination SGI-110 + talazoparib treatment significantly reduced cancer cell colony formation. Regardless of BRCA and platinum sensitivity status, co-administration of SGI-110 and talazoparib reduced cell survival, albeit %survival was dependent on drug dose and cancer cell line.

Epithelial-mesenchymal plasticity primes metastatic tumors for resistance to targeted therapies

Michael Wendt, Molecular Pharmacology, Purdue University

Directed therapies using kinase inhibitors and antibodies to target human epidermal growth factor receptor 2 (Her2) have served as a testament to the potential of molecular-targeted therapies in this breast cancer subtype. However, Her2-targeted therapies are plagued by the pitfalls of intrinsic and acquired resistance, particularly in the metastatic setting. To address these questions we conducted long-term treatments of Her2-transformed cells with either the EGFR/Her2 kinase inhibitor, Lapatinib or TGF-β. Both of these treatment regimes resulted in a robust but unique epithelial-mesenchymal transition (EMT) phenotype as characterized by their CD44/CD24 profiles. Following removal of these stimuli, only those cells that had undergone TGF-β-induced EMT enter into a highly heterogeneous state, the importance of which is evidenced by their increased in vivo tumor growth metastatic capability. Importantly, the Lapatinib resistant cell population that arises following TGF-β-induced EMT can be readily eliminated via treatment with recently developed covalent inhibitors of fibroblast growth

receptor (FGFR). Overall our data demonstrate that the EMT processes induced by physiologic cytokine stimulation are not only critical drivers of metastatic progression but they also are key events in producing secondary tumors that are poised to be inherently resistant to clinically used targeted molecular therapies.

Homology Modeling of Human Cancer Neoepitopes

Ruth Nelson, Chemistry and Biochemistry, Notre Dame

Additional authors: Timothy P. Riley, Chemistry and Biochemistry, University of Notre Dame; Cory Ayres, Chemistry and Biochemistry, University of Notre Dame; Steven Corcelli, Chemistry and Biochemistry, University of Notre Dame; Brian Baker, Chemistry and Biochemistry, University of Notre Dame

CD8+ T cell receptors are able to recognize antigenic peptides presented by the Class I major histocompatibility complex (MHC) exposed on the surface of all nucleated cells. If these peptides are non-self, the T cell signals the foreign cell for degradation, thus protecting the host from infection. The interaction between T cell receptors and the peptide-MHC complex is critical for this immune response. As with other nucleated cells, tumor cells present antigenic peptides on their surface. These new epitopes that result from random mutations are thought to be responsible for a T cell's ability to selectively target certain tumor cells. There are two major problems associated with this line of cancer immunotherapy. First, it has been predicted that there are tens to hundreds of neoepitopes presented on a single tumor. However, only a small fraction of these peptides are thought to be capable of eliciting an immune response. Second, the cancer genome is mutated-self rather than completely non-self. This poses a problem because the tumor peptides may mimic self-peptides, potentially leading to tolerance (suppression of an immune response). To better understand the role of the peptide-MHC complex in cancer immunogenicity, in silico modeling of the complex will be performed. Ultimately, the knowledge gained from these modeling experiments will be used to determine the best candidates for anti-cancer vaccines.

JAK/STAT pathway over-expression is a signature of poor survival in Triple Negative Breast Cancer patients with residual disease after neo-adjuvant chemotherapy

Mufti Ahmad, Indiana University Melvin and Bren Simon Cancer Center, IU School of Medicine

Additional authors: Bradley Hancock, Indiana University Melvin and Bren Simon Cancer Center; Jeffrey Solzak, Indiana University Melvin and Bren Simon Cancer Center; Kathy Miller, Indiana University Melvin and Bren Simon Cancer Center; Milan Radovich, Indiana University Melvin and Bren Simon Cancer Center;

Residual disease after neo-adjuvant chemotherapy (NAC) in triple-negative breast cancer (TNBC) patients entails a high risk of disease recurrence. Moreover, there is a paucity of targeted therapies for this aggressive subtype of breast cancer. BRE09-146 was a Phase II clinical trial of TNBC patients with residual disease after NAC randomized to Cisplatin or Cisplatin+Rucaparib. From this trial, we performed RNA-sequencing on the residual disease tumors from 57 patients. From this data, we associated the expression of ~11,000 genes with Disease Free Survival (DFS) by Cox-regression. Those genes with a $p<0.05$, were then analyzed using Ingenuity Pathway Analysis (IPA) to identify shared pathways. The top 3 pathways were all involved in JAK/STAT signaling. Shared genes between these pathways included: IRS2, JAK1, STAT3, and STAT5A. We performed hierarchical clustering of our RNA-seq data based on those 4 genes to develop a signature classification. Clustering demonstrated a distinct separation into two subtypes: JAK/STAT-HIGH & LOW. JAK/STAT-HIGH patients had a significantly inferior DFS ($p=0.03$, H.R.=2.5) and overall survival ($p=0.05$. H.R.=2.6). In conclusion, presence of an activated JAK/STAT expression signature portends inferior survival in TNBC patients with residual disease after NAC. FDA approved JAK/STAT targeted therapies may be a promising avenue for this high-risk population.

Identification of Biomarkers for Early Detection of Alzheimer's Disease

Justine Arrington, Chemistry, Purdue University

Additional authors: I-Hsuan Chen, Department of Biochemistry, Purdue University; W. Andy Tao, Departments of Chemistry, Biochemistry, and Medicinal Chemistry and Molecular Pharmacology, and the Purdue University Center for Cancer Research, Purdue University

Recent research has helped elucidate the mechanisms of Alzheimer’s disease (AD), but it is difficult to identify AD at its earliest stages when treatments would be most effective. We are developing proteomic strategies for the detection of early AD biomarkers in cerebrospinal fluid (CSF). CSF is in direct contact with the nervous system, so it serves as an excellent biofluid for AD detection; however, there are multiple challenges associated with its analysis, including the presence of high abundance proteins and a large dynamic range in protein concentration. In particular, the high concentration of serum proteins such as albumin may mask potential biomarkers involved in AD progression. To overcome these difficulties, we are developing biochemical strategies, including chemical depletion and affinity purification, to identify low abundance proteins without extensive fractionation. Proteins from CSF samples are identified with ultra-high performance liquid chromatography (UHPLC) coupled to high resolution mass spectrometry, and label-free quantitation is used to determine relative protein abundances. We will then compare protein identifications in CSF samples from healthy controls to those of AD patients to highlight potential biomarkers that may be used for early diagnosis of AD.

Using Steady-State Visual Evoked Potentials (SSVEPs) to Measure Signal Enhancement and Noise Suppression During Object Recognition

Brandi Emerick, Psychological and Brain Sciences, Indiana University-Bloomington

Additional authors: Tom Busey, Psychological and Brain Sciences, IUB; Brian O'Donnell, Psychological and Brain Sciences, IUB

Steady-state visual evoked potentials (SSVEPs) provide a way to track responses to specific stimuli. Brain responses are recorded with EEG while periodic stimuli are presented. Brain regions involved in processing a particular stimulus entrain to its presentation frequency, allowing differentiation of responses to separate stimuli, even for stimuli presented within the same area of visual field. This technique is known as

Support & Feedback
Citing CTSI
Newsletter

frequency tagging. We used frequency tagging to measure brain responses to visually degraded images presented in visual noise. For each trial, participants pressed a button to indicate when scene interpretation occurred (if it occurred) and then provided difficulty ratings. Brain responses to signal and noise were separately tagged by using different presentation frequencies, allowing us to independently track signal enhancement and noise suppression during each trial. This study focused on differences in signal enhancement and noise suppression between cannabis users and non-users, but this method could be extended to characterize visual perception deficits exhibited by additional clinical populations, such as patients with schizophrenia or dyslexic individuals.

HHS announces proposal to revise rules governing human subjects research

November 10, 2015

The U.S. Department of Health and Human Services and 15 other federal departments and agencies have announced proposed revisions to the regulations for protection of human subjects in research (the “Common Rule”). A Notice of Proposed Rulemaking was published in the Federal Register on Sept. 8.

Read a brief summary of the proposed changes, or read the full NPRM.The NPRM does not represent the final rule that will be published; rather, it lists proposed revisions to the Common Rule. HHS is soliciting comments from the research community and other interested parties to be considered in drafting the final rule. The Human Subjects Office is coordinating IU’s comments to be submitted to HHS.

Please contact Shawn Axe at saxe@iu.edu.edu if you would like to participate in formulating IU’s comments. Individual or group comments can also be submitted directly to HHS. To be assured consideration, comments should be submitted by Dec. 7, 2015. See the HHS website for additional information regarding submission of comments.

Timeframes for publication of the final rule and implementation of revisions have not yet been determined. As HHS provides additional information, it will be communicated via future editions of the research compliance quarterly newsletter and/or Office of Research Compliance website and emails.

Contact:
info@indianactsi.org

Are You an Investigator Needing Help?
About
News & Events
Research Resources
Training & Education
Grants & Funding
All CTSI Funding
All Open RFPs
Other Funding
Grant Management
Citation Information
No Cost Extensions
Community Engagement
Volunteer for Research
Tools

All Open Indiana CTSI Request for Proposals

This page lists all Indiana CTSI funded proposals currently accepting applications. You can click on the grant title for further details for that grant. The "START" link at the bottom of each grant will take you to the CTSI grants system (which requires login) and start the application process.

Infectious Diseases T32 Training Program- 2017.03

APPLICATION SUBMISSION DEADLINE - MARCH 07, 2017

This training opportunity is a collaborative effort between the Division of Infectious Diseases (ID), Department of Medicine; the Sections of Adolescent Medicine and Infectious Disease & Global Health, Department of Pediatrics; the Department of Dermatology and; the Department of Microbiology and Immunology.

The primary mission of this multidisciplinary training program is to train well qualified MD and PhD scientists for productive and sustainable careers in research. The scope of training ranges from bench science to implementation research. In addition, as team science is rapidly becoming the primary mode of operation for biomedical scientists addressing complex questions related to human health, this opportunity emphasizes training investigators who are familiar with the practices, procedures, and languages of collaboration necessary for creating and working within a productive team. This opportunity uses a broad based integrative approach, supported by excellent mentors, in order to achieve the goal of training superb researchers for the next generation.

IIMR VA Young Investigator Award (YIA) - 2017.02

LETTER OF INTENT (LOI) DEADLINE JANUARY 18, 2017
APPLICATION SUBMISSION DEADLINE - FEBRUARY 08, 2017

IIMR's mission is to promote and enhance research efforts that will ultimately result in improved quality of life for veterans and for the greater population. In support of that mission, IIMR works to encourage investigators to develop their research careers by working with IIMR and the VA and veterans to answer important questions. One way IIMR encourages investigators is to sponsor the annual Young Investigator Award Program, which provides a competitive experience for investigators to explore the possibilities of VA-related research.

The IIMR is currently seeking submissions for clinical, basic science and translational research. It is expected that two meritorious awards will be funded through this RFA cycle. Project budgets should be limited to those funds necessary to carry out the research project and should limited to $25,000.

Please note: If you want to attend a grants writing workshop or educational session prior to completing your YIA submission, please contact the IIMR via Mary.Gray1@va.gov, 317.988.9544, or refer to the IIMR website at iimrindy.org. Our office will be happy to assist you in enrolling in a workshop or session.

MD/MS Fellowship Program: Year in Translational Research for Medical Students - 2017.03

SUBMISSION DEADLINE - MARCH 07, 2017 (4:00 PM)

The Indiana Clinical and Translational Research Institute (CTSI) is seeking applicants for a special research fellowship in translational research. This fellowship program will be awarded through a competitive process. CTSI will provide an annual stipend and one year of health insurance coverage for as many as two IUSM medical students interested in taking a year out of medical school to pursue an M.S. in Translational Science.

CTSI - IU Kelley MBA Core and Project Business Management Assistance - 2017.01

SUBMISSION DEADLINE – JANUARY 16, 2017 (5:00 PM)

The Indiana CTSI, jointly with the IU Kelley School of Business, offers to provide for a team of 2-5 Indiana Kelley MBA students (from the residential-MBA program in Bloomington) to be your partners for the project as a part of their independent study program for course credit. Project duration will be 8 weeks. Selected cores will be expected to engage with the MBA students for initial project scope (2 hours), additional follow-up or onsite meetings (8-12 hours) and a final project close-out (1-2 hours). The MBA students will contribute 30-100 hours each (depending on the project scope, number of team members and course credit assignment) to the project progression in turn. **Selected projects will commence in February - March 2017 and will be completed by early May.**

CTSI Young Investigator Award in Clinical - Translational Research - 2017.01

SUBMISSION DEADLINE - JANUARY 17, 2017 (5:00 PM).
The Indiana Clinical and Translational Sciences Institute (CTSI) is seeking applicants for the CTSI Young Investigator Awards in Clinical-Translational Research. 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. Clinical research includes epidemiological studies, clinical trials, or other investigations involving human subjects. Translational research consists of either "T1 research"

(interface of basic science to human studies) or “T2 research” (interface of human studies to the community). To be eligible, candidates must fall into 1 of the following 2 categories: 1) Clinician-scientists with a doctoral degree (physicians, nurses, dentists, pharmacists, clinical psychologists, optometrists, veterinarians, allied health care professionals, etc.) or 2) Basic scientists with a PhD who are doing translational research, which involves some component of human subjects research and has high potential for early translation in impacting patient care.

CTSI Postdoctoral Training Awards in Translational Research - 2017.01

SUBMISSION DEADLINE - January 13, 2017 (5:00 PM). The Indiana Clinical and Translational Sciences Institute (CTSI) is seeking applicants for special postdoctoral training awards in translational research. In biomedical terminology, translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translation may involve applying discoveries made during research (in the lab, through animal studies, etc.) to the development of clinical trials and studies in humans, or carrying out research aimed at enhancing the adoption of best practices, or both. To be eligible, candidates must have received a PhD or equivalent degree from an accredited domestic or foreign institution. Please refer to the competition guidelines for full eligibility criteria.

Ralph W. and Grace M. Showalter Research Trust - 2017.01

KC ROUTING DEADLINE - January 10, 2017 (5:00 PM).
Since 1975, IUSM has received research funding through gifts made possible from the Ralph W. and Grace M. Showalter Research Trust Fund. The areas of appropriate biomedical research, eligible for funding, are broad and described by the benefactors as “the type of medical research that is most likely to permanently benefit mankind.” Donor intent prohibits the use of Showalter Trust funds for research in psychiatry, sociology, or social studies. Applications for funding from the Ralph W. and Grace M. Showalter Research Trust will be reviewed in two stages. An initial review by the IUSM Biomedical Research Committee (BRC) will select the most meritorious proposals for further discussion and ranking. The BRC will then provide a recommended ranking to the Showalter Trustees who conduct a second review. Final funding decisions are made by the Showalter Trustees. Applications for funding beginning July 1, 2017 must be routed to the Office of Research Administration (ORA) by 5pm on Tuesday, January 10. ORA approved applications should then be uploaded to the CTSI website no later than 5:00 pm Tuesday, January 17. Only current full-time faculty (non-visiting status) having a primary appointment in IUSM and a rank of assistant professor or assistant scientist are eligible to apply for funding from the Showalter Research Trust. Note that the same proposal may not be submitted as both a Biomedical Research Grant and a Showalter Trust application. If eligible for both programs, the investigator is encouraged to submit to the Showalter Trust.

Biomedical Research Grant - 2017.01

SUBMISSION DEADLINE - January 10, 2017 (5:00 PM).
The Biomedical Research Grant program is open to all IU School of Medicine (IUSM) faculty that are full-time, regardless of tenure status, having an appointment of Assistant/Associate/Full Professor and Assistant/Associate/Full Scientist . In general, two categories of research projects will benefit from this program: 1) research projects of investigators new to IUSM who do not yet have extramural funding and who need support to acquire the preliminary data necessary to compete for extramural funding; 2) research projects of established IUSM investigators who are between funding periods from extramural sources.

Design and Biostatistics Program (DBP) Pilot Grant - 2017.02

LETTER OF INTENT (LOI) DEADLINE - DECEMBER 16, 2016
FULL APPLICATION DEADLINE - FEBRUARY 6, 2017 (5:00 PM)

The Design and Biostatistics Program (DBP) of the Indiana Clinical and Translational Science Institute (CTSI) is comprised of 8 units with associated expertise: 1) Department of Biostatistics, IU School of Medicine and Fairbanks School of Public Health; 2) Division of Hereditary Genomics, Department of Medical & Molecular Genetics, IU School of Medicine; 3) Computational Biology, Center for Computational Biology & Bioinformatics, IU School of Medicine; 4) Department of Epidemiology, Fairbanks School of Public Health; 5) Department of Statistics, Purdue College of Science; 6) Department of Applied & Computational Math & Statistics, Notre Dame School of Science; 7) Department of Statistics, IU Bloomington College of Arts & Sciences; 8) Department of Epidemiology and Biostatistics, IU Bloomington School of Public Health.

To achieve its objectives and stimulate development for emerging translational research needs, the DBP will fund innovative pilot projects that support methodological research of faculty members in the eight units that comprise the DBP. The total budget for the entire RFA is $20,000, and it is expected that up to two awards will be funded at approximately $10,000 per award for a twelve month duration. The objective of this mechanism is to fund research proposals that will synergize methodological strengths and translational biomedical research of the DBP, and in particular, the following types of research proposals:

- Research projects that propose to develop novel methodology (such as biostatistical, epidemiological, genetic, and bioinformatics methods).
- Research projects that match novel methodology with translational science needs.
- Research projects that have high potential to obtain external funding.

Preference will be given to investigators who have not already received extramural funding. Applications to this program are expected to be **$10,000 per award** and are of **one (1) year duration.**

START

CTSI Pre-Doctoral Training in Translational Research - 2016.12

CV SUBMISSION PRIOR TO APPLICATION (via ictsi@purdue.edu) DEADLINE - DECEMBER 5, 2016
FULL APPLICATION DEADLINE - DECEMBER 12, 2016 (4:00 PM)

The Indiana Clinical and Translational Sciences Institute (CTSI) is seeking applicants for special predoctoral training awards in translational research. In biomedical terminology translational research refers to what is popularly termed "bench to bedside", the process by which research in the lab "translates" into patient treatment. Translation may involve applying discoveries made during research (in the lab, through animal studies, etc.) to the development of clinical trials and studies in humans, or carrying out research aimed at enhancing the adoption of

best practices, or both. These two types of translational research are usually described as consisting of either “T1 research” (basic biomedical research, e.g. study disease at a molecular or cellular level, as it progresses to the development of new treatment options at the clinical level) or “T2 research” (enhancing access to and the adoption of evidence- based strategies in clinical and community practice, institutionalizing programs, products, and services to improve health). These awards are aimed at predoctoral students whose research is at any point along this spectrum. **Funding is for two years (with the 2nd year of funding contingent upon satisfactory progress).** Benefits include a stipend as well as health insurance and partial coverage of tuition and fees.

Center for Diabetes and Metabolic Diseases' Pilot and Feasibility - 2017.03

LETTER OF INTENT (LOI) DEADLINE - JANUARY 9, 2017 (5:00 PM)
FULL APPLICATION DEADLINE - MARCH 6, 2017 (5:00 PM)

This funding opportunity announcement invites applications from investigators at Indiana University (IUSM, IUB, etc.), IUPUI, and Purdue. The program will be particularly directed at new investigators and established investigators new to diabetes-related research. The program will also consider established diabetes investigators pursuing high impact/high risk projects or projects that are a significant departure from their usual work. The campuses are ideal for establishing interdisciplinary collaborations and forging new partnerships between basic scientists and clinical researchers, and such collaborations are encouraged. Work supported by these funds is expected to lead to submissions of major extramural grants (R01/equivalent NIH, major foundation awards, DOD, etc.).

START

Global Health Research Pilot Projects -2016.12

SUBMISSION DEADLINE – DECEMBER 12, 2016 (5:00 PM)

The Indiana CTSI with the IU Center for Global Health is soliciting proposals from applicants developing or currently involved in collaborative global health research projects. The purpose of this RFA is to foster and encourage the development of new collaborative interdisciplinary research that seeks to identify innovations to address key global health challenges and improve health outcomes in resource limited settings. This RFA will fund pilot research projects with: (1) a high potential for attracting new extramural research funding; (2) a focus on strengthening collaborative multidisciplinary research collaborations between Indiana CTSI partner institutions (IU, Purdue, and Notre Dame) and key academic research centers abroad; and (3) an emphasis in key, high-yield, research-related initiatives, including basic and translational sciences research, biobanking, cancer, population focused disease control, informatics and decision support systems, and implementation research dissemination.

Post-Doc Challenge - Funding to Utilize CTSI-Designated Cores - 2017.02

FULL APPLICATION DEADLINE - TUESDAY, FEBRUARY 28, 2017 (5:00 PM)

The Indiana Clinical and Translational Sciences Institute (CTSI) is soliciting proposals from postdoctoral researchers to develop translational research through the use of technologies and expertise available at the Indiana CTSI-designated core facilities available at all partner institutions. Translational research refers research in the lab that eventually translates into patient treatment to improve human healthcare. Translation involves applying discoveries made during research (in the lab, through animal studies, etc.) to the development of clinical trials and studies in humans.

CTSI-designated core facilities are cores that undergo a yearly accreditation process through the Indiana CTSI for all partner institutions. The Postdoc Challenge offers postdoctoral researchers at Indiana University, Indiana University School of Medicine, IUPUI, Purdue University, and the University of Notre Dame valuable proposal writing and reviewing experience in areas related to translational research through the use of one or more of the CTSI-designated core facilities at any of the partner universities. This is a competitive opportunity for a $5,000 award in the form of an expense account for use of core facility services. Funding is to be used only for services provided by the core facilities. Indiana CTSI-designated core facilities are listed on the CTSI HUB. (https://www.indianactsi.org/servicecores)

Applications to this program are **limited to $5,000** and are of **one (1) year duration**.

START

Adult Gastrointestinal and Liver Diseases Research Pilot Grant - 2016.11

LETTER OF INTENT (LOI) DEADLINE - FRIDAY, OCTOBER 21, 2016
FULL APPLICATION DEADLINE - MONDAY, NOVEMBER 7, 2016 (5:00 PM)

The Indiana Clinical and Translational Sciences Institute (CTSI), in conjunction with the Division of Gastroenterology/Hepatology in the Department of Medicine, is soliciting proposals for pilot projects from investigators to develop and promote translational and transdisciplinary collaborative research projects in adult gastrointestinal and liver diseases. The objective is to fund studies that (a) establish or strengthen already established collaborations between faculty members in the GI Division and investigators from other departments and schools at IUSM, IUPUI and Purdue University; (b) generate preliminary data for extramural funding applications investigating adult GI and liver disorders.

The areas of interest include (a) acute and chronic liver diseases; (b) GI and hepatobiliary malignancy; (c) inflammatory bowel disease; (d) GI motility disorders; (e) chronic abdominal pain; and (f) chronic functional bowel disorders. The proposal should demonstrate tangible evidence that the collaboration will lead to a multiyear federal grant application.

Applications to this program are **limited to $35,000** and are of **one (1) year duration**. Up to two grants will be awarded per grant cycle.

Indiana Spinal Cord & Traumatic Brain Injury Research Fund - 2016.12

FULL APPLICATION DEADLINE - FRIDAY, DECEMBER 9, 2016 (5:00 PM)

The overall objective of the Indiana Spinal Cord & Traumatic Brain Injury Research Fund program is to foster and encourage research for the prevention, treatment and cure of spinal cord and traumatic brain injuries, including acute management, medical complications, rehabilitative techniques, and neuronal recovery. Collaborations are encouraged between Indiana-based researchers as well as with researchers located outside the state of Indiana, including researchers in other countries. Even though the Indiana statute encourages collaborations with

researchers outside of Indiana, the primary research should be Indiana-based. Collaborations can be between Principal Investigators (PIs) at the same institution, different institutions, or a PI and a company. Salary support for collaborators outside of Indiana will be limited.

Applications to this program are **limited to $160,000** and are of a **two (2) year duration**, with a $80,000 per year maximum.

Pilot Funding For Research Use of Core Facilities - 2016.10

FULL APPLICATION DEADLINE - FRIDAY, OCTOBER 7, 2016 (5:00 PM)

The Indiana CTSI Pilot Funding program is intended to promote the use of technologies and expertise afforded by the Indiana CTSI Core Facilities available at all partner institutions. Successful proposals will demonstrate outstanding scientific merit that can be linked to generating extramural funding or novel intellectual property (IP). Success of the program will be viewed, in part, by the fostering of new funded grants or providing significant contributions to grant renewals. Therefore, proposals will be judged with equal measure on scientific merit and the likelihood of generating new IP or extramural grant support.

Indiana University Health Values Fund: Pilot and Feasibility Education Program - 2016.11

FULL APPLICATION DEADLINE - NOVEMBER 4, 2016 (5:00 PM)

Indiana University Health's strength in providing excellent patient care is partially based on involvement in the continuous development of new, pre-eminent health care professionals throughout the entire workforce and innovative care delivery models. The Indiana University Health is seeking applicants for the IUH Pilot and Feasibility Education Program. The specific areas of opportunity of the program include the following: 1) Educational efforts in the field of ethics involving students, residents, or staffs; 2) Support for translation or dispersal of knowledge (e.g. library); 3) Education in Health Evaluation and Services, including outcomes evaluation and procedures; 4) Educational efforts especially with residents and staff which address ethical, socioeconomic, medical, legal and cost containment, or other issues affecting medical practice, quality of life, and access to health care; 5) Educational efforts in an ambulatory setting and/or promotion of continuity of care across care settings; 6) Education involving alternate approaches to health care including spirituality, end of life care, etc., or educational efforts which attempt to integrate complementary and traditional medicine in support of providing holistic care; 7) Educational efforts involving delivery of chronic care; 8) Primary care education devoted to holistic care; 9) Education in research principles; 10) Education in the development of and delivery of health promotion projects; 11) Educational efforts in faculty, resisdent, professional and/or staff development as related to teacher/learner issues; and 12) Education in quality improvement.

Applications to this program are **limited to $100,000** and are of a **two (2) year duration**, with a $50,000 per year maximum.

Indiana University Health Values Fund: Pilot and Feasibility Research Program - 2016.11

LETTER OF INTENT (LOI) DEADLINE - OCTOBER 21, 2016
FULL APPLICATION DEADLINE - NOVEMBER 4, 2016 (5:00 PM)

Indiana University Health is seeking applicants for the IUH Pilot and Feasibility Research Program. The priority areas of the program include the following areas: 1. Discovery of new knowledge and the development of new diagnostic treatment and prevention modalities to improve patient care outcomes; 2. Promotion of health in the population and the provision of health care of the highest quality to its patients while assisting the hospital to become more efficient; 3. Projects that demonstrates collaboration between the Indiana University Health hospital campuses.

Applications to this program are **limited to $100,000** and are of a **two (2) year duration**, with a $50,000 per year maximum.

Indiana University Health Values Fund: Grand Challenge Grant - 2016.11

LETTER OF INTENT (LOI) DEADLINE - OCTOBER 21, 2016
FULL APPLICATION DEADLINE - NOVEMBER 4, 2016 (5:00 PM)

This is a relatively new component of the IU Health Values Fund Grant Program. Values Fund expenditures represent an expression of Indiana University Health's seven Core Values. The Grand Challenge is funded in support of the Indiana University Health values. The proposed "Grand Challenge" Values grants will compliment Indiana University Health's strength in providing excellent patient care and health education by adding a new dimension this award round by addressing *'smoking cessation studies as well as projects focusing on behavioral health'*. This new focus further aligns IU Health with the State of Indiana's strategies to combat smoking and behavioral health. Thus, the IU Health Grand Challenge (IUH GC) applications are expected to make a significant impact on key communities served by IU Health and demonstrate how the awards will improve the health outcomes of targeted communities in Indiana and beyond. Grand Challenge proposals will be accepted that focus specifically on population health research on any of the following two topics: 1) Reduce tobacco use and/or exposure to secondhand smoke that scales across the health system, strengthens community partnerships, and advances public health impact of IUH/IUSM; 2) Develop a model of care and necessary workforce to address serious behavioral health problems that can be deployed across the health system and advances IUH/IUSM's public health impact and community partnerships.

Applications to this program are **limited to $500,000** and are of two **(2) year duration**, with a $250,000 per year maximum.

Indiana University Health Values Fund: Integration of Spiritual and Religious Dimensions in Health Care - 2016.11

LETTER OF INTENT (LOI) DEADLINE - OCTOBER 14, 2016 (5:00 PM)
FULL APPLICATION DEADLINE - NOVEMBER 4, 2016 (5:00 PM)

IU Health's strength in providing excellent patient care is rooted in the religious and spiritual heritage of its institutions. The spiritual calling to heal the sick brings vitality and meaning to patient care within the IU Health community. The Joint Commission on Accreditation has emphasized spiritual care as a vital part of the mission of health care institutions. IU Health will succeed in meeting its mission to provide holistic care to our patients with new programs to integrate spiritual care into patients' treatment plans and to develop methods and find solutions to address all the needs of those we serve. The Values Fund offers a unique resource that will allow us fulfill our mission and uphold our values.

Indiana University Health is seeking applicants for the Indiana University Health Values Fund for the Integration of Spiritual and Religious

Dimensions in Health Care. The specific areas of opportunity of the program include the following: 1) Projects that seek to foster a “whole person perspective” in health care; 2) Projects that foster policies and procedures that enhance respect for patient rights and responsibilities; 3) Projects that coordinate and provide a forum and consultation in the area of religious and moral meaning in bioethics; 4) Projects that research the role of religion, spirituality, and/or ethics in health and healing; 5) Projects that provide a service as a religious and ethical values resource center within the IU Health network and the broader community; 6) Projects that support innovation in spiritually integrated counseling, particularly for low income persons and families; and 7) Projects that provide a linkage with, and liaison between, the religious community and IU Health, addressing the continuum of care and wellness issues in our society.

Applications to this program are **limited to $100,000** and are of a **two (2) year duration**, with a $50,000 per year maximum.

IU School of Medicine/Purdue University - Devices Advancing Surgical Care - 2016.10

SUBMISSION DEADLINE - OCTOBER 31, 2016 (5:00 PM).

The Indiana Clinical and Translational Sciences Institute (CTSI) is please to request applications for funding to develop potential devices in the broad area of surgery. The successful application will involve investigators from the Department of Surgery at Indiana University School of Medicine and faculty from Purdue University. Awards will be competitive and may not exceed $100,000 for up to two (2) period. Investigators from both institutions are encouraged to come up with innovative ideas that can result in a device that improves human health. For questions regarding scope, review of the proposal, or financial issues related to budgeting and grant submission contact Lane Coffee at rlcoffee@iu.edu or via phone at 317-278-2150.

Dr. Charles Fisch Cardiovascular Research Award

PROPOSAL SUBMISSION DEADLINE - 1) FIRST REGULAR BUSINESS DAY IN APRIL and 2) FIRST REGULAR BUSINESS DAY IN SEPTEMBER (5:00 PM).

Indiana University School of Medicine announces the availability of Dr. Charles Fisch Cardiovascular Research Award to support cardiovascular research for young investigators or more senior investigators, embarking on a new research direction.

Applicants may request up to $60,000 total, although particularly meritorious proposals that have well-justified budget needs as high as $100,000 may be considered. Successful proposals will demonstrate scientific merit and a potential for generating extramural funding. In addition, prioritization will be given to those projects that utilize more than one IU Health hospital or facility for leveraging existing patient popluations or clinical programs and/or projects that will potentially lead to improvements in the quality of care for IU Health patients. Applicants must have an Indiana University faculty appointment in the Department of Cardiology, Department of Medicine to apply for research program support. Clinical fellows and postdoctoral researchers in the Division of Cardiology may apply for research fellowship support under a faculty member in the Division of Cardiology.

START

Eli Lilly-Stark Neurosciences Pre-Doctoral Research Fellowship in Neurodegeneration - 2016.08

LETTER OF INTENT (LOI) DEADLINE - AUGUST 5, 2016
FULL APPLICATION DEADLINE - AUGUST 26, 2016 (5:00 PM)

The Stark Neurosciences Research Institute and the Indiana Clinical and Translational Sciences Institute (CTSI) are seeking applicants for special pre-doctoral training fellowships in translational neurodegenerative disease research. We seek applicants whose research is focused on age-related neurodegeneration, including Alzheimer’s disease, Parkinson’s disease, amyotrophic lateral sclerosis, chronic traumatic encephalopathy, among others. Translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translational research fosters the multidirectional integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. Translation can involve everything from basic science discoveries in the lab that directly focus on human disease states, through animal studies and drug development to the development of clinical trials and studies in humans.

Annual stipend (plus applicable health insurance) is aligned with current NIH recommendations. Annual supplement of $7,500 to be used for travel, computers, and general supplies. Initial funding duration is for one (1) year, and is renewable for one (1) additional year pending review and demonstration of satisfactory progress.

Eli Lilly-Stark Neurosciences Post-Doctoral Research Fellowship in Neurodegeneration - 2016.08

LETTER OF INTENT (LOI) DEADLINE - AUGUST 5, 2016
FULL APPLICATION DEADLINE - AUGUST 26, 2016 (5:00 PM)

The Stark Neurosciences Research Institute and the Indiana Clinical and Translational Sciences Institute (CTSI) are seeking applicants for special post-doctoral training fellowships in translational neurodegenerative disease research. We seek applicants whose research is focused on age-related neurodegeneration, including Alzheimer’s disease, Parkinson’s disease, amyotrophic lateral sclerosis, chronic traumatic encephalopathy, among others. Translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translational research fosters the multidirectional integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. Translation can involve everything from basic science discoveries in the lab that directly focus on human disease states, through animal studies and drug development to the development of clinical trials and studies in humans.

Annual stipend (plus applicable health insurance) is aligned with current NIH recommendations. Annual supplement of $7,500 to be used for travel, computers, and general supplies. Initial funding duration is for one (1) year, and is renewable for one (1) additional year pending review and demonstration of satisfactory progress.

Activity-Based Therapy Grant Program - Indiana Spinal Cord & Traumatic Brain Injury Research Fund - 2016.09

LETTER OF INTENT (LOI) DEADLINE - AUGUST 12, 2016

FULL APPLICATION DEADLINE - SEPTEMBER 9, 2016 (5:00 PM)

The State of Indiana established the research fund known as the Indiana Spinal Cord and Traumatic Brain Injury Research Fund (ISCBIRF) effective July 1, 2007. This fund, established under Indiana Code (IC) 16-41-42-4, will consist of appropriations, gifts and bequests, fees deposited in the fund under IC 9-29-5-2, and grants received from the federal government and private sources.

Effective July 1, 2015 this fund was supplemented and additionally authorized by legislation to provide prescribed, defined, and limited support to non-profit organizations corresponding to 501(c) 3 Federal tax status engaged in rehabilitative clinical care employing “activity based” approaches.

The overall objective of this program is to foster and encourage activity-based therapy programs for the prevention, treatment, and cure of spinal cord and traumatic brain injuries, including acute management, medical complications, rehabilitative techniques, and neuronal recovery.

Applications to this program are limited to $1,000,000 (maximum of $600,000 during the first year; $400,000 during the second year) for up to two (2) years in duration based on appropriate achievement of milestones and progress reports.

IU Grant Linking University-wide Expertise (GLUE) Awards - 2016.09

LETTER OF INTENT (LOI) DEADLINE - AUGUST 5, 2016
FULL SUBMISSION DEADLINE - SEPTEMBER 2, 2016 (5:00 PM)

Indiana University, Bloomington, Provost's Office and the Indiana Clinical and Translational Sciences Institute (CTSI) are seeking applicants for the IU Grant Linking University-wide Expertise (GLUE) Award. The objective of the GLUE award is to support "planning and team building across campuses to develop large multi-investigator and/or multi-project, milestone-driven, translational research teams who are planning to submit multi-year, extramural grant applications with annual budgets of $500K or more in direct costs." It is expected that these planning/seed grants will increase multidisciplinary collaborations, institutional competitiveness, opportunities for extramurally funded training grants and overall institutional funding. The GLUE funding is available to collaborative teams in which the lead PI of the research team is from IUB, and the other members of the team are typically from IU campuses such as IUPUI and IUSM (or in deserving cases, any other CTSI university partner campus).

Applications to this program are limited to $100,000 per year for up to two (2) years in duration based on appropriate achievement of milestones and eventual submission of an extramural grant application.

Technology Enhancement Awards - 2016.07

SUBMISSION DEADLINE - FRIDAY, JULY 08, 2016 (5:00 PM).
A common critical gap in commercialization of technologies originating from the academic labs is the funding necessary to develop a robust commercialization relevant data package to reduce the risk of investment in early stage technologies. The Indiana CTSI and Indiana University School of Medicine through the office of the Associate Dean for Entrepreneurship and its Industry Collaboration Portal (ICP), are partnering with the newly created Indiana Center for Biomedical Innovation (ICBI) at IU Health to help fill this critical gap through a new support program, Technology Enhancement Awards (TEA), for early stage technologies. The technology may already reside in a start-up company or a clear plan exists to place it into a start-up. The New Program will partner with the highly successful SPARK program at Stanford University.

Indiana Drug Discovery Alliance - 2016.07

SUBMISSION DEADLINE - FRIDAY, JULY 01, 2016 (5:00 PM).

The Molecular Therapeutics Program, a part of the Indiana Clinical and Translational Sciences Institute, seeks applications for a competitive program that will provide funds and essential consultation to support the early stage development of therapeutics. This opportunity is provided in concert with the Indiana Drug Discovery Alliance (IDDA), an advisory panel and clearinghouse for drug discovery and development resources at the Indiana-CTSI member institutions of Indiana University, Purdue University and the University of Notre Dame.

Call for Proposals: The Molecular Therapeutics Program will support the new collaborations and/or the use of core facilities that enable the translation of fundamental research related to drug discovery. Critical project feedback will be provided from a team of experienced industry and academic experts on the group's internal advisory committee, as well as through ad-hoc, project-specific pharmaceutical expert reviewers.

A detailed budget is not required at this time. Support projects will develop a budget of up to $15,000 in consultation with the IDDA.

Strategic Pharma-Academic Research Consortium Awards Program - 2016.05

LETTER OF INTENT SUBMISSION DEADLINE - FRIDAY, MARCH 18, 2016
FULL PROPOSAL SUBMISSION DEADLINE - FRIDAY, JUNE 17, 2016

The Midwest Strategic Pharma-Academic Research Consortium (SPARC) has been established by the Indiana Clinical and Translational Sciences Institute. The members of the consortium consist of both academic and pharmaceutical companies. The inaugural CTSA members and pharmaceutical Companies are: Indiana University, Ohio State University, Northwestern University, Washington University in St. Louis, The University of Chicago, Eli Lilly and Co. and Takeda Pharmaceuticals Inc. SPARC is seeking applicants for the Midwest Strategic Pharma-Academic Research Consortium Awards Program. The consortium expects to support projects related to human autoimmune disease with the following criteria: (1) research is in the non-competitive space of mutual interest that address scientific and technological research challenges confronting the pharmaceutical industry; (2) project is to be executed with the network of Academic Members; (3) study is designed to further the understanding of disease biology, potentially leading to the identification of novel therapeutic targets; (4) to promote an improved definition of autoimmune disease according to molecular taxonomy rather than as clinical syndromes; and/or (5) to improve the prediction of response to therapy and the early detection of response / non-response in autoimmune diseases where this is not apparent at a clinical level. Successful proposals will demonstrate the following: A) Have at least **two (2)** Project Specific Personnel from different Academic Member institutions for which such institutions agree to contribute the requisite cost share funding for the research proposal. B) Address the non-competitive space of mutual interest to the Members and scientific and technological research challenges confronting translational research. C) Include the Research Plan and related budget for the study proposal. Applications to this program are limited to $400,000 and are 24 months (2 years) in duration.

CHEP Community Based Research Awards - 2016.06

SUBMISSION DEADLINE - JUNE 1, 2016. (5:00 PM). The Indiana CTSI CHEP is soliciting proposals from applicants developing or currently involved in collaborative, community-based research projects. Namely, this RFA will fund pilot projects generated from community-university partnerships. The pilot project can serve a variety of purposes such as program evaluation, feasibility or preliminary data for extramural grant submissions, etc. Potential applicants are encouraged to identify, or further develop, collaborative relationships to be strengthened through this grant opportunity.

Adult Gastrointestinal and Liver Diseases Research Pilot Grant Program 2016.05

LETTER OF INTENT (LOI) DEADLINE - APRIL 15, 2016.
FULL SUBMISSION DEADLINE - MAY 2, 2016 (5:00 PM)

The Indiana Clinical and Translational Sciences Institute (CTSI) in conjunction with the Division of Gastroenterology/Hepatology in the Department of Medicine is soliciting proposals for pilot projects from investigators to develop and promote translational and transdisciplinary collaborative research projects in adult gastrointestinal and liver diseases. The objective is to fund studies that (a) establish or strengthen already established collaborations between faculty members in the GI Division and investigators from other departments and schools at IUSM, IUPUI and Purdue University; (b) generate preliminary data for extramural funding applications investigating adult GI and liver disorders.

The areas of interest include (a) acute and chronic liver diseases; (b) GI and hepatobiliary malignancy; (c) inflammatory bowel disease; (d) GI motility disorders; (e) chronic abdominal pain; and (f) chronic functional bowel disorders. The proposal should demonstrate tangible evidence that the collaboration will lead to a multiyear federal grant application.

Applications to this program are **limited to $35,000** and are of **one (1) year duration**. Up to two grants will be awarded per grant cycle.

Pilot Funding For Research Use of Core Facilities - 2016.05

SUBMISSION DEADLINE - MAY 16, 2016. The Indiana CTSI Pilot Funding program is intended to promote the use of technologies and expertise afforded by the Indiana CTSI Core Facilities available at all partner institutions. Successful proposals will demonstrate outstanding scientific merit that can be linked to generating extramural funding or novel intellectual property (IP). Success of the program will be viewed, in part, by the fostering of new funded grants or providing significant contributions to grant renewals. Therefore, proposals will be judged with equal measure on scientific merit and the likelihood of generating new IP or extramural grant support.

Indiana CTSI/IUSM Core Equipment Funding - 2016.03

SUBMISSION DEADLINE EXTENDED - Original Date MARCH 25 has been extended to APRIL 22, 2016 (5:00 PM). The Indiana CTSI is seeking proposals from CTSI-Designated, IUSM-based Cores requesting support for the purchase of equipment that will enhance the research environment and contribute to the research mission of the School and the CTSI. Up to $100,000 will be available through this solicitation. Proposals requesting $5,000-$100,000 will be accepted. Requests for equipment costing more than $100,000 will be entertained if matching funds to cover the balance are identified.

Collaboration in Translational Research Pilot Grant Program - 2016.03

SUBMISSION DEADLINE - MARCH 4, 2016 (5:00 PM). The Indiana Clinical and Translational Science Institute (CTSI) is seeking applicants for the Collaboration in Translational Research (CTR) Pilot Grant Program. The objective of the Indiana CTSI CTR pilot grant program is to foster and encourage collaboration across the Indiana CTSI partner institutions (IU, Purdue, and Notre Dame) and to initiate or continue translational research projects that have very strong and immediate potential to develop into larger, externally funded research programs, or generate novel intellectual property (IP). Proposed projects should have participation by two (or more) principal investigators representing at least two of the sponsoring affiliates for this program. Sponsoring affiliates include: Indiana University School of Medicine (IUSM), IUPUI (non-IUSM), Indiana University-Bloomington, Purdue University-West Lafayette, and University of Notre Dame.

CTSI Postdoctoral Training Awards in Translational Research - 2016.02

SUBMISSION DEADLINE - FEBRUARY 1, 2016 (5:00 PM). The Indiana Clinical and Translational Sciences Institute (CTSI) is seeking applicants for special postdoctoral training awards in translational research. In biomedical terminology, translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translation may involve applying discoveries made during research (in the lab, through animal studies, etc.) to the development of clinical trials and studies in humans, or carrying out research aimed at enhancing the adoption of best practices, or both. To be eligible, candidates must have received a PhD or equivalent degree from an accredited domestic or foreign institution. Please refer to the competition guidelines for full eligibility criteria.

CTSI Postdoc Challenge: Grand Funding to use CTSI-Designated Core Facilities - 2016.02

SUBMISSION DEADLINE - FEBRUARY 29, 2016 (5:00 PM). The Indiana Clinical and Translational Sciences Institute (CTSI) is seeking applicants for special postdoctoral training awards in translational research. In biomedical terminology, translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translation involve applying discoveries made during research (in the lab, through animal studies, etc.) to the development of clinical trials and studies in humans, or carrying out research aimed at enhancing the adoption of best practices.

CTSI-Designated Core Facilities are cores that undergo a yearly accreditation process through the Indiana CTSI for all partner institutions. The Postdoc Challenge offers postdoctoral research associates at Indiana University, Purdue University, and the University of Notre Dame valuable proposal writing and reviewing experience in areas related to translational research through the use of one or more of the CTSI-Designated Core Facilities at these universities. This is a competitive opportunity for two 1-year awards of $5000 each per institution in the form of an expense account for use of core facility services. Funding is to be used only for services provided by the core facilities. Indiana CTSI-Designated Core Facilities are listed on the HUB (https://www.indianactsi.org/servicecores). If you are interested in participating, you must discuss your proposal with your advisor prior to beginning the application process to ensure your participation will be approved.

Support & Feedback
Citing CTSI

Newsletter
Grants Login

Contact:
info@indianactsi.org

Symposium, Workshop, and Conference Funding Program RFA

SUBMISSION DEADLINE - OPEN. The Indiana CTSI symposium, conference and workshop funding program is intended to facilitate sharing of ideas and findings in face-to-face discussion environments. The proposed symposium should include a translational research focus. The Indiana CTSI symposium program is specifically established to support presentation of new information to researchers in the Indiana CTSI that will establish research connections and lead to new research communication forums and ongoing collaborations. The application should describe how the proposed symposium will meet these goals.

START

INDIANACTSI Clinical and Translational Sciences Institute — Accelerating Clinical and Translational Research

Login | Request Indiana CTSI account

Search ...

Are You an Investigator Needing Help?

About

News & Events

News Center

Newsletter

Announcements

Events Calendar

Research Resources

Training & Education

Grants & Funding

Community Engagement

Volunteer for Research

Tools

Events Calendar

November, 2015

By Year | By Month | By Week | Today | Jump to month

October | November 2015 | December

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6 07:00pm Purdue Inaugura ...	7
8	9	10	11	12	13	14
15	16	17 10:00am HIV Prevention ... 02:00pm Organizing Comm ...	18 12:00pm Lunch & Learn - ...	19 10:00am Data Virtualiza ... 11:00am IUPUI Fresh Pro ...	20 07:30am Bullying Among ...	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

DEFAULT | General | Conference | Default | Research Seminar | CHEP Events | CHIIS Events | Training | CHEP Training | All Categories ...

Support & Feedback

Citing CTSI

Newsletter

Grants Login

Contact:
info@indianactsi.org