



OFFICE OF
THE VICE
CHANCELLOR
FOR
RESEARCH



Office of the Vice Chancellor For Research

ANNUAL REPORT 2014



A Message

from the Vice Chancellor for Research

Dear Colleagues:

As you will see in this report, central user facilities such as the Research Resources Center (RRC) and the Biologic Research Laboratory (BRL) play an integral role in facilitating the world-class research taking place at the University of Illinois at Chicago. Our continued investment in facilities such as these helps us attract high caliber faculty and help facilitate research collaborations around the globe.

In addition, our collaboration with the UIUC and UIS, on the Start myResearch project, a multi-year project which will allow faculty to submit grant applications, RNUA, IRB applications and more electronically, continues to move forward.

Over \$347 million was awarded to our outstanding faculty in FY14, supporting ground breaking research. While this report cannot highlight all of the many accomplishments of our distinguished faculty, I hope that it gives you a glimpse into the research enterprise at UIC. I encourage you to visit our newly redesigned website to learn more about research at UIC and to learn more about the offices that help facilitate this research at research.uic.edu.

Sincerely,

Mitra Dutta
Vice Chancellor for Research
Distinguished Professor, Electrical and Computer Engineering

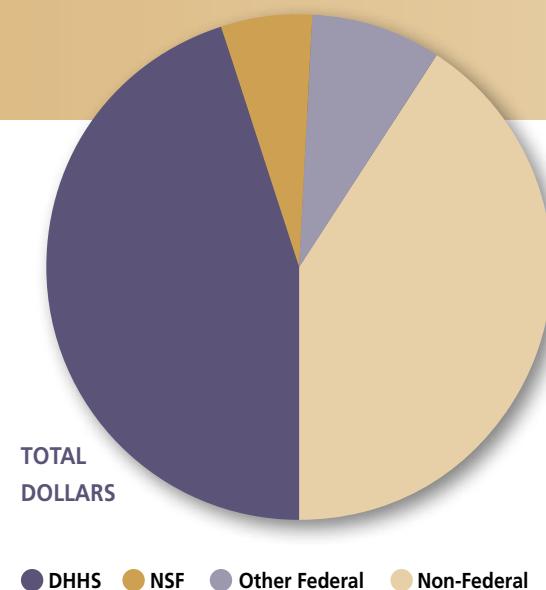


OVCR Facts and Figures

Awards Received by Sponsor FY 2014

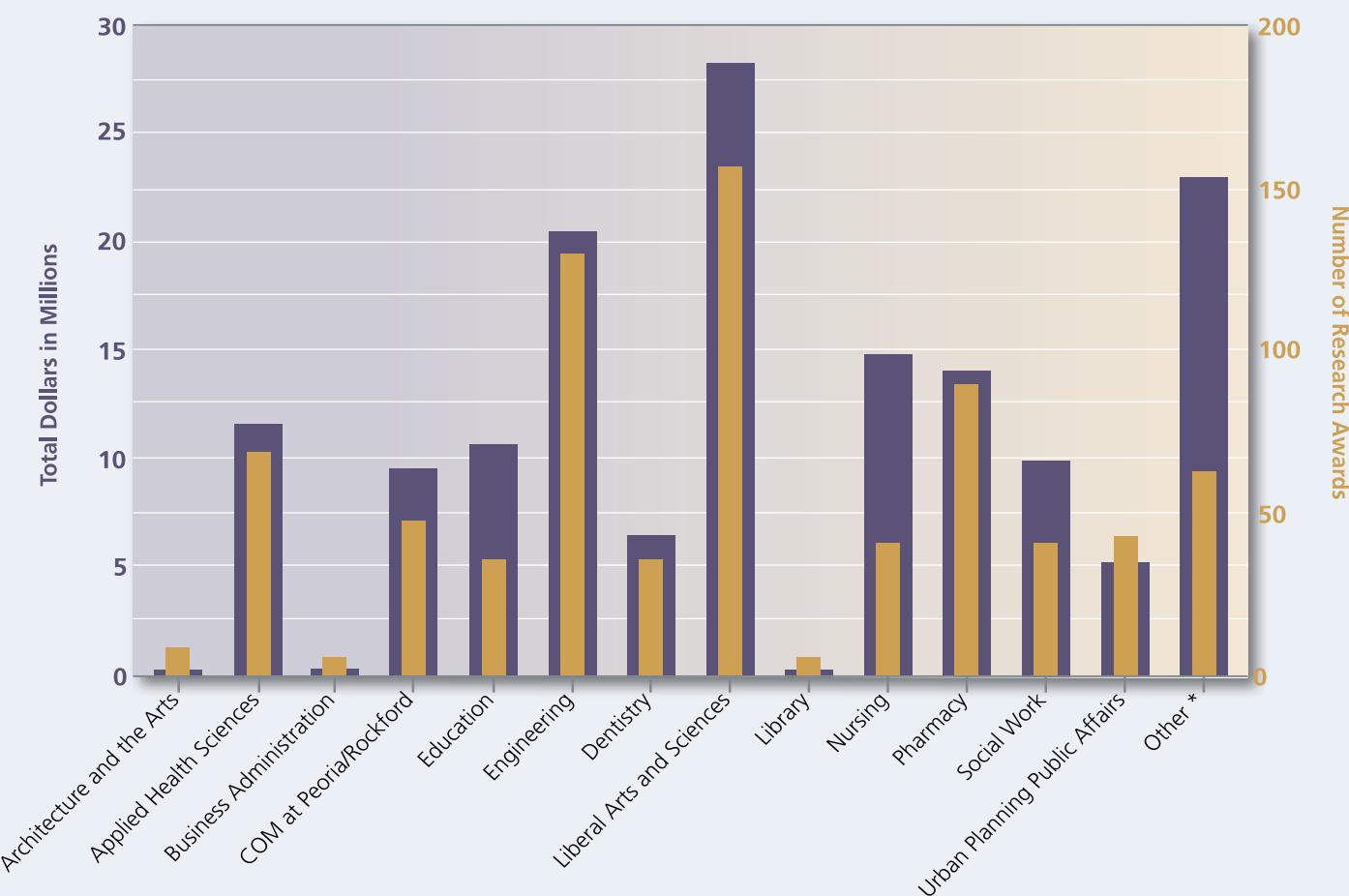
SPONSOR TYPE	TOTAL COUNT	TOTAL DOLLARS
DHHS	470	\$156,584,519
NSF	90	\$20,434,681
Other Federal	162	\$29,035,694
Non-Federal	911	\$141,753,164
TOTAL	1633	\$347,808,058

Source: UleRA



Awards Received by College FY 2014

COLLEGE	COUNT	TOTAL DOLLARS
COM Chicago	706	\$140,397,952
School of Public Health	152	\$51,963,213
All Other Colleges	775	\$155,446,893
TOTAL (all colleges)	1633	\$347,808,058



Source: UleRA

*Includes units that are not defined as colleges (offices of the chancellor, the vice chancellors and their reporting units, and some units in Central Administration)

Awards Received by Award Type FY 2014

AWARD TYPE	TOTAL COUNT	TOTAL DOLLARS
New	791	\$174,960,525
Continuation	789	\$171,963,290
Supplement	25	\$5,933,679
Revision	28	(\$5,049,436)
TOTAL	1633	\$347,808,058

Source: UICRA

UIC ranks among the nation's leading research universities as one of the top research-funded institutions in the nation. UIC boasts one of the most diverse student bodies in the country, offering a cultural experience second to none with more than 27,000 students, nearly 10,000 faculty and staff, 15 colleges, and the state's major public health system.





Research Resources Center



For more than a half-century, the Research Resources Center (RRC), a division of the Office of the Vice Chancellor for Research (OVCR), has supported UIC's investigators with the equipment, facilities and technical support they need to conduct research that resets the boundaries of knowledge.

In the past several years, the RRC has undergone significant expansion, adding new research cores while growing and consolidating others, purchasing cutting-edge instrumentation—more than \$17 million in the last six years—renovating labs and heightening support services. The RRC now occupies roughly 45,000 square feet of laboratory and office space in seven locations, the majority in the Medical Sciences Building at 835 W. Wolcott Ave. The growth and improvements have led to an increase in users: nearly 2,000 investigators, both UIC and external researchers, made use of RRC services in the last fiscal year.

"The RRC maintains and supports high-technology scientific equipment for use by research faculty and staff," said William Hendrickson, PhD, director of the RRC.

"Our employees provide user access to and training on the instruments, as well as providing their own service and expertise in the application of the equipment for the purpose of solving a wide range of problems for chemical, biological and structural characterization." The RRC also offers computational and statistical services for data handling, interpretation of experimental results and data transfer, and electronic and mechanical shops.

Pioneering structure

UIC is unusual among universities in its centralization of research support services. "Many universities have an administrative umbrella over several independent research functions, but we're a bit of a pioneer in having a comprehensive center," explained Dr. Hendrickson, who heads a staff of more than 60.

Each core or shared resource is directed by a PhD scientist. Oversight is provided by the RRC Executive Advisory Panel, consisting of six faculty members along with the associate deans of research from the six research-intensive colleges. Smaller, three-member committees made up of funded users of each research service advise the facility directors and RRC administration.

Having central research support not only creates an economy of scale, but also removes some of the administrative and financial vagaries of managing these services within departments and colleges, Dr. Hendrickson said, adding that some of the 10 new cores the RRC has added in the past few years were previously operating within departments or colleges.



UIC administration supports the RRC by providing approximately one-third of its operating costs, as well as contributing substantially to new equipment purchases. "Another important source of funding is grants obtained in collaboration with campus investigators, supplemented when necessary with matching money from the relevant UIC units," says Dr. Hendrickson. The revitalization of the Cancer Center and the major grant recently obtained by the Center for Clinical and Transitional Services, plus increased support from the OVCR, have made much of the recent RRC growth possible.

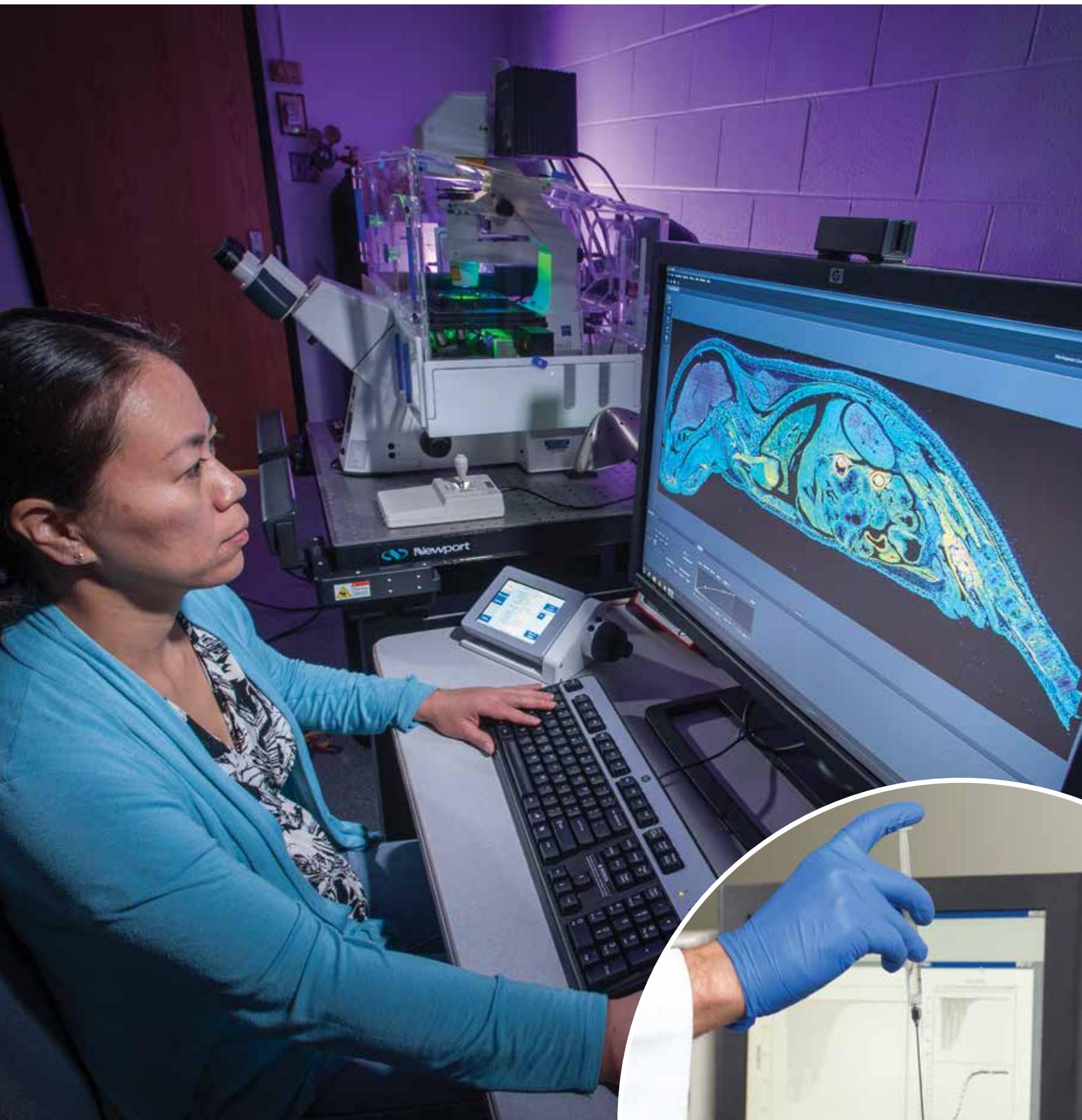
This internal and external support helps keep instrument user fees, which are set according to the market and operating costs, from rising too quickly. "It's remarkable that we've been able to expand as much as we have without raising user fees too much while the state budget has been going down," Dr. Hendrickson said. "It's a challenge, because the federal portfolio has shrunk and users' grants are locked in, but we've managed to increase fees only two or three percent every two to three years."

As the RRC has developed, interuniversity cooperation also has increased. For instance, UIC and Northwestern University have an agreement allowing faculty at each institution to use the other's research facilities at in-house rates.

Moving forward

A few of the RRC cores that have made notable strides recently are the Imaging Center (see story, page 13); Biospecimen Repository; Research Histology and Tissue Imaging; DNA Services Facility and Core Genomics; Center for Structural Biology; Mass Spectrometry, Metabolomics and Proteomics Facility; and Flow Cytometry Service. (Also see page 14 for details on UIC's new high-performance computing cluster, which RRC and several other entities helped bring to campus.)

A new collaboration between the RRC and the Department of Pathology, the Biospecimen Repository seeks to develop a comprehensive, university-wide processing lab and repository for research tissue banking. The project has two branches, Dr. Hendrickson explained. In the first, researchers such as Kent Hoskins, PhD, associate professor of hematology/oncology (see research profile on page 20), set up their own protocols and the repository handles their tissue banking.



Extending beyond individual research projects, the repository also is working to obtain an opt-in consent from UIC Hospital patients to bank their solid and blood tissues. "On our test run, 85 percent of the patients consented," Dr. Hendrickson reported, "and the Center for Clinical and Transitional Sciences as well as the UI Cancer Center are now providing resources to make this true tissue bank operational."

In another joint effort between the RRC and the Department of Pathology, a new, full-service Research Histology core was created from the two smaller Histology core laboratories of the two units. Quantitative tissue imaging was added with the Vectra machine-learning microscope and the Aperio imaging system.

Over the past couple of years, the DNA Services Facility has significantly built up its next-generation sequencing abilities.

With the acquisition of an Ion Torrent Personal Genome Machine and an Ion Torrent Proton, the facility has greatly increased its adaptability and capacity. The Ion Torrent instruments can analyze a single sample, rather than waiting for multiple samples to fill up a run. This can be particularly useful in clinical situations, and can be used for high-throughput sequencing of human exomes, for example.



"Working with our sister facility in Urbana, we can handle any sample, any project: whole genome sequencing; custom targeted sequencing, or RNA, methyl-seq or chIP sequencing," said Stefan Green, PhD., core director. "We help users determine the right approach. If it's an instrument we don't have, we're glad to do preparation of samples and then interact with the other facilities to make things easy for the researcher."

The Center for Structural Biology (CSB) has increased its service level—now supporting x-ray crystallography via the Macromolecular Structure Facility—and is "building the scope of our users," said Yoshitaka Ishii, PhD, professor of chemistry and director of the center. The main component of the CSB is the Nuclear Magnetic Resonance (NMR) Facility, which houses three high-field NMR spectrometers operating at 600, 800 and 900 MHz proton frequencies, as well as a 750 MHz instrument capable of handling solid samples.

Ben Ramirez, PhD, director of the NMR Facility, said that while the facility was traditionally for biochemists, he and colleagues are seeing increasing interest from investigators in pharmacy, microbiology, pharmacology, chemistry, physiology and other fields. "The reason for this expanded interest is that NMR offers various approaches to examine the binding of a ligand to a macromolecule such as a protein. We also offer the ability to examine and quantify mixtures such as a metabolic fluids or herbal formulations," Dr. Ramirez explained.







Dr. Ramirez trains new users and assists with NMR data acquisition as well as the implementation and optimization of new or existing NMR experiments. With the addition of Gerd Prehna, PhD, senior structural biology specialist, users now enjoy increased support in planning, running and completing their experiments. Dr. Prehna assists with protein expression (including isotopic labeling), purification, analysis (by DSC, ITC, CD, or AUC) and even complete structure determination by either NMR spectroscopy or X-ray crystallography.

The Mass Spectrometry, Metabolomics and Proteomics Facility's 14 mass spectrometers include several recently acquired instruments, making it the largest facility of its kind in Chicago, said Alex Schilling, PhD, core director. The Thermo LTQ Orbitrap Velos joins the Thermo LTQ-ICR-MS for accurate mass proteomics. The ABI 4700 MALDI TOF/TOF is used for MS imaging and proteomics, and the Waters SCF-MS (Supercritical Fluid-Mass Spectrometer) enables a combined technique in which a mixture of analytes can be separated into solutions of individual components by supercritical fluid chromatography. The Sciex 5500 and recently installed 6500 instruments provide very high sensitivity for biomarker and pharmacokinetic studies.

In the Flow Cytometry Service, the one-year-old BD LSRII Fortessa flow cytometer with 4 lasers/14 colors characterizes



cell markers more deeply, runs samples more quickly and requires fewer reagents than its predecessors, according to Balaji Ganesh, PhD, core director. The new Beckman Gallios 3 laser/10 color loads samples via a carousel, saving investigators' time. Flow Cytometry also possesses what Dr. Ganesh believes is the only MoFlo Astrios advanced cell sorter in Chicago, installed this year with support from the OVCR.

"Not just a bunch of instruments"

Dr. Ganesh echoes other RRC facility directors and faculty advisors when he notes that his team's goal extends beyond making instrumentation available to providing various levels of service depending on what researchers need. "We help train individuals on their cytometers of choice, providing 24/7 access once they've built up a history with the instruments," he said. "We also help investigators plan experiments, making suggestions based on what the PI would like to accomplish. And for investigators who are not very familiar with flow cytometry, we do a lot of data analysis and help make their work publication-ready."

This emphasis on providing a total package of research support extends across the RRC, also including teaching and shop management efforts (see story, page 12). Although the RRC's acquisition of future-focused equipment over the past few years is impressive, "we're not just a bunch of instruments," said Dr. Hendrickson. "From running the instruments to analyzing data to helping to design experiments, the RRC is very much an intellectual resource as well as a physical one."



"From running the instruments to analyzing data to helping to design experiments, the RRC is very much an intellectual resource as well as a physical one."

– Dr. Hendrickson

RRC

core resources at a glance

IMAGING CENTER

- Accommodates any biological research that requires light, deconvolution, confocal, TIRF or wide-field fluorescent microscopy.
- Offers nine microscopes, including two Zeiss LSM710s (each with unique capabilities) and one LSM510 META confocal laser scanning microscopes.
- Recently acquired a Prairie Technologies Ultima In Vivo Microscopy System handling deep tissue and intravital imaging.
- Provides image stations to facilitate the production of figures for publication from digital images.

ELECTRON MICROSCOPY SERVICE

- Provides a comprehensive electron microscope and surface analysis facility dedicated to bringing state-of-the-art methods in modern imaging and spectroscopy to life and materials scientists with all levels of expertise.
- Offers instrumentation, training and service using scanning (SEM and Microprobe), transmission (TEM) and scanning transmission (STEM) electronic microscopy, surface analysis (XPS), oxide film growth (MBE) and vibrational spectroscopy (Raman).
- Provides completely assisted technical support service for infrequent users and guidance, consultation and collaboration as requested to trained researchers.
- Regional center of excellence for atomic-resolution STEM; recently added a NSF-funded, state-of-the-art aberration-corrected JEOL JEM-ARM200CF (Robert Klie, PhD, PI; see research profile on page 18).

MRI FOR ANIMAL IMAGING

- A 2,000-square-foot animal imaging laboratory.
- Offers a new Agilent 9.4 Tesla 30 CM MRI system that can image small animals and samples up to 7.5 cm in diameter, allowing researchers to study *in vivo* models non-invasively. The instrument was funded by an NSF grant; Richard Magin, PhD, PI.
- Also offers an 11.5 Tesla micro-MRI system for up to 1cm in diameter.

FLOW CYTOMETRY SERVICE

- Provides services for analysis and sorting of cells, as well as training and expert consultation for experiment and project planning.
- Operates six flow cytometers including a new BD LSRII Fortessa flow cytometer with a high-throughput system to run 96-well and 384-well plates and a Beckman Gallios available for walk-up use 24 hours a day.

"Many UIC investigators are surprised to discover the breadth and depth of instrumentation and support services offered by the Research Resources Center (RRC) cores," said William Hendrickson, RRC director. Following are some highlights of each core's offerings; visit rrc.uic.edu for details on available equipment, services, and user protocol and

- Operates two cell sorters, including the MoFlo Astrios, capable of six-way sorting.
- Operates a Bio-Rad Bio-Plex flow cytometer, specially designed to analyze microsphere-based multiplex protein assays.
- Applications of flow cytometry include measurements of autofluorescent proteins, antigen or ligand density, apoptosis, enzyme activity, DNA and RNA content, membrane potential, cytokine receptors and its synthesis, drug uptake and efflux, phagocytosis and viability obtained from cells, isolated nuclei, organelles or microorganisms.

DNA SERVICES FACILITY

- Provides DNA sequencing services using ABI-automated sequencing and next-generation instruments; services include complete sequencing from bacterial cultures, sequencing plasmids, PCR products or other templates provided by users.
- Has an Ion Torrent Personal Genome Machine and Proton, two of the newest next-generation sequencing platforms.
- The Person Genome Machine is capable of producing 350 megabase of sequence data with a two-hour sequencing run at low cost. The Proton sequencer can perform RNA sequence quantitation, and will soon be able to sequence a human genome for \$1,000 reagent cost.
- Provides real-time PCR and sequence detection; users are able to run and analyze their own experiments after initial training.

CORE GENOMICS FACILITY

- Provides resources for investigating gene functioning with an emphasis on applying DNA microarray technology to transcriptional profiling and transcriptional regulation studies, genotyping and molecular cytogenetics-based studies.
- The new Gene Titan system can process 96 microarrays at a time, providing the only high-throughput Affymetrix microarray resource in Chicago.
- Offers equipment, resources and bioinformatics support for all aspects of these applications, ranging from sample preparation and quality control to data analysis and results validation.
- Has computer workstations supplied with analytical software packages for data acquisition and analysis.
- Provides assistance with the development of experimental study design and grant applications.

CENTER FOR RESEARCH INFORMATICS

- Directed by UIC Chief Informatics Officer Neil Bahroos, PhD; includes some of the informatics functions of the Center for Clinical and Transitional Sciences and the UI Cancer Center.
- Supports analysis of next-generation sequencing, qPCR, microarray and proteomics data.
- Is expanding research server, storage and data pipeline capabilities with a current cpu-gpu mixed cluster and the new Extreme High Performance cluster.

BIOSPECIMEN REPOSITORY

- A collaboration between the RRC and the Department of Pathology.
- Represents a comprehensive, university-wide processing lab and repository for research tissue banking, including a new laboratory and freezer farm.
- Collects consenting hospital patients' tissues (solid and blood) to store and use for research purposes, either by patient opt-in or investigator-initiated protocols.

PATHOLOGY/RRC RESEARCH HISTOLOGY AND TISSUE IMAGING CORE

- A collaboration between the RRC and the Department of Pathology.
- A state-of-the-art research facility providing processing, sectioning, routine and special stains for human and experimental animal tissues in addition to digital imaging and analysis.

CENTER FOR STRUCTURAL BIOLOGY

- Offers several high-field nuclear magnetic resonance (NMR) spectrometers in the NMR Facility
- Supports cutting-edge research using x-ray diffraction on single crystal samples of macromolecular targets in the Macromolecular Structure Facility.
- Has increased assistance to investigators in developing and running projects.

MASS SPECTROMETRY, METABOLOMICS AND PROTEOMICS FACILITY

- Provides many types of mass spectrometry measurements, including qualitative and quantitative analysis, purity assessment, molecular weight determination, and high-resolution exact mass measurements for determination of elemental composition.
- Facility scientists can design and conduct experimental protocols, analyze data and provide pre-experimental consultation to investigators. Researchers may submit samples for protein identification, post-translational modification identification, quantitative proteomics, molecular weight determination and data analysis; qualified users may schedule instrument time to analyze their own samples.
- Has 14 mass spectrometers in two campus locations; East Campus recently added two new instruments and West Campus added three.

HIGH-THROUGHPUT SCREENING FACILITY

- Automates and miniaturizes the assay process, significant decreasing the cost and time commitments of screening a biological target against thousands of chemical compounds.
- Houses a Tecan Freedom EVO 200 liquid-handling robot capable of assembling and monitoring more than 10,000 reactions, in duplicate, in a typical working day.
- Offers a library of more than 100,000 diverse, drug-like compounds available for screening.

PROTEIN RESEARCH LABORATORY

- Provides comprehensive services related to protein studies: peptide synthesis, protein sequencing, protein purification, antibody production, amino acid analysis, Western blotting, PCR, ELISA, circular dichroism spectroscopy, 1-D and 2-D gel electrophoresis, proteomics, recombinant protein production and more.
- All services include consultation and assistance according to the researcher's needs.

TRANSGENIC PRODUCTION SERVICE

- Generates transgenic and gene-targeted mice: offers pronuclear microinjection of DNA constructs into mouse zygotes for the production of transgenic founders and injection of targeted ES cell lines into blastocysts to produce chimeric mice.
- Cryopreserves embryos and sperm; recovers live mice from cryopreserved embryos and sperm.
- Provides training and assistance on the IVIS live animal imaging system.

PHYSIOLOGY CORE, CENTER FOR CARDIOVASCULAR RESEARCH

- Offers surgical services including trans-aortic constriction, coronary artery ligation and osmotic plant implantation.
- Provides functional assessment services such as high-resolution echocardiography, in vivo hemodynamics, electrocardiography and pressure hemodynamics. The newly installed VisualSonics VEVO 2100 imager offers state-of-the-art cardiology.
- All services can be core-assisted; echocardiography and electrocardiography can also be self-directed.



RRC

prioritizing teaching and management



The Research Resources Center (RRC)'s initiatives go well past providing instrumentation to investigators. Teaching and management also rank high among the center's priorities.

A teaching thread winds throughout all the activities of the RRC. Every day, RRC staff members train faculty and students on using RRC equipment and instruments, but RRC also offers more structured educational opportunities in and out of the classroom.

Many RRC directors and staffers serve as guest lecturers in undergraduate and graduate courses. Several, including Stefan Green, PhD., director of the DNA Services Facility, Balaji Ganesh, PhD, director of the Flow Cytometry Service, and Bernie Santarsiero, PhD, research professor and technology resource manager, Center for Clinical and Translational Science, also teach modules in graduate research methods courses.

"The modules we teach focus on specific, state-of-the-art methodologies," said William Hendrickson, PhD, director of the RRC. "Because they run the cores day to day, RRC directors and employees offer invaluable perspectives on how these technologies work, what the latest methods are and how to avoid pitfalls in designing experiments."

Supplementing these didactic efforts, the RRC also offers hands-on learning opportunities. An annual summer workshop in proteomics hosted by UIC attracts students from Loyola University Chicago, Rush University, University of Chicago and other colleges across the city. This popular, one-week intensive course is taught by Alex Schilling, PhD, director of Mass Spectrometry, Metabolomics and Proteomics (MSMP); RRC MSMP staff; and faculty from Northwestern, University of Chicago and Midwestern University. The curriculum also features notable guest lecturers from around the country.

Dr. Ganesh teaches a shorter workshop in flow cytometry data analysis, and another hands-on workshop in imaging is in the works, Dr. Hendrickson said.

At the request of departments and colleges, RRC employees also have expanded their management efforts, building on previous successes running supply centers and machine shops for the RRC. "We've developed a reputation for good management, so departments are increasingly coming to us for help," said Dr. Hendrickson.

Eric Schmidt melds management and teaching in his multifaceted RRC responsibilities. Schmidt had been directing the RRC's Scientific Instrument Shop for some time when he took over leadership of the College of Engineering Machine Shop at the request of Peter Nelson, PhD, dean of the college.

At the Scientific Instrument Shop, Schmidt and his colleagues "custom design, fabricate and build most anything researchers' labs need that they cannot order directly," he said. Serving UIC and the College of Medicine, Medical Campus and outside institutions from all over the country, these projects can range from unusual rat mazes, to "trip and fall" platforms used in kinesiology, to custom fixtures for measuring gait for orthopedics.

In the engineering machine shop, Schmidt manages production of both faculty and student projects. "Engineering instructors were telling us that students needed a more direct introduction to what a machine shop does, so a few years back they asked the RRC to come in and make it more student-focused," he said.

The shop now hosts a constant stream of students, Schmidt said. UIC hosts the regional championship for First Robotics, a competition for high-school teams, and Schmidt and the rest of the machine shop man the "ambulance"—RRC truck—when a robot goes down. Schmidt is also involved in two undergraduate courses in which he works with students. One is a second-year mechanical engineering class in which he introduces students to the shop and they scavenge material to complete an assigned project—for example, creating a device to make a helium balloon on a string touch the floor. He also mentors students developing products for their senior engineering design class.

However he's working with students, "We make it an active learning process—we don't say 'Drop your project and leave,'" Schmidt said. "We say, 'Here's your problem. There are several ways of getting to the solution. Let's work through the scenarios.'"



RRC

imaging center proves invaluable

Although many Research Resources Center (RRC) cores have recently made significant upgrades to equipment and services, **the Imaging Center stands out** as a core that's reorganized itself to better serve researchers and plan for their future needs.

"Over the past year, with the tremendous efforts of RRC Director William Hendrickson, PhD, and resources from the Office of the Vice Chancellor for Research, we've completely remodeled the imaging suite," said Richard Minshall, PhD, associate professor of pharmacology and anesthesiology, and faculty advisor for the Imaging Center.

A task force convened to study UIC research imaging capabilities determined that, while "campus faculty members are exceptional at obtaining imaging equipment, UIC has been mediocre at installing equipment in the right location across all areas of imaging, and inconsistent in having plans to operate equipment on a fair and equitable basis across all areas of imaging," said Dr. Minshall.

In response to the task force's recommendations for improvement, the Imaging Center has hired staff to help researchers and their students select and use equipment appropriate for the research question, renovated space to streamline facility use and purchased new instrumentation.

New staff, more and better space

"As part of the task force's conclusions, we hired a PhD-level facility director to help PIs and their postdocs choose which instruments are best for their needs and provide other support," said Dr. Minshall. Peter Toth, PhD, the new visiting director of the facility, has earned accolades from Dr. Minshall as well as many of the investigators whose work Dr. Toth has facilitated. He's joined by Associate Director Ke Ma, PhD, and Tulika Sarma, PhD, who help train new users and organize scheduling (now managed almost entirely online).

Previously, Imaging Center instrumentation was scattered through the Medical Sciences Building and College of Medicine, "making equipment quite difficult to organize and manage," Dr. Minshall said. Renting and renovating a large space on the third floor of the Medical Sciences Building, "we were able to place instruments with some thought to which pieces should be separated, which would benefit from being together, which needed a dark room, and so forth."

Sophisticated instrumentation

The Imaging Center is equipped with nine microscopes to assist in a wide variety of biological studies; many were purchased with grant monies obtained by faculty PIs. The center has two Zeiss LSM710 and one LSM510 META confocal laser scanning microscopes; a Zeiss TIRF scope with environmental chamber;

PE Spinning Disk scope, Olympus VivaView live-cell incubator scope; and an Olympus wide-field scope.

The newest and most advanced addition to the center's equipment is a Prairie Technologies Ultima In Vivo Microscopy System, acquired via a NIH National Center for Research Resources grant to PI Jonathan Art, PhD, associate professor of anatomy and cell biology. The scope, which handles deep tissue and intravital imaging, "allows us to image small animals like rodents or invertebrates *in vivo*, something we weren't able to do before and which is helping the investigations of many UIC researchers," said Dr. Toth. An Als2 automated microinjection system allows investigators to operate the system via computer workstations and inject cells by pointing and clicking, resulting in high injection rates of about 1,500 cells per hours. Researchers also can study complex cellular processes, structure and function *in vivo* using single cells.

Because many of the scopes were purchased from Zeiss, numerous parts are interchangeable, allowing the center to configure instrumentation to exact demands of researchers. "With our capability for interchange, we can build for individual experimental requests—some of them very sophisticated—with very small changes in our instruments," said Dr. Toth.

To facilitate the production of figures for publication, the center also offers image stations equipped with Adobe Photoshop, Metamorph, NIH ImageJ, Velocity and Zeiss software.

The instrumentation and staff additions plus the renovations have created an uptick in users, Dr. Minshall said. "We've put together a very nice imaging suite that's well utilized by the faculty—and we want even more researchers to take advantage of our instruments, particularly the multiphoton microscope.

"Our new setup is helpful for building collaborations," he added. "We offer not just a service, but a place where people can meet other investigators and strengthen each other's research."



RRC

supercomputing arrives



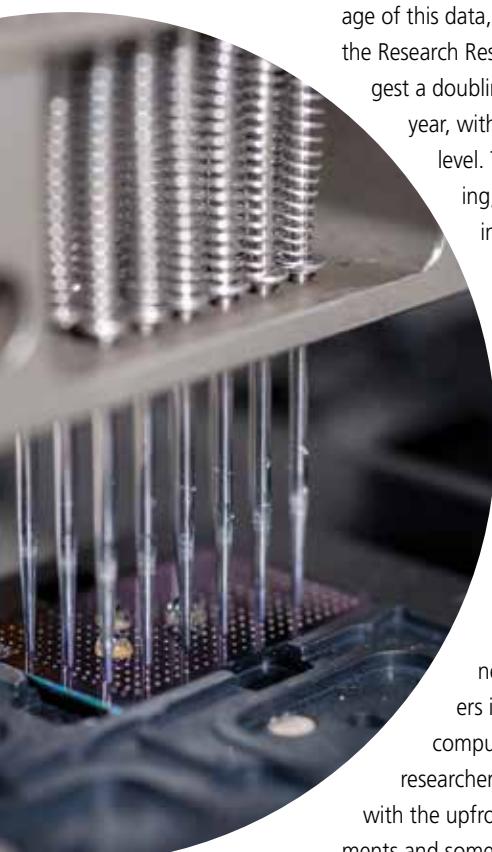
The numbers are as high as its performance: it's got 3,000 processors, 22,000 GB RAM and one petabyte of disk storage. With the arrival of a high-performance computing (HPC) cluster on campus, UIC has significantly expanded research computing capabilities and teaching opportunities—and boosted its competitiveness among other universities.

"The amount of data produced by scientists and advanced instrumentation has grown at a rapid pace, causing a 'data tsunami' that creates challenges for processing and also storage of this data," said William Hendrickson, PhD, director of the Research Resources Center (RRC). Current estimates suggest a doubling of research data generated roughly every year, with some disciplines like genomics exceeding this level. To stay at the forefront of research computing, UIC needed to invest in a supercomputing infrastructure on campus.

The new research computing cluster, dubbed Extreme and housed in the Roosevelt Road Building, is a shared resource led by the OVCR and ACCC, and acquired through the enthusiastic joint efforts of the Office of Provost, IT governance Council, RRC, AITS, Colleges of Engineering, Medicine, Pharmacy, Liberal Arts and Sciences, and faculty members from across campus.

The cluster was selected to meet the technical needs of a substantial number of UIC researchers in a wide range of disciplines. Unlike old computing models, which charge per-use fees to researchers, the \$2.4 million Extreme was purchased with the upfront buy-in of four colleges, several departments and some individual investigators. "Each participating entity owns a piece of the computer, and additional pieces can be purchased by other units," explained Himanshu Sharma, Assistant Clinical Research Information Officer. "Investors have no-wait access to the nodes they've purchased, plus access to other unused nodes on lower priority." Included in the purchase was four years of maintenance and personnel.

Extreme is a prime recruitment tool, said Sharma, who noted, "The number-one driver of this project was new faculty for whom HPC is essential." So far, the cluster is responsible for the successful addition of at least six new faculty members.



Established faculty members who regularly work with large data sets are looking forward to the convenience and new options Extreme offers. The research interests of Philip Yu, PhD, UIC Distinguished Professor and Wexler Chair in Information Technology, include correlating information about users of multiple social networks. "To get a coherent picture of the user requires computing vast amounts of data," he said. "Not having an HPC on campus limited our scalability; there were experiments we could not do because it would take too much time. The cluster enables us to do much more."

Fatemeh Khalili, PhD, assistant professor of physics, specializes in computation studies of ion channels, running simulations of molecules to examine the transport of ions through membranes. In the past, she was forced to use HPCs at other institutions, "which required requesting the computer and waiting for it, sometimes with big gaps between availability," she explained. "Having a cluster of this size at home on our campus is a great resource."

Besides expanding faculty recruitment and research, Extreme is an important addition to the classroom, and Dr. Khalili is one of the first professors to teach a course designed around the HPC. Computational Methods in Biophysics "is for senior undergraduates and new graduate students who will learn to use the supercomputer to understand biophysical properties such as values proteins," Dr. Khalili explained. "Students will use the HPC in a final project capping the semester's work, which gives them a real learning advantage over what they could do on their laptops."

As technology and researchers' needs evolve, Extreme is designed to smoothly adjust with them.

"We've built this cluster with scalability in mind," Dr. Hendrickson said. "In the future, we can integrate newer infrastructure and solutions seamlessly around this cluster. And, as more stakeholders buy into this program, we can effectively scale up the infrastructure to meet the growing needs of computing infrastructure."



The new research computing cluster, Extreme, has opened its doors for UIC investigators who deal with large data sets. But some UIC faculty members, like those at the Electronic Visualization Laboratory (EVL), are already demonstrating how high-performance computing can transform research—and the new supercomputer complements their longtime efforts.

The EVL's next-generation CAVE™ (CAVE2™), built with support from the National Science Foundation (NSF) and Department of Energy (DOE), is itself powered by a small supercomputer. But, says Maxine Brown, EVL director, Extreme will be useful in helping most campus collaborators compute and visualize their data sets before viewing them in the CAVE2, rather than turning to outside supercomputers like the ones at the National Center for Supercomputing Applications on the Champaign-Urbana campus and at Argonne National Laboratory.

Researchers at the EVL are expert in visual analytics, or transforming numbers into pictures for data analysis and insight. "The visualized data can actually be smaller than the numbers," said Andrew Johnson, PhD, EVL director of research. "For example, imagine viewing excel spreadsheets of numbers collected over a 10 year period vs. seeing a bar graph of the same data. Visualization doesn't replace numbers, but it provides researchers with a holistic view to more readily see and understand where the anomalies are, and to gain insight and understanding."

The EVL's work also focuses on building high-resolution visualization and virtual-reality collaboration displays; displays have been built by the UIC pathology department and another is under construction in ophthalmology—and EVL develops and deploys its SAGE2™ software framework, or "operating system," to enable users to easily access, share, display and juxtapose digital media on these high-resolution displays. "Using SAGE2, data computed and visualized on the campus supercomputer could then be streamed to collaborators' displays in their laboratories or offices for viewing, helping them be more productive," explains Brown.

RRC

faculty highlights



Kate Warpeha, PhD

Assistant professor of biological sciences

"Having Research Resources Center (RRC) data at our disposal has really moved our research forward," said Kate Warpeha, PhD, assistant professor of biological sciences. "It's allowed us to do more focused studies and thus spend our grant dollars in a more targeted way."

Using *Arabidopsis thaliana*, a popular model organism in plant biology, Dr. Warpeha is investigating ways that G proteins influence a successful transition from seed to seedling.

When it germinates, a seed passes from the embryonic to newborn (seedling) stage—and "those few days of transition between seed and an independent, photosynthesizing plant are a dangerous and vulnerable time," Dr. Warpeha explained. As part of a National Science Foundation-funded study, Dr. Warpeha's lab is looking at how several G protein effectors can influence this stage of development. One of these is PD1/ADT3, which controls the formation of the amino acid phenylalanine, the starting compound to a plant's chemical arsenal and defense structures.

Working with the DNA Services Facility of the RRC, Dr. Warpeha said, has given her team "access to a treasure trove of genes and proteins on which ADT3 has an effect. Some we knew and some we were surprised about." For instance, when DNA Services Facility Director Stefan Green, PhD, did comparative RNA sequencing on mutant (*adt3*) and wild type *ADT3* for her lab, "we learned that lack of this protein in a young seedling

causes changes in multiple metabolic pathways, which stresses a young plant quite a bit," Dr. Warpeha said.

"These data we received from the RRC helped us identify the gene families affected by this protein and narrow down the physical changes we want to focus on."

When changes in abiotic (i.e. weather and temperature) and biotic (i.e. insect pests, other animals) signals happen too quickly, there are negative effects on world agriculture and ecosystems. Besides studying G protein regulation of early plant development, Dr. Warpeha is also exploring how these proteins help young seedlings orient themselves as a result of global change: cold, heat, salt, varying light and radiation, fungus, insects, nematodes and more.

In research supported in part by funds from the Illinois Soybean Association, Dr. Warpeha is working on chemical and genetic solutions for reducing stress in Illinois's biggest export crop.

"Finding solutions to plant stress is an ongoing problem in agriculture, since breeding to increase a plant's yield tends to lower its defenses," Dr. Warpeha said. To help plants withstand changing environmental pressures, her lab has developed a topical seed coating that boosts defense in a plant's first week of growth. Last summer, she and Lon S. Kaufman, PhD, professor of biological sciences and assistant vice president for corporate and community relations, received US Patent 8,492,614 for some of this technology. The lab also received a 2012 Proof of Concept Award from the UIC Office of Technology Management.

In a third project, Dr. Warpeha is investigating the possible effects of compounds found in strawberry, blueberry, and broccoli and specific *Arabidopsis* mutants on cellular stress in humans.

"Particular constituents of developing leaf material may be effective in slowing the growth of or killing cancer cells or reducing cellular inflammation," Dr. Warpeha explained. Her lab is working to identify these constituents and use specific plant strains to "farm" these materials to screen for effective cancer-fighting agents.

"The RRC's data has been a phenomenal support and we're really appreciative of what our colleagues there have done for our lab," Dr. Warpeha said of her ongoing investigations. "Because of the very short periods of developmental time in our model organism, time is our enemy—and the RRC has saved us a lot of it."





RRC

faculty highlights



Robert Klie, PhD

Associate Professor of Physics

Leading the way in obtaining a grant for the highest-resolution scanning transmission electron microscope (STEM) in the U.S., Assistant Professor of Physics Robert Klie, PhD, illustrates how the Research Resources Center (RRC) is increasingly obtaining state-of-the-art equipment. Many of the RRC's equipment offerings are purchased through institutional funding, but frequently, individual investigators and teams of researchers secure needed high-end instrumentation for campus through their own outside research grants.

Dr. Klie was the principal investigator on a National Science Foundation (NSF) grant—part of the 2009 American Recovery and Reinvestment Act, or stimulus—that funded the recent purchase of the new aberration-corrected, cold-field emission JEOL JEM-ARM200CF STEM on East Campus. The nearly \$3 million instrument is part of the RRC's Electron Microscopy Service.

In his research, Dr. Klie pursues the development and utilization of atomic-resolution transmission electron microscopy of nano-scale materials systems. He and others in his group use the new microscope at least five days a week, focusing mostly on the development of alternative energy materials.

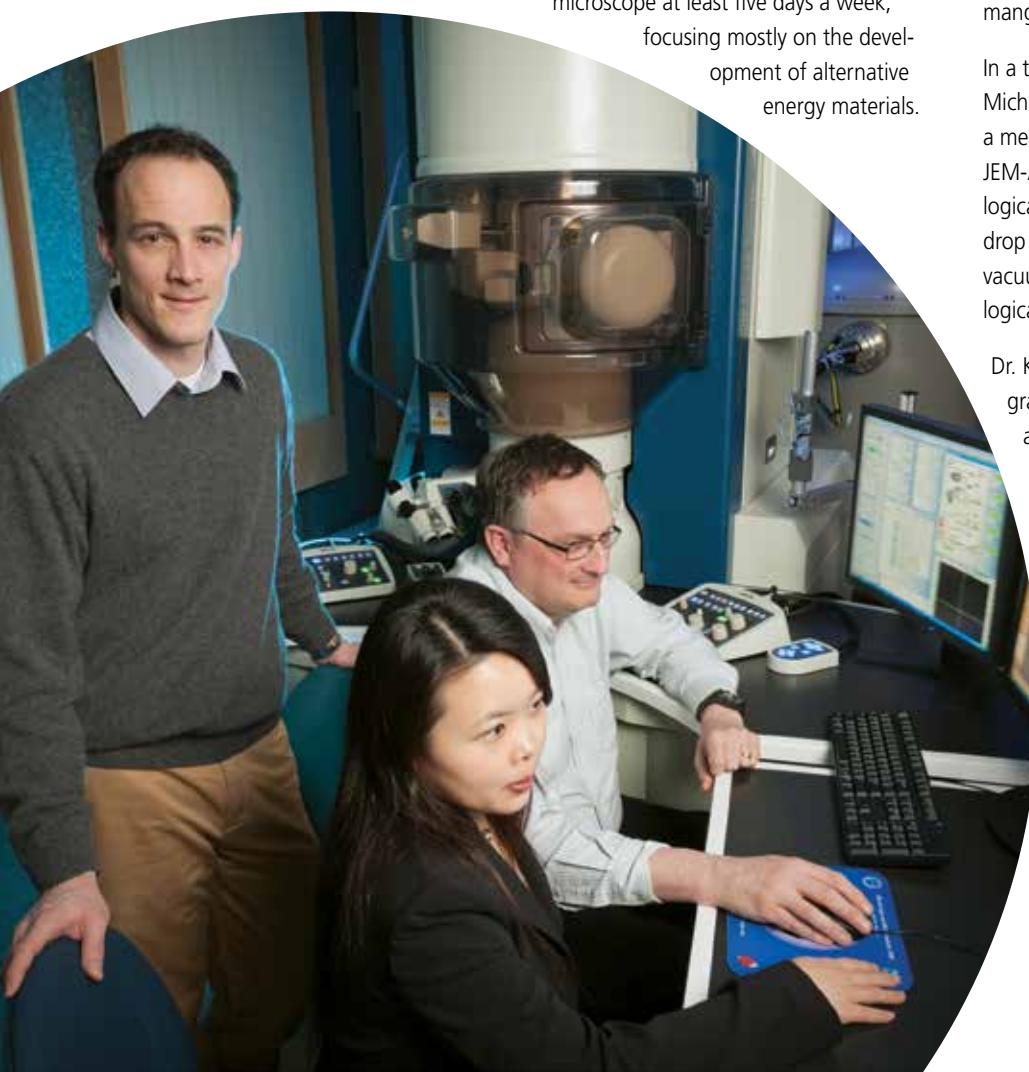
As part of a U.S. Department of Energy-funded study, Dr. Klie and colleagues hope to make cadmium telluride-based commercial solar cells more competitive with fossil fuel-based energies. "These cells are still expensive and the payback period is long," said Dr. Klie, explaining that the percentage of solar cell efficiency has been virtually stalled for more than a decade. Seeking reasons for cadmium telluride's low performance in this area, Dr. Klie is looking at grain boundaries (interfaces between crystallites, similar to mortar in a brick wall) to precisely determine and potentially improve their arrangement for increased efficiency.

In an NSF-funded study with co-PI Randall Meyer, PhD, associate professor of chemical engineering, Dr. Klie is examining catalysts for converting biomass into ethanol or diesel fuel. "Very small particles of metal, either rhodium or cobalt, are used for this conversion, but it's not an efficient process yet," he said. "We know that adding a promoter element, manganese, to the rhodium catalyst increases efficiency, but no one knows why yet. Only by using an electron microscope can we hunt for individual atoms of manganese on the rhodium and begin to understand manganese's role."

In a third project conducted in concert with scientists from Michigan Technological University, Dr. Klie's group is developing a means for viewing materials in liquid environments in the JEOL JEM-ARM200CF—research that has major implications for biological study as well as for battery materials. Because the smallest drop of water or other liquid can destroy the microscope's high vacuum, investigators have had to freeze, or dry and stain, biological samples before viewing them in the STEM.

Dr. Klie's group is using two layers of the only recently isolated graphene to "wrap" liquids for use in the microscope. "This is a layer of carbon atoms strong enough to contain a liquid, and it doesn't seem to impede resolution," Dr. Klie said of his team's findings so far.

Two years after its installation, the STEM is so popular with internal and external investigators that "we're reaching the point where we'd like a second one," Dr. Klie said. "Having this instrument on campus allows investigators from UIC, Northwestern, Illinois Institute of Technology, Argonne National Labs and other institutions to perform cutting-edge research right here that's usually only done at a national lab."





Simon Alford, PhD

Professor of Biological Sciences

Simon Alford, PhD, professor of biological sciences, studies the mechanisms of short-term synaptic plasticity and the impact of that plasticity on nervous system function. Two lines of Dr. Alford's research converge on one piece of equipment, the recently acquired Prairie Technologies Two-Photon Microscopy System in the Research Resources Center's (RRC) Imaging Center.

One of the subjects of Dr. Alford's studies is the way G protein-coupled receptors (GPCRs) on presynaptic terminals control the release of serotonin. This research has implications for treating depression and other mood disorders, particularly in seeking a solution to the relatively long period of time between when patients begin taking selective serotonin reuptake inhibitors such as Prozac, and when those drugs begin to be effective.

"The presynaptic terminal in most vertebrates is extremely small, just a micron across," said Dr. Alford, who uses both rodents and lampreys in his studies. Lampreys have an advantage in imaging because their central nervous systems can be kept alive *in vitro* for days, and because their spinal cord axons contain presynaptic terminals that are a full 100 microns across and provide a structure accessible to Dr. Alford's experimental approaches.

Although a device already in the Alford lab, a laser-scanning confocal microscope, was able to look at live tissue in real time,

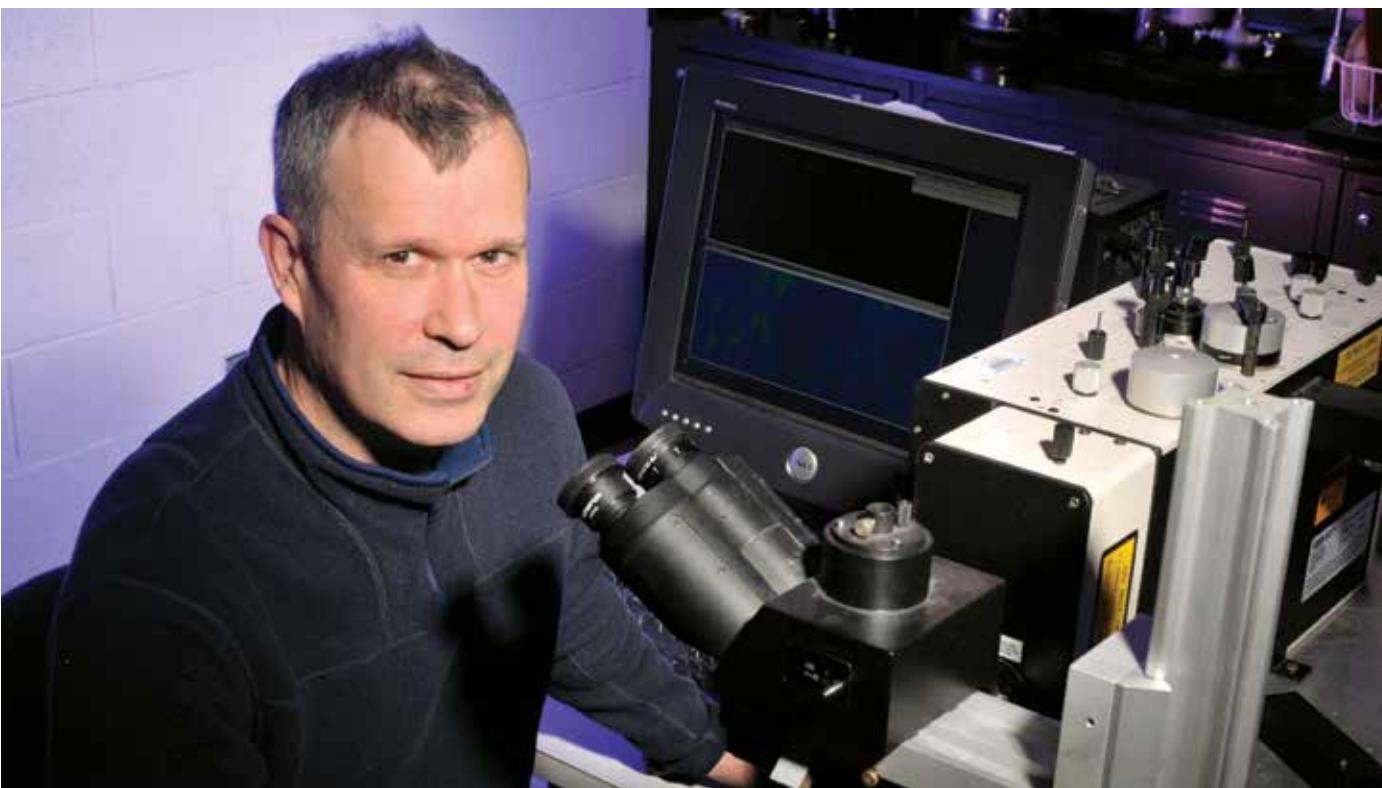
tissue exposed to light is rapidly damaged.

"The new multiphoton microscope is perhaps 100 times as sensitive, so we can keep tissue alive a lot longer and see much less visible structures."

In another line of research, Dr. Alford's lab—which has been funded by the National Institutes of Neurological Disorders and Stroke (NINDS), the National Institutes of Mental Health (NIMH) and the National Science Foundation (NSF)—is exploring problems of motor control in vertebrates. "The processes of walking, swimming, flying are embedded in circuits in the spinal cord, and we're interested in how that command pathway is modified by GPCRs," Dr. Alford said.

Specifically, Dr. Alford's team studies ways presynaptic G proteins and presynaptic calcium concentrations are modulated by the release of the neurotransmitter dopamine. When neurons in an area of the brain that controls movement become impaired or die, dopamine production is lessened, causing Parkinson's disease.

With the new multiphoton scope, Dr. Alford's group can examine calcium in presynaptic terminals—again, in ways that boost the amount of time samples are usable. "With the new scanning system, we're looking at live tissue using as little light as possible and with as much resolution as possible. That means more stability, more recording and much more useful data."



RRC

faculty highlights



Kent Hoskins, MD

Associate Professor of Hematology and Oncology

Most research about breast cancer, especially about the BRCA gene mutations that can flag a familial predisposition for breast and ovarian cancer, has derived from populations of northern European women. Kent Hoskins, MD, associate professor of hematology and oncology, uses genomic technologies to address disparities in breast cancer detection and treatment by studying genetic and environmental risks for minority populations, among other investigations.

Dr. Hoskins's several lines of research make extensive use of several Research Resources Center (RRC) cores, including the Center for Research Informatics, DNA Services Facility and the new Biospecimen Repository.

Banking on the RRC's help

The UIC Familial Breast Cancer Program, directed by Dr. Hoskins, is a member of the Consortium of Investigators of Modifiers of BRCA1 and BRCA2 (CIMBA). The group is assembling an international compendium of data on BRCA mutations, common flags for familial disposition toward breast cancer.

"In our clinic, we collect blood samples from predominantly minority women and use the RRC Biospecimen Repository for storage," Dr. Hoskins explained. "It's very cost effective for us, since we're doing perhaps a couple of samples a week, and the repository staff is experts in biospecimen banking and informatics."

Dr. Hoskins also uses the repository for another research project in which he's seeking to identify new molecular markers in identifying breast cancer. "Mammography, an image-based paradigm, has limitations," he said. "One of the ways we're trying to improve screening is by developing biomarkers—in this case, blood tests—that can provide early detection when used in conjunction with mammography."

Tumors undergo characteristic DNA methylation processes, "producing a fingerprint that's pretty reproducible," Dr. Hoskins explained. "We can potentially detect this methylation abnormality much earlier than we can pick up an abnormality in a mammogram."

Dr. Hoskins and colleagues are looking for composite patterns of methylation by taking blood samples from women prior to biopsy. "We have about 10 centers across the state collecting samples; we correlate them with negative and positive biopsies," he said. "Again, the RRC Biospecimen Repository has been very helpful in storing and categorizing for this study, which now has more than 1,500 participants."

"Precision medicine" that zeroes in on a patient's specifics

Much of Dr. Hoskins's daily work involves treating patients with breast cancer, and a third research initiative focuses on creating "precision medicine" that's specifically targeted to an individual.

"We know that cancers arise from what's called driver mutations, typically two to six in any person's cancer. If we can identify them in a given person's tumor and address those specific drivers, we can potentially use more specific treatments that will be both more effective and less toxic," he said.

So far, only a few drugs have been approved to target specific molecular pathways that drive cancer; these are typically given to a patient for a period of time prior to surgery. "The goal is to get a pathological complete response: at the time of surgery, there will be no cancer left," Dr. Hoskins said. "But waiting until someone has metastatic disease means there's been a lot of molecular evolution in the tumor already."

"What we're hoping to do is to find out if a specific patient's genetic mutations are actionable—if we have a drug to treat them—then use chemotherapy and targeted drugs in a preoperative setting," added Dr. Hoskins, who's working with the RRC's DNA Services Facility to obtain initial sequencing of biopsied tumors, and will then develop clinical trials based on common mutations that are actionable.

The timeframe is short: "Our aggressive goal is to have confirmed sequencing data within three weeks, which is typically about the length of time before a patient starts her treatment," he said. "But the combination of preoperative chemo and targeted drugs is the ideal way to provide treatment tailored to a woman's molecular profile—which has the best chance of succeeding."



RRC

faculty highlights



Stefan Green, PhD

Affiliate Assistant Professor

Stefan Green, PhD, isn't a stranger to conducting research in extreme environments. The director of the DNA Services Facility and affiliate assistant professor in Biological Sciences at UIC did master's-level research on microbial life in a hypersaline lake in the Sinai Desert, and completed a postdoctoral fellowship at the NASA-Ames Research Center studying similar ecosystems in the Guerrero Negro saltworks in Baja, Mexico.

Even so, Dr. Green was recently surprised to receive an out-of-the-blue email from a National Geographic-funded team gauging his interest in joining an expedition to central Turkmenistan. Led by George Kourounis, adventurer and star of Travel Channel's *Angry Planet* show, the team was headed to the site of a collapsed Soviet-era gas rig that has been afire for decades.

That "huge, burning hole in the middle of a desert," as Dr. Green described it, is the subject of one episode of National Geographic's series, *Die Trying*, which aired on the National Geographic Channel in spring 2014. As the expedition scientist, Dr. Green's role was to help obtain soil samples from the site, and then analyze the samples to gauge the microbial habitability of the environment.

In both professional experience and temperament, the animated Dr. Green proved a perfect fit for a televised expedition...and found himself with only a few days to

prepare for the journey. Turkmenistan is highly restrictive destination ("North Korea actually gets more visitors," Dr. Green said) and the expedition received governmental approval at the last possible moment. "It was a scramble getting sampling gear together and arranging things in the lab for my absence," he related. "But very quickly, I was on a plane to Ashgabat via Toronto and Istanbul, wondering what had just happened."

After a few days in Turkmenistan's capital city, where the trekkers met with officials and gave talks to tourism organizations, the five-person expedition team and production crew moved on to the crater for filming. The flaming crater is about 225 feet in diameter and 100 feet deep. "Even though it's a monstrosity of a drilling disaster, it's a spectacular sight—especially at night, when its glow is reflected on the surrounding hills," said Dr. Green.

Although being mikred and filmed nearly nonstop for six days was a new experience, Dr. Green adjusted quickly to working in front of the camera. One of his first contributions was helping to determine dynamics of the airflow into the crater to find the safest point of entry for Kourounis, and then by loading sand bags as part of the elaborate rigging system from which Kourounis could descend. Later, Dr. Green took a variety of samples from around the crater to determine whether any organisms could survive under the harsh conditions. He began DNA extraction from the samples while still in the field to make





it easier to transport samples across borders. For comparison purposes, he also convinced the crew to visit a nearby and similarly formed and sized crater that, unlike the expedition's main target, contains water.

Upon his return to the U.S., Dr. Green began more extensive analysis of the samples in his own lab. The DNA extraction from the samples was completed. To identify which organisms, if any, are present in these samples, Dr. Green's facility performed next-generation sequencing analysis of total sample DNA ("metagenome" sequencing) as well as sequencing of microbial ribosomal RNA genes amplified from the DNA. The sequencing was performed on two relatively new instruments available in the DNA Services facility—the Ion Torrent Personal Genome Machine and the Ion Torrent Proton—which are capable of generating millions and tens of millions of

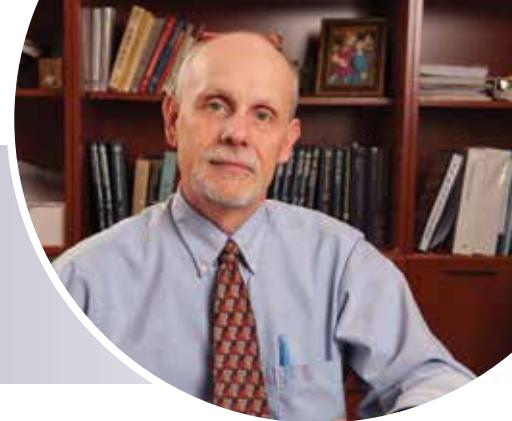
sequences during a single 4hr run. The DNA Services Facility is one of the core facilities within UIC's Research Resources Center, and provides a wide variety of sequencing for both microbial and eukaryotic samples.

The entire experience "was astoundingly fun," said Dr. Green, who got along so well with the other members of the team that he's hoping to join them again next year for an as-yet-undetermined new adventure.

"I've traveled a lot, and I was definitely the most boring person there. Every story around the campfire started with, 'Well, we were tracking snow leopards in northern Afghanistan...' or something similar. It was a great time, and I feel so fortunate. What did I do and who did I please to deserve such an extraordinary experience?"

Biologic Resources Laboratory

commitment to excellence in animal care



"Our mission is to provide for the welfare of the animals under our stewardship at UIC, to ensure regulatory compliance and to facilitate research," said Jeffrey Fortman, DVM, director of the Biologic Resources Laboratory (BRL), UIC's central animal facility. "We think of ourselves as part of the research community here."

A division of the Office of the Vice Chancellor for Research, the BRL oversees the procurement, care and husbandry of the animals used in research at the university. BRL professional staff is also responsible for consulting with research staff; conducting graduate and technical courses; directing a postdoctoral training program in laboratory animal medicine; and supporting the protocol review system of the institution's Animal Care Committee (ACC).

The BRL/UIC animal care and use program has been continuously accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International) since 1970, and adheres to the standards of the Animal Welfare Act, the Public Health Service Policy, and the Guide for the Care and Use of Laboratory Animals. "AAALAC accreditation is the gold standard for the field; it symbolizes an institution's commitment to excellence in animal care. It's very important to funding agencies, which want their monies spent at institutions that meet this high standard," Dr. Fortman said.

The BRL contains 110,000 of the 137,000 square feet of animal space on campus. BRL staff members oversee animal care not only at this facility, but also at 10 smaller animal facilities across campus.

Among the 64 BRL staff members are 10 veterinarians, including five senior staff members and five postdoctoral fellows training in the subspecialty of laboratory animal medicine. Their efforts are complemented by seven vet technicians, 34 animal-care technicians and several administrative staff members. Together, this group supports the research endeavors of approximately 300 investigators and between 600-650 active research protocols.

From conducting veterinary review on all protocols involving animals to advising on research budgets to providing support during surgeries, the BRL aims to help researchers at every stage of their studies.

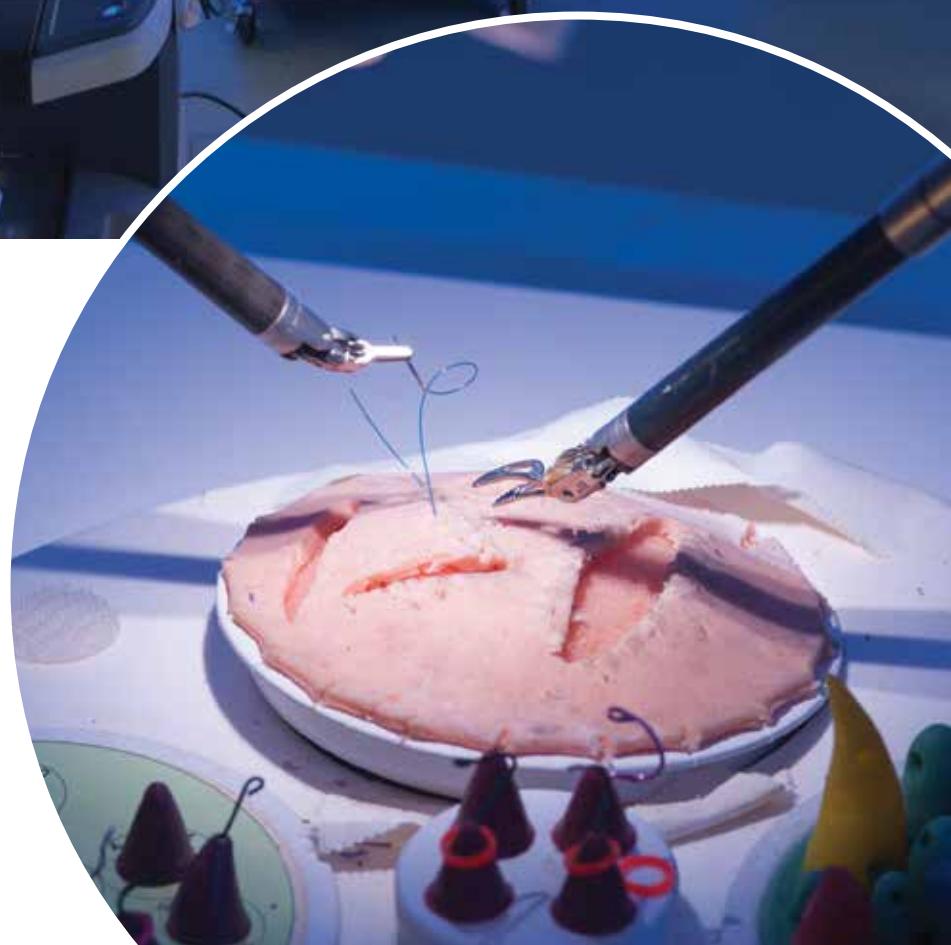
Education, both formal and informal, is a key part of the BRL's work, said Dr. Fortman, whose team helps teach several graduate courses. GC470 – Essentials of Animal Research covers

basic handling of commonly used lab animals, anesthesia and other techniques, as well as discussions of ethics and interactions between the animal rights community and biomedical research community. GC471 – Experimental Animal Techniques focuses on the biology, physiology and behavior of lab animals, combining didactic lectures with hands-on labs in which the students learn basic handling, injection, sample collection, surgery techniques and other procedures. GC473 is a postdoctoral training course that delves deeply into disease and model systems for common lab animals.

"We also do a lot of individual training on a case by case basis," he added. "Our goal isn't to do the research for investigators; it's to help them become self-sufficient while always remaining a resource for them. We can answer questions about the protocol review process and study design as well as help develop models and budgets—we're available at every stage of the process."

Dr. Fortman said investigators are sometimes surprised at the range of equipment and diagnostic options available at the BRL. The BRL has a GLP compliant diagnostic laboratory capable of running CBCs, chemistry profiles, electrolytes, blood gases and clotting factors. The BRL also has a polyclonal and monoclonal antibody production service. The BRL runs a centralized surgical facility for large animals with five operating rooms, including a minimally invasive surgery suite and a room dedicated to a DaVinci robot. "Our vet techs and veterinarians anesthetize, prep, and monitor the animals during surgery and do all the post-op monitoring and follow-up for our investigators," Dr. Fortman said.

Besides receiving direct support in the lab, investigators are well served by the BRL's many relationships across UIC. As a sister institution to the Research Resources Center (RRC), the BRL supports several RRC cores, including the Transgenic Production Service and a rodent MRI service. "Because we read every protocol involving the use of animals in research at UIC, we are in the perfect position to connect researchers from different departments as well as sides of campus who are interested in the same things." Hopefully, these connections will lead to new projects and long lasting collaborations.



BRL

research profiles



Alan McLachlan, PhD

Professor of Microbiology and Immunology

Hepatitis B virus (HBV), endemic in many regions of Asia and Africa, kills about a million people a year worldwide. The clinical consequences of HBV infection can be acute or chronic, and range from the subclinical to fatal forms of the disease, including fulminant hepatitis where the patient dies shortly after infection. But, because the virus only infects human and chimpanzees, creating animal models that recreate some stage of the viral life cycle is difficult.

HBV infection can generally be prevented by vaccination, but there is no reliable or affordable treatment for the world's approximately 350 million chronic carriers. Alan McLachlan, PhD, professor of microbiology and immunology, is working with the support of the Biologic Resources Laboratory (BRL) to seek solutions.

Since HBV doesn't infect rodents, a transgenic virus was created at the Scripps Research Institute. "Instead of an infection, the viral genome was introduced into a mouse chromosome so that every cell of the mouse carries the virus," Dr. McLachlan explained. "Then the virus is produced in a few tissues of the mouse, including the liver, where it replicates in humans causing disease. Because it carries the gene, the transgenic mouse in many ways mimics the natural infection we see when human mothers transmit the disease at birth, via the placenta."

McLachlan, who studies gene regulation, is exploring whether it's possible to manipulate the host so as to block viral transcription without an associated negative result: significant liver damage. "Our question is: how do you kill the virus without killing the liver?" he said.

Working both in cell culture and *in vivo*, his group first succeeded in curing the disease, but couldn't prevent fatal liver damage occurring in the mouse.

Now, his group has made an even more promising discovery. "We've made a mouse in which the disease is essentially 'cured' and the mouse lives virtually disease free for

at least 12 months, approximately half the natural lifespan of a mouse," he said.

The "cured" HBV mice show some signs of cirrhosis but virtually no liver disease. "What they actually have is fibrosis, which at this level would normally lead to primary hepatocellular carcinoma, but we haven't been able to find any tumors," Dr. McLachlan said. "So we appear to have an HBV transgenic mouse that will always carry the transgene, but never replicate the virus. In essence, it's cured."

The human implications of this discovery could be very significant, Dr. McLachlan noted. "Preventing HBV from replicating itself would mean that a person infected at birth wouldn't have to be treated for a lifetime," he explained. "We've established in principle a route that might be possible for curing chronic carriers, but the reality of what the therapy would be is the ultimate question."

The next step is looking for drug approaches that mimic the successful genetic approach—a challenging but theoretically possible approach to treating humans. "Drug therapy isn't as efficient as gene ablation therapy, and so far all drugs used to treat HBV have targeted replication but not been curative. We're trying to prevent an earlier step in the HBV life cycle by blocking transcription," he said. "We're asking if there are any pathways in the liver that would allow us to do this via drug treatments."

Similarly to how HIV and Hepatitis C are currently treated, the ultimate answer likely will be "to combine a transcription-blocking drug with drugs which are currently available that block replication, so we are attacking the virus on multiple fronts," he explained.

As Dr. McLachlan's group conducts its inquiries, he's grateful for the ways that the BRL lays a foundation for effective research.

"Behind the scenes, the people at the BRL are making things run smoothly in ways that are unseen by the majority of investigators," Dr. McLachlan said. "They're there to help you succeed and they do everything in their power—both administrative and technical—to facilitate what you're trying to do. It's a fantastic resource, incredibly well run."



2014 Researchers of the year

The **Researcher of the Year Award** recognizes 10 UIC scientists who are advancing knowledge in their fields. The Distinguished Researcher Award honors five researchers with a record of outstanding achievement. The Rising Star Award honors early-career researchers who show promise as future leaders.

ART, ARCHITECTURE & THE HUMANITIES

Deborah Stratmans

Art and Art History, Distinguished Researcher

For filmmaker, a final work of art 'has to stand on its own'



For prolific documentary filmmaker Deborah Stratman, research can be a demanding process. But she doesn't define it as a challenge. "My projects frequently come out of intensive, long research periods—fieldwork of a sort," says Stratman, associate professor of art and art history.

"The research itself is never a challenge. It's as compelling for me as making the final artwork.

"My challenge is how to choreograph an experience that's porous or spacious enough for a viewer

to think her own thoughts, but precise enough that the form has gravity, is impactful, memorable. The hope is to convey the concerns that motivate a film without assigning a diagnosis, to make works of conviction without being prescriptive.

"For artists, the research may be integral, but the final work of art has to stand on its own, a poetic distillation of an inquiry, a witnessing."

Stratman has shown her work at leading film festivals around the world, winning 14 major prizes in the last four years. She has shown three films at Sundance, including last year's "Hacked Circuit," recognized for its achievements in sound design. The film depicts a filmmaking process, the recording of Foley sound effects—the background noises that make a film sound natural, like footsteps, doors closing and fabric rustling.

Last year, Stratman received the Herb Alpert Award in the Arts, a \$75,000 prize given annually to five "risk-taking mid-career artists" working in dance, film/video, music, theater and visual art.

Lisa Yun Lee, director of the School of Art and Art History, says Stratman's research has advanced the field of experimental documentary film.

"Her work addresses some of the most pressing issues in these times, including the traumatic residue of war, ecological disaster and unchecked surveillance in a democracy," Lee says.

Roger Reeves

English, Rising Star

'Not only a brilliant poet, but also a powerful intellectual'



"Rising star" is a fitting description for Roger Reeves. The young poet's work has appeared in major publications such as *Poetry*, *Ploughshares* and *American Poetry Review*, to name a few.

This weighty list of publications is rivaled by his honors and awards for literary distinction.

His poem "Kletic of Walt Whitman" was selected in 2009 for *Best New Poets*, an annual anthology of 50 poems from emerging writers. Since joining UIC in 2011, Reeves has been awarded a 2013 National Endowment for the Arts creative writing grant for outstanding poets and a 2013 Pushcart Prize, a prestigious honor for work published by small literary magazines or small presses around the world.

Reeves, who is interested in diverse topics from folk music and minstrelsy to the emotional and intellectual legacy of lynching, delivers poems that explore the African American experience, politics, personal ordeals and pop culture.

Writing remains his focus.

"At the end of the day, I got the NEA, but I still have to go back to my writing desk," said Reeves, assistant professor of English, in a 2013 interview with *RedEye*. "The award doesn't write poems—I write poems. You're not in conversation with the awards committee, you're not in conversation with the money, you're in conversation with yourself, and the blank page, and what you're trying to do on that page. And ultimately, the page is blank every morning."

His first book, *King Me* (Copper Canyon Press, 2013), was named one of the best books of 2013 by *Library Journal* and *Tin House*. It received the 2014 Levis Reading Prize and the Zacharis First Book Award.

As a 2014-15 Hodder Fellow in residence at Princeton University, Reeves is continuing work on his poetry collection, *The Last American Minstrel*.

"He is not only a brilliant poet but also a powerful intellectual, someone able to make historical connections that belie his youth but testify to the seriousness of his scholarly as well as his creative interests," said Walter Benn Michaels, professor and head of English, in nominating Reeves for Researcher of the Year.

2014 Researchers of the year

BASIC LIFE SCIENCES

Wonhwa Cho

Chemistry, Distinguished Researcher

A liking for lipids, an area of study scorned by other scientists

Lipids are often considered boring, even by other scientists.

Not Wonhwa Cho, distinguished professor of chemistry.

Lipids form the cell membrane that acts as a barrier between the cell and the surrounding environment.

Until recently, researchers believed this was their only purpose. "We discovered that cholesterol (a lipid) can regulate cellular function, which nobody had suspected," Cho says.

Last year, researchers in Cho's lab showed that cholesterol acts as an important switch in a signaling pathway in the cell that affects the cell's ability to divide. When this pathway is overactive it's known to cause certain cancers.

One reason lipids have been overlooked in biology is that "they are a very nasty molecule to work with," Cho says, because they can't be dissolved in water like most organic molecules. "In order to understand how lipids work, you have to understand how they behave and their chemical behaviors," he says.

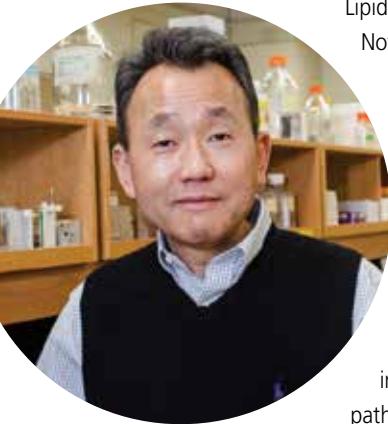
Cho pioneered new techniques to study lipids, such as a fluorescent sensor to count lipids in live cells. His team is seeking compounds that modulate lipids' regulatory functions.

Cho's work could help in the development of new drugs for cancer and other diseases. "Pharmaceutical companies, as successful as they have been so far, are running out of new drug candidates," Cho says. "Lipids have never been explored as a drug target."

While he has seen many trends in science throughout the years, Cho said he believes it's important to stick with one research area to make a major contribution there. "Eventually you can actually create a new field," he says. "That's what I am hoping to accomplish."

Cho received a master's degree in chemistry at Seoul National University in South Korea before coming to Chicago for his Ph.D. at the University of Chicago. He has spent nearly half his life in Chicago, joining UIC in 1990 after a postdoctoral fellowship at the California Institute of Technology.

Cho's enthusiasm for lipids shows no sign of slowing. "I'm hoping that in the next two to three years we can make a big, big impact," he says. "You're going to hear from us."



Michael Federle

Medicinal Chemistry and Pharmacognosy, Rising Star

To fight disease, disrupt the way bacteria cells communicate

Michael Federle didn't peer into a crystal ball to see his future. It was a microscope.

Federle has been hooked on science since junior high, when he got his first glimpse of magnified cellular organelles. The direction of his career became clear when he was a graduate student at Emory University.

"I've been interested in microbial cell-to-cell communication since the day I held a Petri dish with colonies of glow-in-the-dark bacteria," Federle says. "It was like gazing at the night sky, full of stars."

Federle studies quorum sensing—the way bacteria cells communicate with each other. Eventually, resistance develops to every antibiotic developed to fight bacteria that cause illness. He wants to convince these microorganisms to remain in a nonhostile state. Federle's primary research centers on the group of bacteria known as streptococci, responsible for strep throat, meningitis, bacterial pneumonia, endocarditis, erysipelas and the "flesh-eating" necrotizing fasciitis. His work explores ways to disrupt biofilms—communities of bacteria that live on a surface that are extremely resistant to antibiotics.

Manipulating bacteria that cause health complications is Federle's long-term goal. Bacteria enter the body and grow quietly until a switch is flipped, causing docile bacteria to turn rogue and inflict tissue damage.

"If we can manipulate bacteria by understanding the chemical signals they use, then we can interfere with the bacteria's ability to make people sick," he says. "We'll try to fool the bacteria by artificially stimulating them."

Federle, associate professor of medicinal chemistry and pharmacognosy, joined the College of Pharmacy faculty in 2008. Since then he has amassed nearly \$4.5 million in funding for his research and published nearly 20 papers in peer-reviewed journals. In 2013 he was one of 10 scientists in the U.S. to receive a five-year grant from the Burroughs Wellcome Fund to study quorum sensing in bacterial pathogens that cause human infectious diseases.



CLINICAL SCIENCES

Clive Pai

Physical Therapy, Distinguished Researcher

Have a good trip, see you next fall: training adults to prevent injury

Clive Pai makes older adults trip and fall, but it's for their own good.

Strapped safely into a harness, they stride along a special walkway in Pai's Clinical Gait and Movement Analysis Lab. Suddenly, the surface slides from underneath their feet. It's a process that can help people learn how to fall, says Pai, professor of physical therapy.

"We mimic a real-life situation," he says. "In the very first trial, they will fall—and fall badly. But in one, two, three times, they can master the skill and quickly adapt. The amount of memory they have about this learned behavior is astonishing."

With support from a five-year, \$1 million grant from the National Institute on Aging, Pai is developing a computerized treadmill program that could be used in physical therapy offices to help prevent falls and injuries among older adults.

If people learn to fall in a safe environment, Pai says, they will train themselves to improve their protective stepping—movements and resilience that help people recover from instability. "If this approach cannot completely eliminate all falls, it will at the very least make the falls less damaging to the body," he says. "Falls can be devastating. There's something we can do to improve a person's quality of life by reducing the likelihood of a fall and ensuing fractures."

Pai was a faculty member at Northwestern University before joining UIC in 2000. He began his research on stability at Northwestern, examining how people get up from sitting in a chair. That project provided the framework for his current work. "UIC opened another dimension of what I could explore in terms of movement," Pai says. "I've had a lot of fun with my research."

His work has been productive, too. He's received two decades of uninterrupted support from the National Institutes of Health. "I feel very rewarded that during the last 20 years I was able to make a very cohesive story, from the theoretical perspective to the practical application," he says. "I consider myself very fortunate in the scientific world."

Pai tells his graduate and doctoral students in biomechanics and physical therapy to find research topics that intrigue them.

"I hope people can find where their passion is," he says. "The very first time I saw the reproduction of a fall was fascinating to me. That's what's really kept me going—curiosity."



Ana Bedran-Russo

Restorative Dentistry, Rising Star

Eliminating tooth decay — and the dreaded dentist's drill

Ana Bedran-Russo is working toward a world with no tooth decay.

Bedran-Russo, associate professor of restorative dentistry, uses biological principles to enhance the properties of the tooth, working to halt dental decay and create new ways to restore lost tooth structure with materials similar to the tooth itself. More natural material reduces the likelihood that the tooth will need to be repaired again.

Her discoveries, a significant advancement in the field of restorative dentistry, have tremendous implications for overall health. Rather than removing diseased tooth structure and replacing it with materials dissimilar to natural teeth, patients will have treatment options that help them remain free of dental decay.

The chemical compounds she studies—proanthocyanidins—are a class of polyphenols derived from plants, found in seeds, bark and leaves. She is experimenting with grapeseed, cocoa seed, pine bark and cinnamon bark extracts.

Bedran-Russo's work has significant potential to impact patient care, says Luisa DiPietro, professor and director of UIC's Center for Wound Healing and Tissue Regeneration.

"As her research progresses, Dr. Bedran-Russo's findings will affect every single one of us who has ever sat in dread of the dentist's drill," DiPietro says. "Given the rising recognition of the influence of oral health status on overall health, including nutrition, cardiovascular disease, diabetes and many other diseases, Dr. Bedran-Russo's discoveries will provide a significant benefit to general health."

A native of Brazil, Bedran-Russo came to UIC as a post-doctorate student in 2005 and joined the faculty in 2006. She has taught at her alma mater, the University of Campinas' Piracicaba School of Dentistry, and the University of North Carolina at Chapel Hill.

Bedran-Russo has been awarded more than \$5.5 million in grants and published more than 75 manuscripts. She is program director of the College of Dentistry's MOST (Multidisciplinary Oral Science Training) Program and past president of the International Association for Dental Research's Dental Materials Scientific Research Group. She is a board member of the Academy of Dental Materials.

Bedran-Russo says Researcher of the Year is an honor she never expected.

"There are so many great UIC research colleagues in the clinical sciences, and I am truly honored to be selected," she says. "It is amazing recognition of my research, the research done in the College of Dentistry and the impact of oral health research."



2014 Researchers of the year

NATURAL SCIENCES & ENGINEERING

Krishna Reddy

Civil and Materials Engineering, Distinguished Researcher

'A technical solution is not enough; we have to have sustainability'

Krishna Reddy has a three-step approach to the young field of geoenvironmental engineering: hypothesis, lab testing, then taking the solution to the field.

Reddy is partnering with the Chicago Park District to manage storm water and wetland restoration. He's working on landfill remediation with grants from the National Science Foundation.

"The first thing in all my research is that I want to identify real world problems," says Reddy, professor of civil and materials engineering.

He starts with a research hypothesis—the technical solution to the problem at hand. Soil is different from site to site, contaminants are different, the chemistry is different, he says.

"My goal is always to look at the site-specific conditions and tailor the technical solution accordingly. A company might sell you one thing for everything, but that doesn't work in the remediation field. That's why I work in many different technologies. And I believe in integrating the technologies—the situations are so complicated."

Next, he formulates a laboratory research program. "I'm a big believer in working on the lab scale first. You don't want to just go out to the field and spend millions of dollars and figure out that it doesn't work," he says. "For me and my students, the exciting part is taking it into the field and seeing if it works or fails."

Reddy works mostly in the Chicago area. He needs sites that are easily accessible to collect data frequently and quickly. "With studies of storm water, for example, we have to go out as soon as it rains," he says.

He collects data in all kinds of conditions, including extreme weather. There is little data on low temperature conditions, he says. "And a lot of things are temperature dependent."

Reddy clearly enjoys the challenges of his profession—the soil and foundation at each site brings a new problem to solve. "A lot of people in the field when I began were chemists or chemical engineers who were only dealing with water and couldn't understand the soil," he says. "But I have come to see that a technical solution is not enough; we have to have sustainability."

It's also important to acknowledge the economic impact, he says. "Often engineers don't involve the communities, making decisions that the community may not want," Reddy says. "It's important to bring them on board, to educate them."



Robert Klie

Physics, Rising Star

Taking it down to the atomic level with electron microscopy

What do batteries, solar cells and tooth enamel have in common? Robert Klie explores the structure of these materials at the atomic level to find out.

Klie, associate professor of physics, completed his PhD at UIC, then returned as a faculty member in 2007 because "UIC has a long history of outstanding microscopy."

He led the effort to bring a state of the art scanning transmission electron microscope to the campus. "It is one of the highest-resolution instruments in the U.S.," he says. "It's allowed us to look at the atomic structure of materials with relative ease."

In 2013, Klie and his lab developed a groundbreaking technique to determine the atomic structure of materials in their native liquid environment. The technique sandwiches the sample between two single, extremely thin layers of graphene, which protects the material from the high energy of the electron beam.

By understanding exactly what's happening at the atomic level, Klie wants to improve the materials used in batteries, solar cells and catalysts in fuel. He looks at the boundaries between the individual pieces of a material, comparing it to a building made up of individual bricks held together by mortar.

"If the building breaks down, it will probably be between the mortar lines. We try to understand what the boundaries look like, how the boundaries can be improved and then how we can make them more efficient. And we can only do this by looking at the atomic structure."

The graphene liquid cell may help answer fundamental biology questions. Previously, biological samples were frozen, then sliced into thin sections for electron microscopy. Now they can be studied in their natural, living state.

Klie's work has received wide attention in the material sciences field, including 14 publications and 10 invited talks last year. He founded and edits the peer-reviewed *Journal of Undergraduate Research at UIC* "to get students involved in publishing."

SOCIAL SCIENCES

Nik Theodore

Urban Planning, Distinguished Researcher

Making an impact on policy, and in the halls of Congress



Nik Theodore is one of the most influential researchers in the world.

Who says? Thomson-Reuters, for starters. Last year, the multinational media and information firm named Theodore to a list of the world's most highly cited researchers, "the people who are on the cutting edge of their fields. They are performing and publishing work that their peers recognize as vital to the advancement of their science."

Theodore, professor of urban planning and public affairs, was one of only two urban planners and 177 social science researchers worldwide named to the list.

The *New York Times*, *Washington Post* and *Los Angeles Times* frequently report on his national studies of daily social injustices like wage theft, labor standards violations and other abuses of low-wage workers, including those in temporary staffing agencies, the day labor market and domestic work.

His academic publishing has drawn widespread attention over many years. His most frequently cited paper, "Cities and the geographies of 'actually existing neoliberalism,'" has gained increasing attention since its publication in 2002, totaling 1,676 citations to date, according to Google Scholar.

His primary focus in academic publishing is neoliberalism and its restructuring of the domestic and global economies, especially as they affect workforce development, workers' rights, the informal economy and exploitation of vulnerable workers.

Theodore is an expert in policy transfer—the movement of public policies and policy models across jurisdictions. He co-authored *Fast Policy: Experimental Statecraft at the Thresholds of Neoliberalism* (University of Minnesota Press), to be published this spring.

He is a senior fellow of the Great Cities Institute, associate dean for faculty affairs and research in the College of Urban Planning and Public Affairs and faculty affiliate to the Latin American and Latino Studies program.

Outside UIC, Theodore is editor-in-chief of *Antipode: A Journal of Radical Geography* and is an editorial board member of the *International Journal of Urban and Regional Research*. He is prolific as well as persuasive, averaging eight to 10 articles or book chapters a year for the past 15 years, says Michael Pagano, dean of the College of Urban Planning and Public Affairs.

"His impact is felt not only here in the academy, but also in the halls of public policy institutions, including Congress," Pagano says.



Stewart Shankman

Psychology, Rising Star

Problem-solving leads to better lives for those with mood disorders

Using a multi-method approach to explore the relationship between mood and anxiety disorders, Stewart Shankman seeks answers to the nature and course of depression.

"I like that clinical science research is a mixture of problem-solving and exploration, but at the same time is a process that has the ultimate goal of hopefully helping people who are suffering from debilitating mood disorders," says Shankman, associate professor of psychology.

He has produced almost 70 publications and articles in leading journals. His research is funded by the National Institute of Mental Health and National Institute on Alcohol Abuse and Alcoholism.

"With the high prevalence of mood disorders and the negative impact it has on daily living, Stew's multidisciplinary approach to understanding the pathophysiology and treatment of mood disorders can have a tremendous impact on society," says Michael Ragozzino, professor and chair of psychology.

While public awareness of depression and related issues has increased, Shankman cautions against applying a single label to a mood disorder or depression. "There are over 14,000 different combinations of symptoms that a person could have that could lead them to have the one diagnosis of a major depressive disorder," he says. "Given this diversity, it is not surprising that treatments are only moderately effective."

Shankman came to UIC in 2005 after receiving his Ph.D. at Stony Brook University, where he was mentored by prominent clinical psychologist Daniel Klein. "At least once a week, I still ask myself, 'What would do Dan do in this situation?' and almost always, it's the right course of action," he says.

Shankman is head of UIC's nationally accredited clinical psychology training program.

"Working with the next generation of clinical scientists is by far the most rewarding aspect of my job," he says. "I try to foster in the student a sense of creativity and openness to interpretation, and more generally, to think both inside and outside of the box."

Start myResearch

web-based access to administrative data and tools

For the past year, work on the new Systemwide Tools for the Administration of Research and Training, an initiative led by Mitra Dutta, UIC's vice chancellor for research, Peter Schiffer, vice chancellor for research at Urbana-Champaign, Lynn Pardie, vice chancellor for academic affairs and provost at UIS, and Michael Hites, Associate Vice President, AITS, has been on-going.

What is "START myResearch"?

START (Systemwide Tools for Administration of Research and Training) is the grants management software leveraging open source (Kuali Coeus) as well as University of Illinois developed software. myResearch is the Principal Investigator (PI) portal that will integrate and display information from a number of different university systems, giving faculty access to the information they need to prepare, submit, route, and manage their grants.

The project will modernize and streamline the research enterprise at University of Illinois and reduce the administrative burden for faculty and business office staff, ultimately saving the University money and ensuring that we are fulfilling our financial, legal, and ethical obligations.

When the multi-year process is complete, the electronic research administration system will contain all parts of the grant process, including tools to manage submissions, Institutional Review Board process and conflict of interest information. The university will invest about \$8 million over four years for the initiative.

The ultimate aim of the project is to reduce the burden of administering sponsored projects, from application to closeout. A recent national study of the grant application process showed that researchers on average spend more than 40 percent of their time on grant administrative functions. That adds up for a premier research institution such as the U. of I., where annually more than 5,000 proposals for \$700 million in grant funding are submitted.

myResearch Portal

The myResearch portal, the first START tool launched in May 2014, gives researchers 24-hour online access to their grant information.

Principal investigators can log in to the portal to view grant status, financial data and other information.

"The beauty of this is that it allows the principal investigator to see what's happening with their grants in real time, updated

every night to see how many dollars are left, the start date, the end date—all sorts of information," said Luisa DiPietro, associate vice chancellor for research.

Before the online portal, researchers usually received grant data from paper reports completed by their business managers, Dutta said. UIC researchers submitted 3,465 grant proposals requesting a total of \$605 million last year, which produces a lot of paperwork.

"Some researchers have business managers entirely devoted to their project, others don't get reports every month," she said. "Now, I can go in every day at any time—midnight on a Saturday, if I so wish. It makes everything much more transparent."

The paper system also took longer to coordinate grant submissions for multidisciplinary projects, she said.

"All of the signatures, approvals have to be routed around campus via paper. When there are multiple investigators in multiple colleges, you can imagine what a nightmare it is to collect all of the signatures," Dutta said. "This will pull everything together and make the paper system go away."

The system identifies for investigators exactly how many dollars have been spent and on what.

"We can see how much has been spent on salaries, supplies—and for those of us who are not in business, it's carefully designed so it's really easy to understand," DiPietro said.

The online tool will not only save time for researchers but it encourages them to work with colleagues in other fields, said Jennifer Rowan, executive director for research administration and operations.

"One of the goals of researchers is to have multidisciplinary collaborations, so it will make it a lot easier for faculty members on all campuses to work together on proposals," Rowan said.



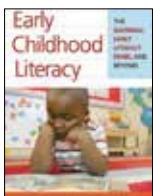
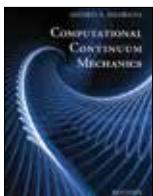
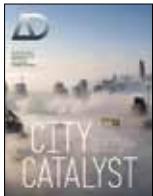
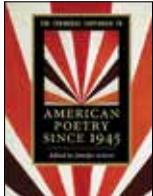
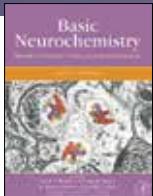
Future Plans

The next module to launch will be the myDisclosures Application, scheduled for release in summer 2015. This application is being developed by AITS and will allow electronic submittals, routing and review for the Annual Report of Non-University Activities (RNUA), Transactional COI Public Health Service (PHS) and the ability to create, review and track Management Plans.

MyDisclosures was designed with the user in mind. A goal of the disclosure application is to streamline the process for disclosures of non-University activities. A second goal of the disclosure application was to create an electronic routing

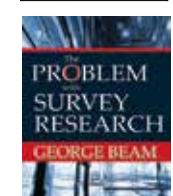
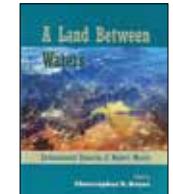
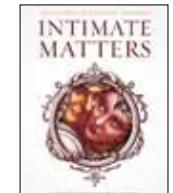
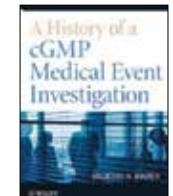
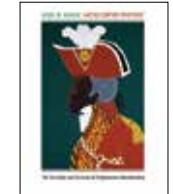
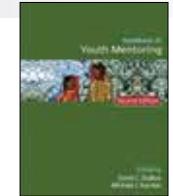
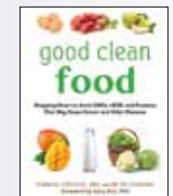
system for review of disclosures. "The routing system will help reduce the administrative burden that colleges and departments have each year. Overall, the benefit of the system is that it creates greater transparency and accountability for the University," said Jacquelyn Jancius, director, conflict of interest.

Progress continues to be made as we move forward with the KC Pre-Award, IRB and IACUC modules. Ultimately this project will ease faculty burden, improve decision-making capabilities, and save the university money and the use of open-source framework means we can learn from peer institutions and avoid problems often associated with large software implementation.

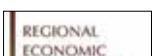
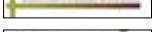
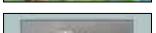
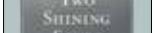


Faculty Books

TITLE	AUTHOR	PUBLISHER/YEAR
AGE-RELATED MACULAR DEGENERATION	JENNIFER I. LIM	CRC PRESS/2013
APPLIED STATISTICS FOR THE SOCIAL AND HEALTH SCIENCES	RACHEL A. GORDON	ROUTLEDGE/2013
APPLYING LINGUISTICS IN THE CLASSROOM: A SOCIOCULTURAL APPROACH	ARIA RAZFAR	ROUTLEDGE/2014
ARCHITECTURE IN TRANSLATION: GERMANY, TURKEY, & THE MODERN HOUSE	ESRA AKCAN	DUKE UNIVERSITY PRESS/2012
ARRESTED JUSTICE: BLACK WOMEN, VIOLENCE, AND AMERICA'S PRISON NATION	BETH RICHIE	NEW YORK UNIVERSITY PRESS/2013
ASSAULT ON PUBLIC EDUCATION: CONFRONTING THE POLITICS OF CORPORATE SCHOOL REFORM	WILLIAM H. WATKINS	TEACHERS COLLEGE PRESS/2011
BAD TEACHER!: HOW BLAMING TEACHERS DISTORTS THE BIGGER PICTURE	KEVIN K. KUMASHIRO	TEACHERS COLLEGE PRESS/2012
BASIC NEUROCHEMISTRY: PRINCIPLES OF MOLECULAR, CELLULAR AND MEDICAL NEUROBIOLOGY	SCOTT T. BRADY	ELSEVIER ACADEMIC PRESS/2012
CAMBRIDGE COMPANION TO AMERICAN POETRY SINCE 1945	JENNIFER ASHTON	CAMBRIDGE UNIV PRESS/2013
CHILD WELFARE PRACTICE WITH IMMIGRANT CHILDREN AND FAMILIES	ALAN J. DETTLAFF	ROUTLEDGE/2012
CHILDREN'S WAYS WITH SCIENCE AND LITERACY: INTEGRATED MULTIMODAL ENACTMENTS IN URBAN ELEMENTARY CLASSROOMS	MARIA VARELAS	ROUTLEDGE/2013
CHOLESTEROL REGULATION OF ION CHANNELS AND RECEPTORS	IRENA LEVITAN	JOHN WILEY/2012
CITIZENS OF NO PLACE: AN ARCHITECTURAL GRAPHIC NOVEL	JIMENEZ LAI	PRINCETON ARCHITECTURAL/2012
CITY CATALYST: ARCHITECTURE IN THE AGE OF EXTREME URBANISATION	ALEXANDER EISENSCHMIDT	JOHN WILEY/2012
CLARKE'S ANALYTICAL FORENSIC TOXICOLOGY	ADAM NEGRSZ	PHARMACEUTICAL PRESS/2013
CLEFT LIP AND PALATE: DIAGNOSIS AND MANAGEMENT	SAMUEL BERKOWITZ	SPRINGER/2013
CLINICAL DECISIONS IN NEPHROLOGY, HYPERTENSION AND KIDNEY TRANSPLANTATION	EDGAR LERMA	SPRINGER/2013
COMMITMENT AND COMPASSION: ESSAYS ON GEORG BUCHNER: FESTSCHRIFT FOR GERHARD P. KNAPP	PATRICK FORTKAN	RODOPI/2012
COMMUNICATION @ THE CENTER	STEVE JONES	HAMPTON EXPRESS /2012
COMPANEROS: LATINO ACTIVISTS IN THE FACE OF AIDS	JESUS RAMIREZ-VALLES	UNIV OF ILLINOIS PRESS/2011
COMPREHENSIVE CARE COORDINATION FOR CHRONICALLY ILL ADULTS	CHERYL SCHRAEDER	WILEY-BLACKWELL/2011
COMPUTATIONAL CONTINUUM MECHANICS	AHMED SHABANA	CAMBRIDGE UNIV PRESS/2012
CONTEMPORARY CRIMINAL LAW: CONCEPTS, CASES, AND CONTROVERSIES	MATTHEW ROSS LIPPMAN	SAGE PUBLICATIONS/2013
COURSE ON STATISTICS FOR FINANCE	STANLEY L. SCLOVE	CHAPMAN & HALL CRC/2013
CRIMINAL PROCEDURE	MATTHEW ROSS LIPPMAN	SAGE PUBLICATIONS/2014
CURRENT ESSENTIALS: NEPHROLOGY & HYPERTENSION	EDGAR V. LERMA	MCGRAW-HILL/2012
DERMATOLOGY: ILLUSTRATED STUDY GUIDE AND COMPREHENSIVE BOARD REVIEW	SIMA JAIN	SPRINGER/2012
DIAGNOSIS AND TREATMENT OF DISSOCIATIVE IDENTITY DISORDER: A CASE STUDY AND CONTEMPORARY PERSPECTIVE	RONALD A. MOLINE	JASON ARONSON/2013
DIAMONDOID MOLECULES: WITH APPLICATIONS IN BIOMEDICINE, MATERIALS SCIENCE, NANOTECHNOLOGY & PETROLEUM SCIENCE	G. ALI MANSOORI	WORLD SCIENTIFIC/2012
DICTIONARY OF AMERICAN IDIOMS	ADAM MAKKAI	BARRON'S/2013
DIGITAL CITIES: THE INTERNET AND THE GEOGRAPHY OF OPPORTUNITY	KAREN MOOSEMBERG	OXFORD UNIVERSITY PRESS/2013
DIHEDRAL FOURIER ANALYSIS: DATA-ANALYTIC ASPECTS AND APPLICATIONS	MARLOS A.G. VIANA	SPRINGER/2013
DISABILITY STUDIES READER	LENNARD J. DAVIS	ROUTLEDGE/2013
DISABILITY THROUGH THE LIFE COURSE	TAMAR HELLER	SAGE PUBLICATIONS/2012
EARLY CHILDHOOD LITERACY: THE NATIONAL EARLY LITERACY PANEL AND BEYOND	TIMOTHY E. SHANAHAN	BROOKES PUBLISHING CO/2013
EDUCATION FOR LIFE AND WORK: DEVELOPING TRANSFERABLE KNOWLEDGE AND SKILLS IN THE 21ST CENTURY	JAMES W. PELLEGRINO	NATIONAL ACADEMIES PRESS/2012



TITLE	AUTHOR	PUBLISHER/YEAR
ELECTROMAGNETIC FIELDS IN BIOLOGICAL SYSTEMS	JAMES C. LIN	CRC PRESS/2012
EQUALITY IN EDUCATION LAW AND POLICY, 1954-2010	BENJAMIN MICHAEL SUPERFINE	CAMBRIDGE UNIV PRESS/2013
ESLANDA: THE LARGE AND UNCONVENTIONAL LIFE OF MRS. PAUL ROBESON	BARBARA RANSBY	YALE UNIVERSITY PRESS/2013
ETHICS, SEXUAL ORIENTATION, AND CHOICES ABOUT CHILDREN	TIMOTHY E. MURPHY	MIT PRESS/2012
FRAGMENTED POLITICS OF URBAN PRESERVATION: BEIJING, CHICAGO, AND PARIS	YUE ZHANG	UNIV OF MINNESOTA PRESS/2013
GETTING BETTER AT PRIVATE PRACTICE	CHRIS E. STOUT	JOHN WILEY/2012
GLAUCOMA	DEEPAK P. EDWARD	OXFORD UNIVERSITY PRESS/2013
GOOD CLEAN FOOD: SHOPPING SMART TO AVOID GMOS, RBGH, AND PRODUCTS THAT MAY CAUSE CANCER AND OTHER DISEASES	SAMUEL S. EPSTEIN	SKYHORSE PUBLISHING/2013
GRAINS OF THE VOICE: POEMS	CHRISTINA PUGH	TRIQUARTERLY BOOKS/2013
HANDBOOK OF YOUTH MENTORING	DAVID L. DUBOIS	SAGE PUBLICATIONS/2013
HATING EMPIRE PROPERLY: THE TWO INDIES AND THE LIMITS OF ENLIGHTENMENT ANTICOLONIALISM	SUNIL M. AGNANI	FORDHAM UNIVERSITY PRESS/2013
HEAD & NECK CANCER: CURRENT PERSPECTIVES, ADVANCES, AND CHALLENGES	JAMES A. RADOSEVICH	SPRINGER/2013
HEALTH PROGRAM PLANNING AND EVALUATION: A PRACTICAL, SYSTEMATIC APPROACH FOR COMMUNITY	MICHELE ISSEL	JONES & BARTLETT LEARNING/2014
HEGEL'S CRITIQUE OF KANT: FROM DICHOTOMY TO IDENTITY	SALLY SEDGWICK	OXFORD UNIVERSITY PRESS/2012
HISTORY OF A CGMP MEDICAL EVENT INVESTIGATION	MICHAEL A. BROWN	JOHN WILEY/2013
HOPF ALGEBRAS	DAVID E. RADFORD	WORLD SCIENTIFIC/2012
HPV AND CANCER	JAMES A. RADOSEVICH	SPRINGER/2012
IDENTITY CONSTRUCTION AND SCIENCE EDUCATION RESEARCH: LEARNING, TEACHING, AND BEING IN MULTIPLE CONTEXTS	MARIA VARELAS	SENSE/2012
IMMIGRANT WOMEN WORKERS IN THE NEOLIBERAL AGE	NILDA FLORES-GONZALEZ	UNIV OF ILLINOIS PRESS/2013
INDEFINITE OBJECTS: SCRAMBLING, CHOICE FUNCTIONS, AND DIFFERENTIAL MARKING	LUIS LOPEZ	MIT PRESS/2012
INFORMATION SYSTEMS SECURITY	VENKAT VENKATAKRISHNAN	SPRINGER/2012
INTIMATE MATTERS: A HISTORY OF SEXUALITY IN AMERICA	JOHN D'EMILIO	UNIV OF CHICAGO PRESS/2012
INTRODUCTORY LECTURES ON KNOT THEORY	LOUIS H. KAUFFMAN	WORLD SCIENTIFIC/2012
KNOTS AND PHYSICS	LOUIS H. KAUFFMAN	WORLD SCIENTIFIC/2013
LABORING POSITIONS: BLACK WOMEN, MOTHERING AND THE ACADEMY	SEKILE NZINGA-JOHNSON	DEMETER PRESS/2013
LAND BETWEEN WATERS: ENVIRONMENTAL HISTORIES OF MODERN MEXICO	CHRISTOPHER R. BOYER	UNIV OF ARIZONA PRESS/2012
MAINFRAME EXPERIMENTALISM: EARLY COMPUTING AND THE FOUNDATIONS OF THE DIGITAL ARTS	HANNAH B. HIGGINS	UNIV OF CALIFORNIA PRESS/2012
MAMMALIAN JAW: A MECHANICAL ANALYSIS	WALTER STALKER GREAVES	CAMBRIDGE UNIV PRESS/2012
MANAGEMENT OF COMPLICATIONS IN ORAL AND MAXILLOFACIAL SURGERY	MICHAEL MILORO	WILEY-BLACKWELL/2012
MANAGING THE FISCAL METROPOLIS: THE FINANCIAL POLICIES, PRACTICES, AND HEALTH OF SUBURBAN MUNICIPALITIES	REBECCA MARTIN HENDRICK	GEORGETOWN UNIV PRESS/2011
MATLAB FOR ELECTRICAL AND COMPUTER ENGINEERING STUDENTS AND PROFESSIONALS, WITH SIMULINK	ROLAND PRIEMER	INST OF ENGIN AND TECH/2013
MECHANISMS OF EXCHANGE: TRANSMISSION IN MEDIEVAL ART AND ARCHITECTURE OF THE...	HEATHER E. GROSSMAN	BRILL/2013
MUSIC IN MEXICO: EXPERIENCING MUSIC EXPRESSING CULTURE	ALEJANDRO L. MADRID-GONZALEZ	OXFORD UNIVERSITY PRESS/2012

TITLE	AUTHOR	PUBLISHER/YEAR
	NANOPARTICLE HEAT TRANSFER AND FLUID FLOW W.J. MINKOWYCZ	CRC PRESS/2013
	NEOLIBERAL DELUGE: HURRICANE KATRINA, LATE CAPITALISM AND THE REMAKING OF NEW ORLEANS CEDRIC JOHNSON	UNIV OF MINNESOTA PRESS/2011
	NEUROBIOLOGICAL BASIS OF SUICIDE YOGESH DWIVEDI	CRC PRESS/2012
	ORIGINS OF MODERN HISTORIOGRAPHY IN INDIA: ANTIQUEARIANISM AND PHILOLOGY, 1780-1880. RAMA SUNDARI MANTENA	PALGRAVE MACMILLAN/2012
	OVERCOMING TRAUMA AND PTSD: A WORKBOOK INTEGRATING SKILLS FROM ACT, DBT, AND CBT SHEELA RAJA	NEW HARBINGER PUB/2012
	OXFORD HANDBOOK OF URBAN PLANNING RACHEL WEBER	OXFORD UNIVERSITY PRESS/2012
	OXFORD HANDBOOK OF URBAN POLITICS KAREN MOSSBERGER	OXFORD UNIVERSITY PRESS/2012
	PEDIATRIC EMERGENCY MEDICINE: JUST THE FACTS GARY R. STRANGE	MCGRAW-HILL/2012
	PERSONALITY DYNAMICS: MEANING CONSTRUCTION, THE SOCIAL WORLD, AND THE EMBODIED MIND DANIEL CERVONE	ELIOT WERNER PUBLICATIONS/2013
	PERSONALITY: THEORY AND RESEARCH DANIEL CERVONE	JOHN WILEY/2013
	PROBLEM WITH SURVEY RESEARCH GEORGE BEAM	TRANSACTION/2012
	PRODUSING THEORY IN A DIGITAL WORLD: THE INTERSECTION OF AUDIENCES AND PRODUCTION IN CONTEMPORARY THEORY REBECCA ANN LIND	PETER LANG/2012
	PROGRESS IN CRYPTOLOGY—INDOCRYPT 2011 DANIEL J. BERNSTEIN	SPRINGER/2011
	PUBLIC HEALTH FOR AN AGING SOCIETY THOMAS R. PROHASKA	JOHNS HOPKINS UNIV PRESS/2012
	PUBLIC HEALTH LEADERSHIP: PUTTING PRINCIPLES INTO PRACTICE LOUIS ROWITZ	JONES & BARTLETT LEARNING/2014
	QUEEN OF AMERICA: A NOVEL LUIS ALBERTO URREA	LITTLE, BROWN/2011
	REASONING: A SOCIAL PICTURE ANTHONY SIMON LADEN	OXFORD UNIVERSITY PRESS/2012
	REGIONAL ECONOMIC INSTITUTIONS AND CONFLICT MITIGATION: DESIGN, IMPLEMENTATION, AND THE PROMISE OF PEACE YORAM Z. HAFTEL	UNIV OF MICHIGAN PRESS/2012
	REINVENTING RACE, REINVENTING RACISM JOHN J. BETANCUR	BRILL/2013
	RESPECT YOURSELF, PROTECT YOURSELF: LATINA GIRLS AND SEXUAL IDENTITY LORENA GARCIA	NEW YORK UNIVERSITY PRESS/2012
	RISK ASSESSMENT AND ORAL DIAGNOSTICS IN CLINICAL DENTISTRY DENA JOI FISCHER	WILEY/2013
	RIVER JORDAN: THE MYTHOLOGY OF A DIVIDING LINE RACHEL S. HAVERLOCK	UNIV OF CHICAGO PRESS/2011
	SENTIMENT ANALYSIS AND OPINION MINING BING LIU	MORGAN & CLAYPOOL/ 2012
	SOCIAL DEVELOPMENT AND SOCIAL WORK: LEARNING FROM AFRICA ALICE K. BUTTERFIELD	ROUTLEDGE/2013
	SOUTHERN POLITICAL TRADITION MICHAEL PERMAN	LOUISIANA STATE UNIV PR/2012
	STEALING SHINING RIVERS: AGRARIAN CONFLICT, MARKET LOGIC, AND CONSERVATION IN A MEXICAN FOREST MOLLY DOANE	UNIVERSITY OF ARIZONA PRE/2012
	SUBGROUP COMPLEXES STEPHEN D. SMITH	AMER MATHEMATICAL SOCIETY /2011
	SUBSTANCE ABUSE IN AMERICA: A DOCUMENTARY AND REFERENCE GUIDE JAMES A. SWARTZ	GREENWOOD/2012
	THERAPEUTIC JURISPRUDENCE AND VICTIM PARTICIPATION IN JUSTICE: INTERNATIONAL PERSPECTIVES EDNA EREZ	CAROLINA ACADEMIC/2011
	TO FIND A NEW BEAUTY ANDREA WITZKE SLOT	GOLD WAKE PRESS/2012
	TRAGEDY, RECOGNITION, AND THE DEATH OF GOD: STUDIES IN HEGEL AND NIETZSCHE ROBERT R. WILLIAMS	OXFORD UNIVERSITY PRESS /2012
	TRANSNATIONAL ENCOUNTERS: MUSIC AND PERFORMANCE AT THE U.S.-MEXICO BORDER ALEJANDRO L. MADRID	OXFORD UNIVERSITY PRESS/2011
	TREATMENT OF TMDS: BRIDGING THE GAP BETWEEN ADVANCES IN RESEARCH AND CLINICAL PATIENT MANAGEMENT CHARLES S. GREENE	QUINTESSENCE PUBLISHING/2013
	TRIGEMINAL NERVE INJURIES MICHAEL MILORO	SPRINGER /2013
	TWO SHINING SOULS: JANE ADDAMS, LEO TOLSTOY, AND THE QUEST FOR GLOBAL PEACE JAMES CRACRAFT	LEXINGTON BOOKS/2012
	VORTEX, MOLECULAR SPIN AND NANOVORTICITY: AN INTRODUCTION PERCIVAL MCCORMACK	SPRINGER/2012
	WHAT IS ENLIGHTENMENT? SAMUEL FLEISCHACKER	ROUTLEDGE/2013
	WONDERLANDS OF THE AVANT-GARDE: TECHNOLOGY AND THE ARTS IN RUSSIA OF THE 1920S JULIA VAINGURT	NORTHWESTERN UNIV PRESS/2013
		



Faculty Awards

National Awards Recipients

National Academies

(*Institute of Medicine, National Academy of Engineering, National Academy of Sciences*)

Institute of Medicine

- Paula Allen-Meares, Chancellor Emerita, Professor, Jane Addams College of Social Work, College of Education, School of Public Health (2004)
- Caswell Evans, Associate Dean for Prevention & Public Health Sciences, College of Dentistry (1992)
- Henri Manasse, Professor and Dean Emeritus, Pharmacy Administration, College of Pharmacy
- Diana Wilkie, Professor and Harriet Werley Endowed Chair for Nursing Research, Biobehavioral Health Science, College of Nursing (2012)

National Academy of Engineering

- Rodica Baranescu, Professor, Mechanical Engineering, College of Engineering (2001)
- Timothy Killeen, President, University of Illinois (2007)

National Academy of Sciences

- George Crabtree, Professor, Physics, College of Liberal Arts and Sciences (2008)

Faculty Awards and Fellowships

Alexander Von Humboldt Fellowships

- Kevin Barnhurst, Professor, Communication, College of Liberal Arts & Sciences 2008 (withdrew)
- David Featherstone, Associate Professor, Biology, College of Liberal Arts & Sciences
- Patrick Fortmann, Assistant Professor, Germanic Studies, College of Liberal Arts & Sciences (2010-2011)
- Jack H. Kaplan, Professor, Biochemistry & Molecular Genetics, College of Medicine (1995)
- Tim Keiderling, Professor, Chemistry, College of Liberal Arts & Sciences (2011)
- Anthony S. Laden, Associate Professor, Philosophy, College of Liberal Arts & Sciences
- Luis Lopez, Professor, Spanish, French, Italian & Portuguese, College of Liberal Arts & Sciences (2009) (2005)
- Dirk Morr, Associate Professor, Physics, College of Liberal Arts & Sciences (2004)
- Charles Rhodes, Professor, Physics, College of Liberal Arts & Sciences (1992)
- Janet Richmond, Professor, Biological Sciences, College of Liberal Arts & Sciences (2010)

- Sally Sedgwick, Professor, Philosophy, College of Liberal Arts & Sciences (1988, 1996, 2004)
- Ahmed Shabana, UIC Distinguished Professor, Mechanical and Industrial Engineering, College Engineering (1995)
- John A. Sweeney, Professor, Psychology, College of Medicine (2010)
- John Vaio, Professor, Classics & Mediterranean, College of Liberal Arts & Sciences (1980-1981)
- David Wise, Associate Professor, Biological Sciences, College of Liberal Arts & Sciences (1985-1986)
- Jennifer Wiley, Associate Professor, Psychology, College of Liberal Arts & Sciences (2008-2009)

American Academy in Rome

- Sean Lalley, Assistant Professor, Architecture, College of Architecture and the Arts (2012)
- Martha Pollak, Professor, Art History, College of Architecture and the Arts (2007)

American Academy of Arts and Sciences

- Anna Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences (1992)

American Council of Learned Societies Fellowships

- James E. Cracraft, Professor Emeritus, History, College of Liberal Arts & Sciences
- Lennard Davis, Professor, English, College of Liberal Arts & Sciences
- Nicholas Huggett, Professor, Philosophy, College of Liberal Arts & Sciences (2010)
- George Huppert, Professor, History, College of Liberal Arts & Sciences
- Peter Hylton, Professor, Philosophy, College of Liberal Arts & Sciences (2005)
- Michael Lieb, Professor Emeritus, English, College of Liberal Arts & Sciences
- Alejandro Madrid, Associate Professor, Latin American and Latino Studies, College of Liberal Arts & Sciences (2011)
- Martha Pollack, Professor, Art History, College of Architecture & the Arts
- Mary Beth Rose, Professor, English, College of Liberal Arts & Sciences
- Sally Sedgwick, Professor, Philosophy, College of Liberal Arts & Sciences (1988)

American Philosophical Society

- Sydney Halpern, Professor, Sociology, College of Liberal Arts & Sciences (1993)
- Daniel Sutherland, Associate Professor, Philosophy, College of Liberal Arts & Sciences (2010)



Folger Library Postdoctoral Fellowships

- Mary Beth Rose, Professor, English, College of Liberal Arts & Sciences

Ford Foundation Fellowships

- Aixa Alfonso, Associate Professor, Biological Sciences, College of Liberal Arts & Sciences (1987-1988)
- Barry Chiswick, Professor, Economics, College of Liberal Arts and Sciences (1964-1965)
- Geula Gibori, Distinguished Professor, Physiology and Biophysics, College of Medicine, 1973-1975
- Anna C. Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences (1968-1969)

Fulbright Awards

- Kevin G. Barnhurst, Professor, Communication, College of Liberal Arts & Sciences (1989), (2006)
- Ellen BeGole, Associate Professor, Orthodontics, College of Dentistry (1998-1999) - Senior Scholars Fulbright Award
- John-Jairo Betancur, Associate Professor, Urban Planning & Policy, College of Urban Planning & Public Affairs (2001-2002)
- Nicholas Mainey Brown, Associate Professor, English (2006-2007)
- Hui-Ching Chang, Associate Professor, Communication, College of Liberal Arts & Sciences (2010)
- Barry Chiswick, Professor, Economics, College of Liberal Arts and Sciences (1992)
- Ralph Cintron, Associate Professor, English, College of Liberal Arts & Sciences (2007-2008)
- Lennard Davis, Professor, English, College of Liberal Arts & Sciences (1994)
- Geri Rachel Donenberg, Professor, Psychiatry, College of Medicine (2006-2007)
- Richard M. Fried, Professor Emeritus, History, College of Liberal Arts & Sciences (2005-2006)
- Kirk Arden Hoppe, Associate Professor, History, College of Liberal Arts & Sciences (2004-2005)
- Geula Gibori, Distinguished Professor, Physiology and Biophysics, College of Medicine, 1973-1975; 2002-2003
- Anna Guevarra, Assistant Professor, Sociology and Asian American Studies, College of Liberal Arts & Sciences (2001-2002)
- Jacob Juntunen, Adjunct Lecturer, Performing Arts, College of Architecture & the Arts (2011)
- Timothy Keiderling, Professor, Chemistry, College of Liberal Arts & Sciences (1984)
- Mi Ja Kim, Professor, College of Nursing (2000-2001)
- Mark F. Liechty, Associate Professor, Anthropology, College of Liberal Arts & Sciences (2007-2008)
- Nathan Lawrence Linsk, Professor, Jane Addams College of Social Work (2005-2006)
- Anatoly S. Libgober, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2001-2002)
- Alejandro Luis Madrid, Assistant Professor, Latin American & Latino Studies, College of Liberal Arts & Sciences (2008-2009)
- Richard L. Magin, Professor, Bioengineering, College of Engineering (2005-2006)
- Carol M. Myford, Associate Professor, Educational Psychology, College of Education (2009-2014)
- Babette J. Neuberger, Clinical Associate Professor, School of Public Health (2003-2004)
- James L. Norr, Assistant Professor Emeritus, Sociology, College of Liberal Arts & Sciences (2008-2009)
- Kathleen F. Norr, Professor, Maternal Child Nursing, College of Nursing (1999-2000)
- Anthony Mendl Orum, Professor, Sociology, College of Liberal Arts & Sciences (2007-2008), (2006-2007)
- Anthony M. Pagano, Associate Professor, Managerial Studies, College of Business Administration (2010)
- Amalia Veronika Pallares, Associate Professor, Political Science, College of Liberal Arts & Sciences (2002-2003)
- Nadine Ruth Peacock, Associate Professor, Community Health Sciences, School of Public Health (2004-2005)
- Michael Perman, Professor, History, College of Liberal Arts & Sciences (2002-2003)
- Kim Potowski, Associate Professor, Hispanic and Italian Studies, College of Liberal Arts & Sciences (2011)
- Anna C. Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences (2001-2002), (2005-2006)
- James F. Searing, Professor, History, College of Liberal Arts & Sciences (2001-2002)
- Laurie Schaffner, Associate Professor, Sociology, College of Liberal Arts & Sciences (2007-2008)
- Miriam C. Schoeman, Program Coordinator, Liberal Arts & Sciences (2004-2005)
- Alan Schwartz, Associate Professor, Medical Education, College of Medicine (2010)
- Ahmed A. Shabana, UIC Distinguished Professor, Mechanical and Industrial Engineering, College of Engineering (2007)
- Daniel Scott Smith, Professor, Emeritus, History, College of Liberal Arts & Sciences (1984)
- Joseph Paul Tabbi, Professor, English, College of Liberal Arts & Sciences (2007-2008)
- Daria Tsoupikova, Associate Professor, School of Art & Design, College of Architecture and the Arts (2010)
- John Vaio, Professor, Classics & Mediterranean Studies, College of Liberal Arts & Sciences (1980)
- Mary Beth Watson-Manheim, Associate Professor, Information and Decision Sciences, College of Business Administration (2009-2010)

Huntington Library Research Fellowships

- Mark Canuel, Professor, English, College of Liberal Arts & Sciences (2003)
- Lisa Freeman, Associate Professor, English, College of Liberal Arts & Sciences (2004)

John Simon Guggenheim Memorial Fellowships

- Rodney Carswell, Professor Emeritus, Art & Design, College of Architecture & the Arts (1989)
- James E. Cracraft, Professor Emeritus, History, College of Liberal Arts & Sciences (1999)
- Lennard Davis, Professor, English, College of Liberal Arts & Sciences (2002)
- John D'Emilio, Professor, Gender & Women's Studies and History, College of Liberal Arts & Sciences (1998)
- Leon Fink, Professor, History, College of Liberal Arts & Sciences (2008)
- Gerald Graff, Professor, English, College of Liberal Arts & Sciences (1983)
- Clark Hulse, Professor, English, College of Liberal Arts & Sciences
- George Huppert, Professor, History, College of Liberal Arts & Sciences
- Joseph Jachna, Professor Emeritus, Art & Design, College of Architecture & the Arts (1981)
- Nicole Jordan, Associate Professor, History, College of Liberal Arts & Sciences (1998-1999)
- Timothy Keiderling, Professor, Chemistry, College of Liberal Arts & Sciences (2003)
- Michael Lieb, Professor Emeritus, English, College of Liberal Arts & Sciences
- Silvia Malagrino, Associate Professor, Art & Design, College of Architecture & the Arts (2010)
- Iñigo Manglano-Ovalle, Professor, Art & Design, College of Architecture & the Arts (2009)
- Jennifer Montgomery, Assistant Professor, Art & Design, College of Architecture & the Arts (1996)
- Michael Perman, Professor, History, College of Liberal Arts & Sciences (1979)
- Ben Russell, Visiting Assistant Professor, Art & Design, College of Architecture & the Arts (2008)
- Anthony Tasset, Professor, Art & Design, College of Architecture & the Arts (2006)
- R. Stephen Warner, Professor Emeritus, Sociology, College of Liberal Arts & Sciences
- Anne Winters, Professor, English, College of Liberal Arts & Sciences (2006)
- Stephen Shing-Toung Yau, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1980)
- Jason Yuan, Professor, Department of Medicine, College of Medicine (2008)

MacArthur Awards

- Inigo Manglano-Ovalle, Professor, Studio Arts, School of Art & Design, College of Architecture & the Arts
- Anna Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences (2000)

National Academy of Education

- Jim Pellegrino, Professor, Psychology, College of Liberal Arts & Sciences and Curriculum & Instruction, College of Education (2009)
- Susan Goldman, Professor, Psychology, College of Liberal Arts & Sciences and Curriculum & Instruction, College of Education (2011)

National Endowment for the Humanities Fellowships

- Michael C. Alexander, Professor Emeritus, History, College of Liberal Arts & Sciences (1982)
- Brian Bauer, Professor, Anthropology, College of Liberal Arts & Sciences (2000), (2007)
- Christopher R. Boyer, Associate Professor, History and Latin American & Latino Studies, College of Liberal Arts & Sciences (2005)
- Burton J. Bledstein, Associate Professor, History, College of Liberal Arts & Sciences (1987)
- LaVonne Brown Ruoff, Professor Emerita, English, College of Liberal Arts & Sciences (1991-1992)
- Robert Bruegmann, Professor, Art History, College of Architecture & the Arts (1982)
- James E. Cracraft, Professor Emeritus, History, College of Liberal Arts & Sciences (1987)
- James H. Dee, Associate Professor Emeritus, Classics and Mediterranean Studies, College of Liberal Arts & Sciences (1988)
- John D'Emilio, Professor, Gender & Women's Studies and History, College of Liberal Arts & Sciences
- George T. Dickie, Professor Emeritus, Philosophy, College of Liberal Arts & Sciences (1988)
- Anne Eaton, Assistant Professor, Philosophy, College of Liberal Arts & Sciences
- Stephen Engelmann, Associate Professor, Political Science, College of Liberal Arts & Sciences (2008)
- Susan Tax Freeman, Professor Emerita, Anthropology, College of Liberal Arts & Sciences (1988)
- Judith K. Gardiner, Professor, English & Gender and Women's Studies, College of Liberal Arts & Sciences (1986)
- Peter B. Hales, Professor, Art History, College of Architecture & the Arts (1986)
- Sydney Halpern, Professor, Sociology, College of Liberal Arts & Sciences (2005), (1994-1995)
- Clark Hulse, Professor, English, College of Liberal Arts & Sciences
- George Huppert, Professor, History, College of Liberal Arts & Sciences
- Peter Hylton, Professor, Philosophy, College of Liberal Arts & Sciences
- David P. Jordan, Professor, History, College of Liberal Arts & Sciences (1991-1992)
- Nicole Jordan, Associate Professor, History, College of Liberal Arts & Sciences (1997-1998)
- Kyoko Inoue, Professor Emerita, English, College of Liberal Arts & Sciences (1986)
- Alex S. Kurczaba, Associate Professor, Slavic and Baltic Language and Literatures, College of Liberal Arts & Sciences (1982)
- Anthony S. Laden, Associate Professor, Philosophy, College of Liberal Arts & Sciences
- Michael Lieb, Professor Emeritus, English, College of Liberal Arts & Sciences (1990)
- Ned Lukacher, Professor, English, College of Liberal Arts & Sciences (1985)

- Klaus Muller-Bergh, Professor Emeritus, Spanish, French, Italian & Portuguese, College of Liberal Arts & Sciences (1997-1998)
- Olga B. Nedeljkovic, Professor Emerita, Slavic and Baltic Language and Literatures, College of Liberal Arts & Sciences (1984)
- John T. Ramsey, Professor, Classics & Mediterranean, College of Liberal Arts & Sciences (1993-1994), (2007-2008)
- John S. Rohsenow, Professor Emeritus, English, College of Liberal Arts & Sciences (1987)
- Anna C. Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences (1981), (1989)
- Mary Beth Rose, Professor, English, College of Liberal Arts & Sciences
- Natalie C. Schmitt, Professor Emerita, Performing Arts, College of Architecture & the Arts (1983)
- Sally Sedgwick, Professor, Philosophy, College of Liberal Arts & Sciences
- R. Stephen Warner, Professor Emeritus, Sociology, College of Liberal Arts & Sciences (1990)

Newberry Library Fellowships

- Lisa Freeman, Associate Professor, English, College of Liberal Arts & Sciences (2010)
- Daniel Scott Smith, Professor, Emeritus, History, College of Liberal Arts & Sciences (1983-1984)

Nobel Prize

- Jean Bogner, Research Professor, Earth and Environmental Sciences, College of Liberal Arts and Sciences (2007, shared with Al Gore and a team of researchers working global warming)

Residency at the Institute for Advanced Study

- Alina Cojocaru, Associate Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2009-2010)
- Marc Culler, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1986-1987)
- Lawrence Ein, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1981-1982)
- Shmuel Friedland, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1974-1975)
- Susan Friedlander, Professor Emerita, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences
- Henri Gillet, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1987-1988)
- James Heitsch, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1981-1982)
- Steven Hurder, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1980-1981)
- Rasma Karklins, Professor Emerita, Political Science, College of Liberal Arts & Sciences (2002-2003)
- Anatoly Libgober, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1977-1978, 1986-1987)
- Alina Marian, Assistant Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2007-2008)
- Howard Masur, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1981-1982)
- Irina Nenciu, Assistant Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2005-2007)
- David Reisman, Associate Professor, Classics and Mediterranean Studies, College of Liberal Arts & Sciences

- Bhama Srinivasan, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1976-1977)
- David Tartakoff, Professor Emeritus, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1975-1977)
- Philip Wagreich, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1968-1970)
- R. Stephen Warner, Professor Emeritus, Sociology, College of Liberal Arts & Sciences
- John Wood, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1969-1970)
- Steven Yau, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (1976-1977, 1981-1982)

Residency at the Woodrow Wilson Center for Scholars

- Rasma Karklins, Professor Emerita, Political Science, College of Liberal Arts & Sciences (1992)

Rockefeller Fellowships

- Ralph Cintron, Associate Professor, English, College of Liberal Arts & Sciences
- Peter Hylton, Professor, Philosophy, College of Liberal Arts & Sciences

Sloan Fellowships

- Daniel Bernstein, Professor, Computer Science, College of Engineering
- Izzet Coskun, Assistant Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2009)
- Marc Culler, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1986)
- Laura DeMarco, Associate Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2008)
- Lawrence Ein, LAS Distinguished Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1987)
- Henri Gillet, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1986)
- Steven Hurder, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1985)
- Charles Knossi, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1990)
- Daesung Lee, Associate Professor, Chemistry, College of Liberal Arts & Sciences, (2004-2006)
- Alina Marian, Assistant Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2009)
- Howard A. Masur, Professor Emeritus, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1982)
- Dhruv Mubayi, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2005)
- Mihnea Popa, Associate Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (2007)
- Peter B. Shalen, LAS Distinguished Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1977)
- Brooke Shipley, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2002)
- Mikhail Stephanov, Associate Professor, Physics, College of Liberal Arts & Sciences (2002)
- Kevin Whyte, Professor, Mathematics, Statistics & Computer Science, College of Liberal Arts & Sciences (2004)
- Stephen Shing-Toung Yau, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (2005)

Other Honorific and Discipline-Specific Societies, Fellowships and Awards

Academy of Behavioral Medicine Research

- Phillip Marucha, Associate Dean for Research, College of Dentistry

American Academy of Nursing

- Cynthia Barnes-Boyd, Clinical Associate Professor, Community Health Sciences, School of Public Health
- Sandra F. Burgener, Associate Professor, Biobehavioral Health Science, College of Nursing, Urbana
- Kathryn Christiansen, College of Nursing
- Barbara Dancy, Professor, Health Systems Science, College of Nursing
- Carol Ferrans, Professor, Biobehavioral Health Science, College of Nursing
- Agatha Gallo, Professor, Women, Child, & Family Health Science, College of Nursing
- Pamela D. Hill, Professor, College of Nursing, Quad Cities
- Tonda L. Hughes, Professor, Health Systems Science, College of Nursing
- Karen Kavanagh, Professor, Women, Child, & Family Health Science, College of Nursing
- Mi Ja Kim, Professor, Biobehavioral Health Science, College of Nursing
- Mariann R. Piano, Professor, Biobehavioral Health Science, College of Nursing
- Lauretta Quinn, Clinical Associate Professor, Biobehavioral Health Science, College of Nursing
- Dorie W. Schwertz, Associate Professor Emerita, Biobehavioral Health Science, College of Nursing
- Eva D. Smith, Associate Professor, Biobehavioral Health Science, College of Nursing
- Judith I. Storfjell, Professor, Health Systems Science, College of Nursing
- Rosemary White-Traut, Professor, Women, Child, & Family Health Science, College of Nursing
- Diana J. Wilkie, Professor, Biobehavioral Health Science, College of Nursing
- Julie A. Zerwic, Associate Professor, Biobehavioral Health Science, College of Nursing

American Association for the Advancement of Science

- Suresh Aggarwal, Professor, Mechanical and Industrial Engineering, College of Engineering
- Michael Amiridis, Chancellor
- William T. Beck, Professor, Biopharmaceutical Sciences, College of Pharmacy
- Jerry Bona, Professor, Math Statistics and Computer Science, College of Liberal Arts & Sciences
- Carol Sue Carter Porges, Professor, Psychiatry, College of Medicine
- James Cook, Section Chief, Medicine Infectious Diseases, Department of Medicine
- Mitra Dutta, Professor & Head, Electrical and Computer Engineering, College of Engineering
- Geula Gibori, Distinguished Professor, Physiology and Biophysics, College of Medicine
- Robert J. Gordon, Professor, Chemistry, College of Liberal Arts & Sciences
- Gyungho Lee, Professor, Electrical and Computer Engineering, College of Engineering

- Martin Newcomb, Professor, Chemistry, College of Liberal Arts & Sciences
- Jack H. Prost, Associate Professor, Anthropology, College of Liberal Arts & Sciences
- Mark M. Rasenick, Distinguished Professor, Physiology and Biophysics, College of Medicine
- Anna C. Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences
- Michael A. Stroscio, Professor, Electrical and Computer Engineering and Bioengineering, College of Engineering
- Michael Trenary, Professor, Chemistry, College of Liberal Arts & Sciences
- Jeffrey Tsai, Professor Emeritus, Computer Science, College of Engineering
- Ouri Wolfson, Professor, Computer Science, College of Engineering
- Jason Yuan, Professor, Department of Medicine, College of Medicine

Emeritus faculty or adjunct/visiting faculty AAAS members

- Gary Albrecht, Professor Emeritus, Disability & Human Development, School of Public Health
- David Bardack, Professor Emeritus, Biological Sciences, College of Liberal Arts & Sciences
- Wolfgang-Martin Boerner, Professor Emeritus, Electrical & Computer Engineering, College of Engineering
- Susan Crawford, Adjunct Professor of Library & Information Services, Psychiatry, College of Medicine
- Milton Engel, Professor, Emeritus, Histology, College of Medicine
- Edward R. Hermann, Professor Emeritus, Environmental and Occupational Health Sciences, School of Public Health
- Cynthia J. Jameson, Professor Emerita of Chemistry, College of Liberal Arts & Sciences
- Milton Kramer, Visiting Clinical Professor, Psychiatry, College of Medicine
- Arthur Lavelle, Professor Emeritus, Anatomy & Cell Biology, College of Medicine
- Michael D. Maltz, Professor Emeritus, Criminal Justice, College of Liberal Arts & Sciences
- Irving F. Miller, Professor Emeritus, Chemical Engineering, College of Engineering
- Robert Scapino, Professor Emeritus, Oral Biology, College of Dentistry
- Eliot B. Spiess, Professor Emeritus, Biological Sciences, College of Liberal Arts & Sciences
- Edward Titchener, Professor Emeritus, Biochemistry & Molecular Genetics, College of Medicine
- Robert I. Walter, Professor Emeritus, Chemistry, College of Liberal Arts & Sciences

American Chemical Society

- Judy Bolton, Professor, Medicinal Chemistry and Pharmacognosy, College of Pharmacy
- Michael Trenary, Professor, Chemistry, College of Liberal Arts & Sciences

American College of Oral and Maxillofacial Surgeons

- Antonia Kolokythas, Assistant Professor, Oral and Maxillofacial Surgery, College of Dentistry
- Michael Miloro, Professor, Oral and Maxillofacial Surgery, College of Dentistry

American Colleges of Dentists

- Harry Channon, Clinical Assistant Professor, Pediatric Dentistry, College of Dentistry
- David Clark, Clinical Associate Professor, Restorative Dentistry, College of Dentistry
- Caswell Evans, Associate Dean for Prevention & Public Health Sciences, College of Dentistry
- Shahrbanoo Fadavi, Professor, Pediatric Dentistry, College of Dentistry
- Mohamed Fayad, Clinical Assistant Professor, Endodontics, College of Dentistry
- Sara Gordon, Associate Professor, Oral Medicine and Diagnostic Sciences, College of Dentistry
- Bruce Graham, Dean, College of Dentistry
- William Hohlt, Clinical Professor, Orthodontics, College of Dentistry
- William Knight, Executive Associate Dean for Academic Affairs, College of Dentistry
- David Kumamoto, Clinical Associate Professor Emeritus, Restorative Dentistry, College of Dentistry
- Indru Punwani, Professor, Pediatric Dentistry
- Ronald Testa, Clinical Assistant Professor, Pediatric Dentistry

American Dermatological Association

- Lawrence S. Chan, Professor, Dermatology, College of Medicine (2010)

American Educational Research Association Distinguished Career Award

- Arthur Elstein, Professor, Medical Education, College of Medicine (1992)
- Georges Bordage, Professor, Medical Education, College of Medicine (2002)
- Ilene Harris, Professor, Medical Education, College of Medicine (2010)

American Educational Research Association Fellow

- Georges Bordage, Professor, Medical Education, College of Medicine (2009)

American Mathematical Society

(previously American Mathematical Association)

- Lawrence Ein, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1981-1982)
- David Marker, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1994-1996)

American Physical Society

- Arnold Bodmer, Professor Emeritus, Physics, College of Liberal Arts & Sciences (1972)
- Juan-Carlos Campuzano, Professor, Physics, College of Liberal Arts & Sciences (2001)
- George Crabtree, Professor, Physics, College of Liberal Arts & Sciences (1983)
- Cecilia Elena Gerber, Professor, Physics, College of Liberal Arts & Sciences (2010)
- Robert Gordon, Professor, Chemistry, College of Liberal Arts & Sciences (1996)
- Lawrence A. Kennedy, Dean Emeritus, College of Engineering
- John Marko, Adjunct Professor, Physics, College of Liberal Arts & Sciences (2006)
- Serdar Ogut, Professor, Physics, College of Liberal Arts & Sciences (2011)
- Antonio Pagnamenta, Professor Emeritus, Physics, College of Liberal Arts & Sciences (1973)

- Charles Rhodes, Professor, Physics, College of Liberal Arts & Sciences (1979)
- Sivalingam Sivananthan, Professor, Physics, College of Liberal Arts & Sciences (2010)
- Michael A. Stroscio, Professor, Electrical and Computer Engineering and Bioengineering (College of Engineering)

American Statistical Association

- Samad Hedayat, UIC Distinguished Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences (1973)
- Donald Hedeker, Professor, Epidemiology & Biostatistics, School of Public Health (2000)
- Domenic J. Reda, Research Assistant Professor, Epidemiology and Biostatistics, School of Public Health, (2009)

Association of American Medical Colleges, Abraham Flexner Award

- Georges Bordage, Professor, Medical Education, College of Medicine (2006)

Association for Computing Machinery

- Prith Banerjee, Distinguished Professor, Electrical & Computer Engineering, College of Engineering (2000)
- Thomas A. DeFanti, Professor Emeritus, Computer Science, College of Engineering (1994)
- Uri Wolfson, Professor, Computer Science, College of Engineering (2001)
- Philip Yu, Professor, Computer Science, College of Engineering (1997)

Biophysical Society

- Jack H. Kaplan, Professor, Biochemistry & Molecular Genetics, College of Medicine (1999)

Center for Hellenic Studies Fellowship

- Constance Meinwald, Associate Professor, Philosophy, College of Liberal Arts & Sciences

Houblon-Norman/George Fellow at the Bank of England

- Robert Chirinko, Professor, Finance, College of Business Administration

Honorary Degrees

- Jerry Bona, Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences
 - Universidad Nacional de Trujillo, Peru (2000)
 - Université Bordeaux, France (2006)
- Barry Chiswick, Professor, Economics, College of Liberal Arts and Sciences
 - Lund University, Lund Sweden (2009)
- James Fischer, Professor, Pharmacy Practice, College of Pharmacy
 - Meiji Pharmaceutical University, Tokyo, Japan
- Samad Hedayat, UIC Distinguished Professor, Mathematics, Statistics and Computer Science, College of Liberal Arts & Sciences
 - Universite de Neuchatel, Switzerland, 2002
- Anna C. Roosevelt, Professor, Anthropology, College of Liberal Arts & Sciences
 - Northeastern University, Boston, Massachusetts
 - Mt. Holyoke College, South Hadley, Massachusetts
- Ahmed A. Shabana, UIC Distinguished Professor, Mechanical and Industrial Engineering, College of Engineering
 - Lappeenranta University of Technology, Finland, 2004
- Ara Tekian, Associate Professor, Medical Education, College of Medicine
 - Tashmi II Medical Institute, Tashkent, Uzbekistan (1996)

Institute of Electrical and Electronics Engineers (IEEE)

- Gyan C. Agarwal, Professor Emeritus, Electrical & Computer Engineering, College of Engineering (1986)
- Rashid Ansari, Professor, Electrical & Computer Engineering, College of Engineering (1999)
- Prith Banerjee, Distinguished Professor, Electrical & Computer Engineering, College of Engineering (1995)
- Wolfgang-Martin Boerner, Professor Emeritus, Electrical & Computer Engineering, College of Engineering (1983)
- Wai-Kai Chen, Professor Emeritus, Computer Science, College of Engineering (1977)
- Mitra Dutta, Distinguished Professor, Electrical & Computer Engineering, College of Engineering (1998)
- Daniel Grupe, Professor Emeritus, Electrical & Computer Engineering, College of Engineering (1985)
- Ashfaq Khokhar, Professor, Electrical & Computer Engineering, College of Engineering (2009)
- James C. Lin, Professor, Electrical & Computer Engineering, College of Engineering (1986)
- Derong Liu, Professor, Electrical & Computer Engineering, College of Engineering (2004)
- Richard L. Magin, Professor, Bioengineering, College of Engineering (1998)
- Tadao Murata, Professor Emeritus, Computer Science, College of Engineering (1985)
- Dan Schonfeld, Professor, Electrical & Computer Engineering, College of Engineering (2010)
- Michael A. Stroscio, Professor, Electrical and Computer Engineering and Bioengineering, College of Engineering (1992)
- R. Michael Tanner, Professor Emeritus, Electrical & Computer Engineering, College of Engineering (2000)
- Jeffrey Tsai, Professor Emeritus, Computer Science, College of Engineering (1996)
- Piergiorgio L.E. Uslenghi, Professor, Electrical & Computer Engineering, College of Engineering (1990)
- Ouri Wolfson, Professor, Computer Science, College of Engineering (2012)
- Hung-Yu David Yang, Professor, Computer Science, College of Engineering (2000)
- Philip Yu, Professor, Computer Science, College of Engineering (1993)

Lucille Medwick Award in Poetry

- Christina Pugh, Associate Professor, English, College of Liberal Arts & Sciences (2008)

Mellon Foundation Fellowship

- Lennard Davis, Professor, English, College of Liberal Arts & Sciences (1979)
- Robin Grey, Associate Professor, English, College of Liberal Arts & Sciences (1998-1999)
- Sydney Halpern, Professor, Sociology, College of Liberal Arts & Sciences (1991-1992)
- Ellen McClure, Associate Professor, French and Francophone Studies, College of Liberal Arts & Sciences (2000-2001)
- Martha Pollak, Professor, Art History, College of Architecture and the Arts (2004-2005)

National Academy of Kinesiology

(previously American Academy of Kinesiology)

- Daniel Montie Corcos, Professor, Kinesiology and Nutrition, College of Applied Health Sciences (2001)
- James H. Rimmer, Professor, Disability & Human Development, College of Applied Health Sciences (2008)
- Charlotte Tate, Professor and Dean, College of Applied Health Sciences (1998)

National Academies of Practice

- Jerry Bauman, Professor and Dean, Pharmacy Practice, College of Pharmacy
- Janet P. Engle, Professor, Pharmacy Practice, College of Pharmacy
- Linda Kaste, Academy of Dentistry, Associate Professor, Pediatric Dentistry, College of Dentistry

National Academy of Public Administration

- Michael Pagano, Dean, College of Urban Planning & Professor of Public Administration; Election Year: 2006

National Endowment for the Humanities Grant, Program in Humanities, Science and Technology

- Peter Hales, Professor, Art History, College of Architecture and the Arts (2000)
- Sydney Halpern, Professor, Sociology, College of Liberal Arts & Sciences (1995-1998)

National Endowment for the Humanities University Fellowship

- Sydney Halpern, Professor, Sociology, College of Liberal Arts & Sciences, (1994-1995), (2006-2007)

Princeton Society of Fellows

- Sunil Agnani, Assistant Professor, English & History, College of Liberal Arts & Sciences (2003-2005)

Royal Society

- Jack H. Kaplan, Professor, Biochemistry & Molecular Genetics, College of Medicine (1995)

University Center for Human Values, Princeton University

- Anne Eaton, Assistant Professor, Philosophy, College of Liberal Arts & Sciences
- Samuel Fleischacker, Professor, Philosophy, College of Liberal Arts & Sciences

William Andrews Clark Memorial Library Fellowship

- Sunil Agnani, Assistant Professor, English & History, College of Liberal Arts & Sciences (2007)





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