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Accessing Technology Program name change reflects growth, new services

Nov. 13, 2012

The research performed by Andrew Bieberich, Ph.D., a postdoctoral research associate at Purdue University could not happen without the high-tech tools provided by the Indiana Clinical and Translational Sciences Institute's Accessing Technology Program.

Using a powerful data mining service that understands the underlying biology behind small molecule drug compounds on human tissue, Dr. Bieberich can instantly sift through virtual mountains of data on the body's many molecular interactions to pinpoint potential targets for sophisticated new drugs less likely to produce unwanted side effects.

Yet MetaDrug by GeneGo is only one of many services provided by the Indiana CTSI Accessing Technology Program, previously known as the Translational Technology and Resources Program, whose name change raises awareness about the wide range of tools, service and funding opportunities that researchers may access through the program.

"Our mission has grown considerably," said Kenneth Cornetta, Ph.D., director of the Accessing Technology Program and chair and Joe C. Christian Professor of Medical and Molecular Genetics at the Indiana University School of Medicine. "Initially, the grant that created the Indiana CTSI required each institute establish a Translational Technologies and Resources program to provide researchers a link to core services. But now we do so much more. This name change reflects our greater goal to help researcher get access to technologies they need to succeed in a highly competitive research environment."

In conjunction with the name change, Dr. Cornetta announced that the Accessing Technology Program has launched several new initiatives, including a service that provides researchers studying new uses for existing drugs with assistance navigating the rules and regulations required by the U.S. Food and Drug Administration.

"The Investigational Agent Acquisition Program allows researchers to get access to any commercially available compound they want to study," said Dr. Cornetta, noting the program was created in consultation with an expert with past experience at Eli Lilly and Co. "We'll work with any investigator to identify and obtain any data required by the FDA."

The first investigator to benefit from this service is Alan Breier, M.D., AAMHRE/IUPA Professor of Psychiatry at the IU School of Medicine, who called upon the Accessing Technology Program to support his research assessing the efficiency of a neuro-protective agent called N-acetyl-cysteine in treating schizophrenia.

"The Indiana CTSI was indispensable to achieving our research objectives," Dr. Breier said. "They were able to coordinate our purchase of the compound in bulk from India, contract with an academic lab for the purity testing, and find a local company to encapsulate the compound and create a matched placebo – all at a cost that was extremely reasonable."

Dr. Cornetta said the new service also provides access to expertise in drug manufacturing in collaboration with an outside consulting group due to the complexities involved in the process.

"How do you identify the right manufacturer? How do you make sure you get all of the paperwork that you need to give to the FDA? If an investigator needs help with these things, we can guide them through the process," Dr. Cornetta said.



The Accessing Technology Program provides access to many state-of-the-art facilities and laboratories across IU, Purdue and Notre Dame, including the Indiana CTSI Specimen Storage Facility, which houses more than 60 ultra-low freezers and a separate liquid nitrogen storage service.

Also coming soon from the Accessing Technology Program is a service that provides affordable access to advanced genetic sequencing technology through an agreement with a [company](#) that provides genotyping, sequencing, and gene expression services to researchers in academia and industry.

Other services provided by the Accessing Technology have grown dramatically in the past several years. This includes its state-of-the-art [specimen storage facility](#), which houses more than 60 ultra-low freezers and a separate liquid nitrogen storage service. Starting with eight freezer units in 2008, the facility has grown to nearly 6,000-square feet and houses many samples used by the [Komen Tissue Bank at the IU Simon Cancer Center](#), [National Cell Repository for Alzheimer's Disease](#) and [Indiana Biobank](#). Located on the first floor of Walther Hall on the campus of the IU School of Medicine, the facility's rapid expansion recently required annexing extra space in the neighboring VanNuys Medical Science Building.

The program also encourages research across the Indiana CTSI through several grants that support both core development and research that uses core resources. Core equipment grants seek to bolster a core's primary services by providing up to \$100,000 to purchase more powerful, up-to-date equipment. Core pilot grants provide up to \$10,000 to specific researcher projects that require access to these core resources. Research funded by the program includes projects to advance investigations into pancreatic cancer, sports injuries and [controlling disease-carrying insects](#).

"These grants typically go to investigators who need to use these cores to improve their research -- either because they're going in a new direction or they've submitted a proposal to the National Institutes of Health and they need a boost to complete their funding requirements," Dr. Cornetta said. "We've got a six to one return on investment in terms of investigators successfully going on to get more funding."

The ability to easily access cores remains a central goal of the Accessing Technology Program, which maintains a [comprehensive list](#) of core labs and resources across the Indiana CTSI's member schools, campuses universities -- including IU, Purdue and the University of Notre Dame -- opening doors to facilities across geographic and institutional boundaries.

Other activities supported by the Accessing Technology Program include symposia that highlight use of innovative core technologies by Indiana CTSI investigators, including next-generation sequencing, epigenetics and metabolomics.

Ultimately, Dr. Cornetta's message to investigators is: "If you can't find it, ask us."

"Our goal is to connect CTSI investigators with the technologies they need," he said, adding that the Indiana CTSI may leverage its many public-private partnerships and relationships with other institutes funded by the NIH's Clinical and Translational Sciences Award in addition to the many services provided by the Accessing Technology Program. "If the service is not available within the Indiana CTSI network, we'll connect you to someone else from the national CTSA Consortium or commercial vendors who can provide the options that meet your needs."

To access or request services from the Accessing Technology Program, contact the "ATP Help Desk," staffed by [liaisons](#) embedded across the Indiana CTSI's member institutions, or email ctsitr@iupui.edu.

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Scientists visit Indiana CTSI to establish first university-wide biorepository in Kenya

Nov. 13, 2012

It's nearly 8,000 miles from Kenya to Indianapolis. That's a long distance to ship a regular package, let alone a delicate parcel that could contain the clue to helping someone survive one of the most difficult forms of breast cancer.

Yet that's just one of many challenges faced by four scientists from Kenya who traveled to the IU School of Medicine from Sept. 10 to 14 to learn about the school's advances in the field of specimen storage and biobanking. The visit is the first step in expanding the ability to collect, store, annotate and ship medical samples from volunteers at the AMPATH reference lab at [Moi Teaching and Referral Hospital](#), the primary teaching hospital for [Moi University](#). The university is a close partner of the IU School of Medicine in the IU-Kenya Program and [AMPATH](#), or Academic Model Providing Access to Healthcare.

"This was an immersion visit; there's a great deal to learn," said Thomas Inui, M.D., co-director of research for AMPATH, director of research for the [IU Center for Global Health](#) and executive committee member of the [Indiana Clinical and Translational Sciences Institute](#). "They came to see our biorepository; to understand its standard operating policies and procedures; and to learn about the information systems that support biomaterials storage and sharing."

The visiting scientists included Nathan Buziba, M.B., Ch.B., director of the AMPATH reference lab and chair and senior lecturer of pathology at [Moi University](#); Wilfred Emonyi, manager of the AMPATH reference lab; Kritika Patel, a pathologist and lecturer in immunology at Moi University; and Alice Mudogo, technician at the AMPATH reference lab. They met with numerous members of the Indiana CTSI, including representatives from the Office of Research Recruitment, [Indiana Biobank](#) and [Specimen Storage Facility](#), which manages samples for the [Komen Tissue Bank at the IU Simon Cancer Center](#), [National Cell Repository for Alzheimer's Disease](#) and numerous other biorepositories across campus.

"IU's been in this business for a long time, so we're coming here to learn how you do it," Dr. Buziba said. "Right now we're not as organized or as centralized in our sample storage and collection as we want to be. We want to get the right standard operating procedures in place so our samples as good as anyone else's – for a sample from Eldoret to be no different than a sample from IU."

Biorepositories contain samples such as bloodspots, biopsies and frozen materials such as plasma, all usable for DNA extraction. The need to increase the ability to collect and store these materials both at the IU School of Medicine and in Kenya – as well as exchange them – relates to larger shifts in biomedical research in Indiana and across the globe.

"This is the direction in which science is moving," Dr. Inui said. "Because of the burgeoning science of genomics and the powerful effects of genes and gene products on disease and diagnosis and treatment, the areas of personalized medicine and individual diagnostics are being seen more and more as the leading edge of science. Our partners in Kenya are part of the IU health science campus – and just as we don't fall behind the state of science, they don't either. However, we need to invest in training and resources to bring them up to our level of functioning."

In Eldoret, Dr. Emonyi said most research samples are maintained and controlled by the scientist using them in their work. This means material can "fall through the cracks" after it's no longer needed for a study.



The visitors included Nathan Buziba (back left), M.B., Ch.B., director of the AMPATH reference lab and chair and senior lecturer of pathology at Moi University; Wilfred Emonyi (seated, left), manager of the AMPATH reference lab; Alice Mudogo (seated, right), technician at the AMPATH reference lab; and Kritika Patel (back, right), a pathologist and lecturer in immunology at Moi University.



Dr. Buziba works with James W. Smith, M.D., Nordschow Professor Emeritus of Laboratory Medicine, who serves as a consultant to the AMPATH reference lab.

"It's very researcher-controlled right now," Dr. Emonyi said. "We're even seeing cases where materials are left to break down after a project is complete. After they're done, what should be done with these things? That is the challenge."

One solution could be a shared-resource model such as the type used by the Indiana Biobank, supported by the Indiana CTSI, which requires scientists and patients to agree that their biospecimen contributions may be shared with other approved researchers as a prerequisite of using the facility.

"The Indiana CTSI Specimen Storage Facility may be one of the best examples of a well-functioning biorepository," Dr. Inui added.

Support for the establishment of a Kenyan Biobank will ultimately include funds from Susan G. Komen for the Cure, which provided \$500,000 for the collection of breast tissue samples in Kenya. Collection is scheduled for summer 2013, with some samples remaining in Eldoret and others being shipped for storage in the Komen Tissue Bank.

The tissue samples collected could shed light on [triple-negative breast cancer](#), one of the most difficult-to-treat forms of the disease. The condition, named for the hormone receptors involved in the disease, is the most common form of breast cancer in Kenya, despite its being distinctly uncommon in the United States. Moreover, Dr. Inui said the remarkable genetic diversity in Africa, due in part to the continent's status as the birthplace of humankind, makes it an ideal place to collect genetic information on cancer and other diseases.

Other members of the IU School of Medicine to meet with the team from Kenya included Barbara Van Der Pol, Ph.D., MPH, assistant professor of kinesiology at the IU School of Public Health-Bloomington and consultant to the AMPATH clinical lab, and James W. Smith, M.D., Nordschow Professor Emeritus of Laboratory Medicine and consultant to the AMPATH reference lab. The AMPATH reference lab focuses on sample analysis for research purposes, whereas the clinical lab focuses on sample analysis for medical treatment.

Support for the establishment of the Kenyan Biobank also will include funds from the [Strategic Research Initiative](#), a \$150 million grant from the IU School of Medicine and IU Health; the [Physician Scientist Initiative](#), a \$60 million grant from Eli Lilly Endowment; and Moi University. Other groups contributing consultation and advice to the Kenyan Biobank initiative include AMPATH Consortium member [University of Toronto](#) and the [Wellcome Trust](#), a British foundation that supports research facilities in sub-Saharan Africa.

The visit was supported in part by the IU Center for Global Health, which will also sponsor a future trip to Kenya by experts from the Indiana CTSI biorepository.

"Many threads were woven together for this particular visit," Dr. Inui said. "What comes out of it will be a true roadmap for the development of a biobank in Kenya."

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Indiana CTSI awards more than \$500,000 to promising research projects

Nov. 13, 2012

About 30 scientists recently received more than \$500,000 dollars from the Indiana Clinical and Translational Sciences Institute to accelerate the transformation of novel scientific discoveries into new medical treatments and therapies.

The Indiana CTSI offers numerous grant programs to investigators at Indiana University, Purdue University and the University of Notre Dame in order to give their work the "extra boost" they need to reach the next phase of the translational pipeline, including basic science, clinical research and commercialization projects.

"The Indiana CTSI has already distributed more than \$12.5 million in grants and awards to promising research projects," said Anantha Shekhar, M.D., Ph.D., director of the Indiana CTSI. "Our reviewers poured over many highly creative and innovative research projects in selecting these recipients. This year's winners represent some of the most exciting, unique ideas coming out of IU, Purdue and Notre Dame."

Collaboration in Translational Research

About \$375,000 of the total amount distributed will go to five teams of scientists from IU, Purdue or Notre Dame in the form of Collaboration in Translational Research grants, which support early-stage research projects with the potential to attract additional support from outside federal and commercial agencies, including the National Institutes of Health and National Science Foundation.

In order to foster collaboration, CTR grant require each grant proposal include an investigator from two or more academic campuses at the IU School of Medicine, IUPUI, IU Bloomington, Purdue or Notre Dame. This year's recipients are conducting research to improve spinal injury recovery, breastfeeding outcomes, skin cancer treatment and the development of a robotic "scrub nurse" to automatically provide surgeons with implements during medical operations.

"The robot we're using is meant to be used in a close environment with a human – it's quiet, smooth and very applicable for the operating room," said Juan Wachs, Ph.D., assistant professor of industrial engineering at Purdue University. "The support from the Indiana CTSI will support a graduate student on the project as well as a specialty part for the machine."

Each team will receive a maximum of \$75,000. Dr. Wach's collaborator on the project is A. George Akingba, M.D., Ph.D., assistant professor of surgery at the IU School of Medicine. A complete list of the recipients, collaborators and project titles is at <http://www.indianactsi.org/news/ctr2012>.

Fall Core Pilot Awards

About \$150,000 will go to 16 research projects at IU, Purdue and Notre Dame in the form of core pilot grants, which provide investigators access to more than 60 Indiana CTSI-approved cores across the IU, Purdue and Notre Dames campuses. This year's recipients will access technologies including genomic sequencing, proteomic analysis, mass spectrometry and advanced medical imaging technology.

"This support from the Indiana CTSI has enabled us to begin to generate a novel mouse model of ovarian cancer by targeting the expression of specific genes to the ovarian surface epithelium," said Sharon Stack, Ph.D., professor of chemistry and biochemistry and Ann F. Dunne and Elizabeth Riley Science Director at the Mike and Josie Harper Cancer Research Institute at Notre Dame. "This will enable future studies of early events in ovarian cancer progression and metastasis."



Juan

Wachs, Ph.D., assistant professor of industrial engineering at Purdue University



Sharon

Stack, Ph.D., professor of chemistry and biochemistry and Ann F. Dunne and Elizabeth Riley Science Director at the Mike and Josie Harper Cancer Research Institute at Notre Dame

Each project will receive a maximum of \$10,000. A complete list of the recipients are the core facilities whose resources they will utilize to support these projects is at <http://www.indianactsi.org/news/springcorepilots2012>.

Research Invention and Scientific Commercialization

About \$60,000 will go to three scientists at the IU School of Medicine and IU Bloomington in the form of Research Invention and Scientific Commercialization awards, which encourage cutting-edge scientific breakthroughs and technology development that will serve as the foundation for new business enterprises and promote the advancement of translational research or health-related objectives.

This grant program focuses on projects with strong potential to develop into commercialization of inventions, technologies or other intellectual property. This year's funded projects include investigations on improved cancer therapies, biochemical analysis and the use of video games to improve outcomes among patients suffering from stroke symptoms.

"Physical therapy following a stroke or brain injury can be a long, difficult process requiring collaboration between patient and therapist – I want to create a more engaging environment to maximize recovery," said Hamid R. Ekbia, Ph.D., associate professor of information science and cognitive science at IU Bloomington. "Our initial goal is to create a prototype online tele-rehabilitation platform and rehabilitation game that demonstrates the type of data which may be captured from game play using a commercially available, home-based technologies, such as Microsoft Kinect."

"This support from the Indiana CTSI is helping acquire the resources needed to start creating these components," he added.

Each recipient will receive a maximum of \$25,000. A complete list of the recipients are their project titles is at <http://www.indianactsi.org/news/risc2012>.

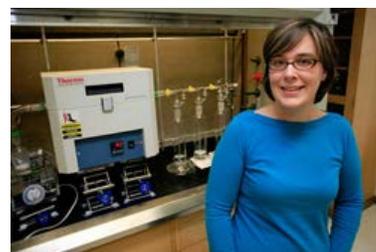
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Hamid R.

Ekbia, Ph.D., associate professor of information science and cognitive science at IU Bloomington



Sara

Skrabalak, Ph.D., assistant professor of chemistry at IU Bloomington, is also among the 2012 Indiana CTSI RISC Grant recipients.

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Indiana CTSI Opportunities — November 2012

Request for Applications for Community-Based Research Projects

The Indiana CTSI CHEP is accepting applications to fund Indiana community and academic collaborative community-based research projects in the areas of obesity, diabetes and/or cardiovascular disease.

An information session webinar to discuss the application requirements in detail will take place from 10 to 11:30 a.m. Thursday, Dec. 6. To participate, visit <http://connect.iu.edu/rfachep>.

The application deadline is **Monday, Jan. 28**. Qualified applicants who are currently developing or involved in collaborative, community-based research projects are encouraged to apply. Awards will be announced April 1.

For more information, including complete application guidelines and forms, visit the Indiana CTSI Community Health Engagement Program at www.indianactsi.org/chep/rfachbr.

For more information, contact 317-274-7152 or jenmhill@iupui.edu.

The Regenstrief Institute to house inaugural People's Choice for Healthcare Delivery Contest

The Inaugural People's Choice for Healthcare Delivery Contest, hosted by the Regenstrief Institute's Center for Health Services Research, seeks innovative ideas with measurable impact for health care consumers. Anyone may apply, including the general public, whose varied voices are typically underrepresented in research.

The contest will provide the grand prize winner with the unique opportunity to have world-class researchers pursue their idea. Judged by a panel of experts, successful ideas will be innovative, with measurable impact for health care consumers; feasible to implement in the U.S. health care system within five years; and compatible with the Regenstrief Institute's mission to improve health through research that enhances the quality and cost-effectiveness of health care.

In addition to a monetary award, the contest grand prize winner will be given the opportunity to come to Indianapolis and brainstorm with the research team. An internationally recognized academic health care research organization, Regenstrief is particularly interested in the ideas of the next generation of young professionals and scientists. In addition to individuals, school groups and clubs are encouraged to submit ideas.

The People's Choice for Healthcare Delivery Contest is funded by a Regenstrief Institute Innovation Award. Applications must be U.S. citizen or legal resident age 13 or older. There is no limit to the number of submissions by an individual or group. Application deadline is **Tuesday, Jan. 15**. The grand prize winner will be announced in late spring 2013. To learn more and to enter, visit the IUSM Newsroom or www.thepeopleschoice.com.

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On the Horizon — November 2012

Indiana CTSI Accessing Technology Program Chemical Synthesis Symposium -- Early December

The Indiana CTSI Accessing Technology Program will conduct a symposium to highlight the drug and chemical synthesis resources available to Indiana CTSI investigators in early December. This will include speakers from Indiana University, Purdue University, and University of Notre Dame. The symposium will be of interest to investigators at all levels who may have current or future needs related to the synthesis of small molecules for research studies. The talks will be broadcast over the web to any interested investigator. The event data, agenda and webinar access information will be posted on the events calendar on the Indiana CTSI HUB.

Bindley Bioscience Center Open House -- Nov. 30

Bindley Bioscience Center will host an event for graduate students and post-doctoral researchers to learn more about the core facilities available from 10 a.m. to 5 p.m. Friday, Nov. 30, at Purdue University. Bindley Day will feature short presentations on each core facility from 10 a.m. to noon, followed by a lunchtime Q&A session. Participants will be able to visit each facility and interact with the core scientist to learn more about the core's capability and service options in the afternoon. This is a free event, including lunch. Door prizes will be offered. To sign up, visit the [registration page](#).

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