

THE
UNIVERSITY OF
ILLINOIS
AT
CHICAGO



THE OFFICE OF
TECHNOLOGY
MANAGEMENT

FISCAL 2014

ANNUAL REPORT



The Office of Technology Management

FISCAL 2014 ANNUAL REPORT

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Lawrence Schook, Vice President for Research



The Office of the Vice President for Research (OVPR) advances the economic development mission of the University of Illinois by elevating ideas and innovations into sustainable technologies and businesses. Our innovation pipeline provides a process and platform for technology

transfer, company formation, and, inevitably we hope, start-up and licensee success.

The Offices of Technology Management (OTMs) are responsible for protecting and managing the University's ideas and intellectual property. Through the leadership of

Nancy Sullivan and Jeremy Hollis in Chicago and Lesley Millar-Nicholson in Urbana, the OTMs continue to find innovative ways to help students and faculty advance their research discoveries, resulting in new technologies and start-up companies.

Demonstrating this, here are some highlights from Fiscal 2014:

- Proof-of-Concept Award Programs – The Chicago and Urbana campuses administered successful proof-of-concept award programs that are designed to help faculty increase their chances of commercialization and start-up success. More than \$800,000 was awarded to help researchers across both campuses advance selected technologies. In addition to funding, award recipients receive commercialization support and access to other start-up resources.

- Innovate@UIC – OTM-Chicago, IllinoisVENTURES, and EnterpriseWorks Chicago launched Innovate@UIC, a new initiative that supports innovation and technology commercialization on the UIC campus. By integrating these units and functions, the University can better serve the needs of UIC innovators.
- Share the Vision Technology Showcase – OTM-Urbana hosted its second technology showcase, a two-day event that highlights the extraordinary research, technology, and start-ups arising on the Urbana campus. This event helped facilitate new connections for more than 200 participants including University inventors and visiting entrepreneurs, corporate partners, and venture capitalists.
- U.S. Utility Patent Ranking – The University of Illinois was ranked #11 on the “Top 100 Worldwide Universities Granted U.S. Utility Patents” list. This ranking, compiled by the Intellectual Property Owner’s Association and the National Academy of Inventors, recognizes the global impact of U of I research and innovations.

More than ever, University research is acknowledged as critical to the U.S. economic ecosystem. It is a great privilege to work so closely with our brilliant researchers and talented OTM staff members as they engage to enhance research and innovation through the transfer of intellectual property, thus driving economic growth for the state of Illinois and beyond.

Fiscal 2014

Disclosures	169
U.S. Patent Applications Filed	162
U.S. Patents Issued	34
Licenses & Options	52
Start-Ups	5
Revenue Earned	\$25.44M

**For more information visit
research.uillinois.edu**

FIVE-YEAR HISTORY: FISCAL 2010 - FISCAL 2014

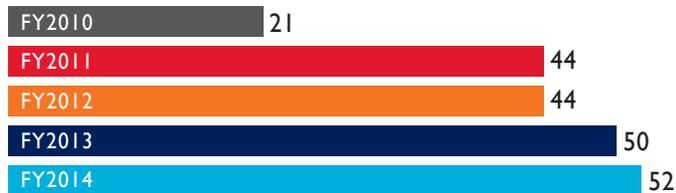
Invention Disclosures



U.S. Patents Filed



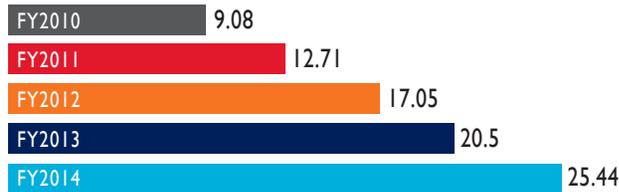
Licenses & Options



U.S. Patents Issued



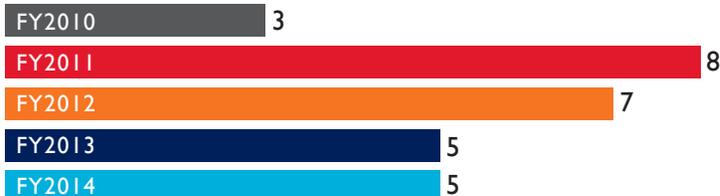
Revenue (\$ MILLIONS)



Patent Costs (\$ MILLIONS)



NUMBER OF START-UPS



**Read more about our new
start-ups on page 7**



Dear Colleagues,

I am proud to share with you this Fiscal 2014 Annual Report that includes highlights of this past year related to commercialization of technologies from UIC. This past year has been an exciting one as we continue to grow the programs and resources necessary for transforming the outstanding research at UIC into new products and services that can make a difference in the world.

Fiscal year 2014 was another outstanding year for the office, driven again by continued growth for Prezista, an HIV therapeutic based

on a compound discovered at UIC. We also once again ended the year with the most licenses and options of UIC technology in the history of the office. I want to thank our outstanding team here at OTM for making this possible.

In 2014, we continued to focus on better serving the UIC campus across the continuum of commercialization by partnering with IllinoisVENTURES and Enterpriseworks Chicago to launch a new initiative, Innovate@UIC. This initiative provides a vision of better aligning the services we offer to faculty and students at UIC from the earliest stages of a new idea through to launching new spin out companies from UIC technologies. Innovate@UIC helps foster, protect, accelerate, and fund these early stage innovations. Together with Kapila Vigés, Director of Enterpriseworks Chicago, and Nancy Sullivan, CEO of IllinoisVENTURES, we launched this new initiative in conjunction with our annual Inventor & Innovator of the Year Award ceremony. You can learn more about this new initiative in later pages of the annual report and by visiting innovate.uic.edu.

Lastly, I want to thank the outstanding faculty, students, and staff at UIC who make all of these successes possible. Without their creativity and innovation our work wouldn't be possible. We are excited to continue to partner with all of you to accelerate innovation and commercialization at UIC.

Jeremy Hollis

Interim Director, UIC Office of Technology Management

FISCAL YEAR 2014 SUMMARY

College/Department/Unit	Disclosures	U.S. Patent Applications Filed	U.S. Patents Issued	Licenses & Options
Campus Total	169	162	33	52
College of Applied Health Sciences	4	3	-	-
College of Architecture & The Arts	7	1	-	1
College of Dentistry	7	8	1	1
College of Engineering	41	37	4	12
College of Liberal Arts & Science	16	14	-	1
College of Medicine	76	73	18	29
College of Medicine - Peoria	1	1	-	-
College of Nursing	2	2	1	-
College of Pharmacy	28	31	6	11
School of Public Health	2	-	-	1
Center for Advanced Design, Research & Exploration (CADRE)	1	-	-	-
Innovation Center	12	6	3	-
Research Resource Center (RRC)	1	-	1	1

Note: Due to the large amount of interdisciplinary research on campus, inventions are often associated with more than one college, department, or unit. As a result, the numbers reported in the table above may be counted multiple times, once for each associated college of unit. For the same reason, the totals for each college may be smaller than the sum of their departments.

START-UPS IN FISCAL YEAR 2014

EnteroTrack, LLC

EnteroTrack LLC is developing a capsule that allows for simple, low-cost analysis of esophageal content. The capsule can help identify the presence of esophageal inflammation, leading to faster treatment. The capsule can also be used to monitor the effectiveness of treatment, and in the future may be used to help diagnose esophageal diseases. The diagnosis of inflammatory conditions of the gastrointestinal tract such as eosinophilic esophagitis (EoE), severe gastroesophageal reflux (GERD), eosinophilic gastroenteritis (EGE), food allergic enteropathy (FAE), and inflammatory bowel disease (IBD) is often difficult because blood tests and radio-imaging aren't able to pinpoint the cause of inflammation. Currently many patients must undergo invasive endoscopic use of an instrument to visualize the esophagus and collect samples for testing, which may not be necessary with the use of EnteroTrack's novel capsule.

NETenergy

NETenergy is a thermal energy storage company, based in Chicago. NETenergy has created a thermal battery, which stores thermal energy instead of electrical energy. Thermal energy storage addresses the problem with on-peak energy consumption. On-peak energy prices are typically 2 – 6 times higher than off-peak energy prices and NETenergy allows customers to save 50% or more on their cooling costs by shifting consumption from on-peak to off-peak hours. Additionally, NETenergy's technology can save utilities from spending billions of dollars per year building and maintaining "peaker" power plants that are only used a few times per year.

<http://www.netenergytes.com/>

Remote Vital Monitoring

Remote Vital Monitoring is developing a non-invasive, automated and alarmed device that monitors both intracranial pressure (ICP) and the compression effects upon the brainstem that lead to stupor and coma. This is to be used on patients suffering from traumatic brain injury (TBI), stroke, and more. Existing standards of care for these patients, including invasive intracranial pressure (ICP) monitoring are insufficient.

Vadiza

Vadiza is a software and solutions company focused on building an enterprise class version of the SAGE™ environment developed at the Electronic Visualization Lab at the University of Chicago. The SAGE™ software enables teams of users to manage their data in a room covered with displays, as if the room were one seamless canvas. SAGE™ lets users post and manipulate information, visualizations and animations. The goal of SAGE™ is to make it possible for people to look at large amounts of information and come to conclusions with greater speed, accuracy, comprehensiveness and confidence.

Vista Oncology

Vista Oncology LLC is a preclinical company focused on developing therapeutics to address the unmet needs of breast cancer patients. The therapeutics leverage a micelle drug delivery platform invented by founder Dr. Hayat Onyuksel, PhD and Dr. Israel Rubinstein, MD, at the University of Illinois at Chicago. The micelle formulation developed at the College of Pharmacy uses components that are already utilized in FDA approved human therapeutics, but re-engineered into a novel nanoparticle. Arek Dudek, MD serves as Medical Advisor and is a professor of Medicine and the Medical Director of Clinical Trials for the University of Illinois Cancer Center. Dr. Hugh McTavish serves as Chief Scientist and operates a biochemistry laboratory in Minneapolis.

**To engage with the UIC entrepreneurial
community visit innovate.uic.edu**

What is Innovate@UIC?

Innovate@UIC is a new initiative that supports innovation and technology commercialization on the UIC campus. This initiative coordinates activities that provide education and support for UIC faculty and students looking to license a product, build a new venture, or fund a startup. Founded by the UIC Office of Technology Management, IllinoisVENTURES LLC and EnterpriseWorks Chicago, Innovate@UIC aims to accelerate and commercialize early stage innovation by FOSTERING, PROTECTING, ACCELERATING, and FUNDING new ideas. This system allows a new idea or technology to grow at a substantially higher speed and Innovate@UIC provides interim support and resources along the way.

To achieve its goals of accelerating technology commercialization, Innovate@UIC has put three programming methodologies in place: ASSIST, INFORM and INFUSE. Through these methodologies Innovate@UIC's approach is to tightly align technology transfer, incubation and seed investment strategies to create a pipeline of viability. Each of the programs that exist under the methodologies help to ensure a smooth transition along the path towards commercialization and substantially increases the success rate of early stage innovations.



ASSIST



INFORM



INFUSE

ASSIST

POC Accelerator by Innovate@UIC

Innovate@UIC's Proof of Concept Accelerator (POC) is a specialized program that works with early-stage technology innovators to define potential markets and design a strategic roadmap towards commercialization. The POC program helps teams develop and articulate the value proposition for the technology while defining market relevance. Projects utilize a commercialization consulting team consisting of an Entrepreneur-In-Residence and a group of graduate students and post-docs to assist in exploring the commercial opportunity.

INFORM

Fostering an entrepreneurial ecosystem in and around the UIC community is one of the most important initiatives of Innovate@UIC. To achieve this, Innovate@UIC hosts a series of events, workshops and programs aimed at educating and building that community.

Start-up Series

Innovate@UIC provides a series of presentations as an introduction to the legal, financial and business planning issues an early stage entrepreneur needs to know. These general topic presentations are run by experts and are intended to spur conversation and questions for anyone in the UIC community that is considering starting a high-tech company. Past sessions have covered topics such as budgeting, government audits, developing a management team, funding options and how to pitch your idea.

INFUSE

UIC Chancellor's Innovation Fund

The UIC Chancellor's Innovation Fund, managed by IllinoisVENTURES, is a commitment of \$10 million over five years with \$1 million annually to fund the Proof-of-Concept (POC) Awards Program and another \$1 million annually designated to support early stage technology firms launched by the University. The UIC CIF POC Awards Program provides up to \$75,000 for projects that originate at UIC and are disclosed to the UIC OTM.

CHANCELLOR'S INNOVATION FUND POC AWARDS

The CIF POC Awards Program was established at UIC by the Office of the Chancellor in partnership with the Innovate@UIC team to support the commercialization of technology developed by faculty, staff and students at UIC. Proof-of-concept funding is used to fill the gap between basic research and commercialization, a void commonly known as “the valley of death” of technology development. Sixty-two projects were submitted for review during the two funding rounds in fiscal year 2014. Eighteen finalists were chosen to present their product ideas to a panel of venture capitalists and business leaders. Of the eighteen finalists, ten were selected to receive POC Award funding.

FALL 2013

David Carley

Departments of Biobehavioral Health Science & Bioengineering

Colleges of Nursing, Medicine and Engineering

Proof of Concept for Real-Time Prediction of Driving Performance and Safety

Alexander Aruin

Department of Physical Therapy

College of Applied Health Sciences

Design and Optimization of Gait Performance Enhancing Insole

Shaoling Yang

Department of Psychiatry

College of Medicine

Two-Dimensional J-Resolved LASER and semi-LASER Spectroscopy

Girish Deshpande

Department of Pediatrics

College of Medicine - Peoria

Bench Testing of SecureTube

SPRING 2014

Brian Kay

Department of Biological Sciences

College of Liberal Arts & Sciences

High-Throughput Antibody Generation by PExSR

Valerie Dobiesz

Department of Emergency Medicine

College of Medicine

Obstetrical Medical Device for Auto-Transfusion in Post Partum Hemorrhage (PPH)

Sriram Ravindran

Department of Oral Biology

College of Dentistry

Bioenhanced Implant Surfaces for Improved Osteointegration

Mark Grechanik

Department of Computer Science

College of Engineering

Making Cloud Computing Elastic, Cost Effective and Efficient

Bellur Prabhakar

Department of Microbiology & Immunology

College of Medicine

Evaluation of Soluble OX40L-JAG-1 to Treat Type 1 Diabetes

Dieter Klatt

Department of Bioengineering

Colleges of Engineering and Medicine

Validation of *in vivo* SLIM-MRE

For more information visit
cif.uic.edu

CELEBRATING INNOVATION

INNOVATOR OF THE YEAR

The Innovator of the Year Award was established by the UIC Office of Technology Management in 2012 to honor an outstanding innovator or team of innovators at UIC whose efforts have contributed significantly to advancing their invention towards commercialization. This award recognizes extraordinary commitment either through participation in the licensing process or through entrepreneurial efforts in a startup company based on their invention. This year, the UIC OTM proudly presented the Innovator of the Year Award to Dr. Alan Feinerman, Associate Professor of Electrical and Computer Engineering.

Dr. Feinerman's research interests are the development of ultra low thermal conductivity insulation, microfluidics for laboratory on a chip and drug delivery, distributed physical vapor deposition of alloys and compounds, and granular physics.

Dr. Feinerman founded Thermal Conservation Technologies (TCT), a UIC startup venture focused on energy preservation and sustainability through the utilization of high-performance vacuum insulation. TCT was awarded the 2011 Clean Energy Challenge Competition which seeks to identify clean energy businesses in the Midwest with the potential to bring novel innovations to the marketplace. Dr. Feinerman was previously named the 2011 UIC Inventor of the year.



INVENTOR OF THE YEAR

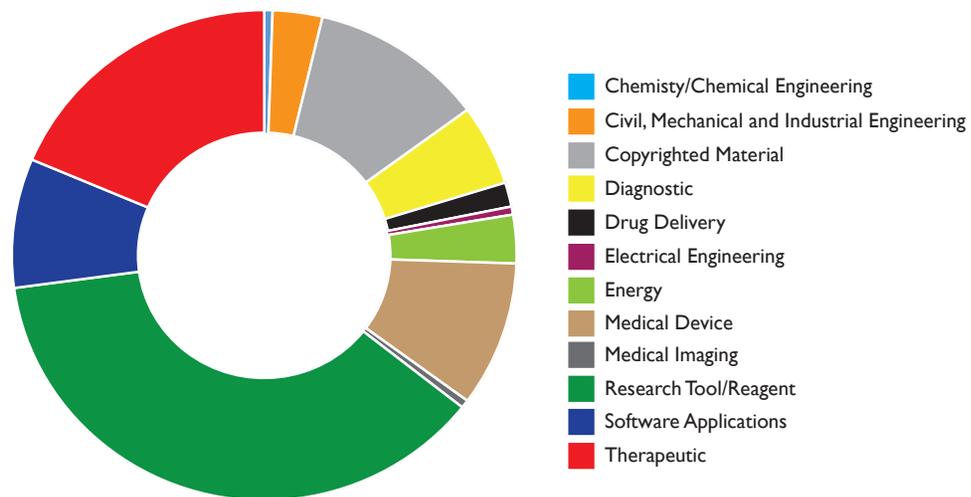
The Inventor of the Year Award is presented by the UIC Office of Technology Management to recognize an exceptional inventor or team of inventors whose work at the University of Illinois at Chicago has contributed to the development of intellectual property with the potential to make a significant impact on society. The award is given based on the criteria of creativity, novelty, and commercial potential or potential benefit to society. This year the UIC OTM proudly presented the Inventor of the Year Award to Dr. Sudip Mazumder, Professor of Electrical and Computer Engineering.

Dr. Mazumder's current areas of interests are interactive power-electronics/power networks, smart grid, and energy storage, renewable and alternative energy based power electronics systems for distributed generation and microgrid, and optically-triggered wide-bandgap power-electronics device and control technologies, and SiC and GaN device based high-frequency, high-temperature, and high-voltage power electronics.

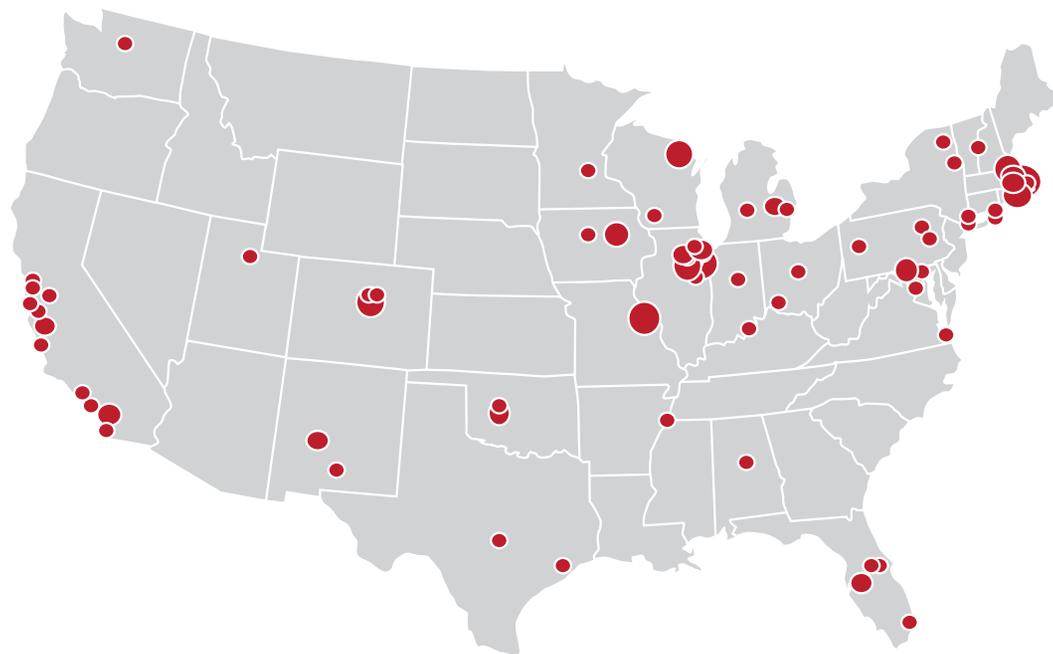
His inventions will bring about substantial reductions in the weight, size, and cost in power-electronic systems for smart grid, renewable energy, and electric vehicles, as well as enhancements in their efficiency and reliability.

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ACTIVE LICENSES
& OPTIONS IN
FISCAL YEAR 2014

Active Licenses & Options by Domain



Active Licenses & Options by Location



Royalties and Royalty Distribution

Royalties Earned: \$25,515,865

Non-University Share: \$8,368

Litigation Reimbursement: \$1,616,004

Patent Expense Reimbursement: \$556,336

Net Available for Distribution: \$23,343,523

Actual Distributions:

Inventors' Share: \$8,226,478

University Share:

Unit/College: \$6,418,147

OTM Cost Recovery: \$1,250,000

OVRP: \$2,976,156

Campus: \$4,464,235

Note: "Actual Distributions" do not match the "Net Available for Distribution" in any one year because of the time lag between the date revenue is received and the date actual distributions are made.

Top Three Royalty Generating Technologies

Multidrug Resistant Retroviral Protease Inhibitors:

A compound marketed as Prezista, which is used to treat HIV infections.

TICE BCG:

An effective treatment and prophylaxis of carcinoma *in situ* (CIS) of the urinary bladder, and a prophylaxis for papillary tumors following transurethral resection.

Intensified Algebra:

A coherent mathematics program that incorporates into algebra instruction areas that historically reside outside the domain of algebra class but are fundamental to the students' success.



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