

ADVANCING

INNOVATION

**Fiscal 2016 Annual Report**

The Office of Technology Management  
University of Illinois at Chicago



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# About the UIC Office of Technology Management

The [Chicago Office of Technology Management](#) works with faculty, staff, and students to advance research, education, and economic development.

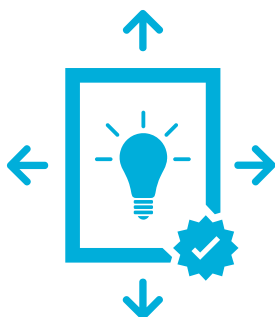
[Technology transfer](#) is the process of moving scientific discoveries from the inventor's mind to the hands of society.

## Pathway to success

**OTM strategizes with creators** to explore the innovation's path to impact.



**OTM promotes and licenses** the innovation to external partners.

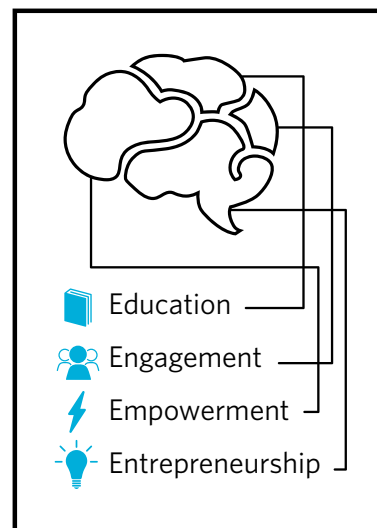


**Innovation is transferred** from the University to start-ups and existing businesses.



**OTM commercializes technologies**

## Impact



# Summary

(July 2015 - June 2016)

College/Department/Unit	Disclosures	U.S. Patent Applications Filed	U.S. Patents Issued	Licenses & Options
<b>Campus Total</b>	<b>174</b>	<b>142</b>	<b>32</b>	<b>56</b>
Applied Health Science	4	2		2
Architecture, Design & the Arts	5			
Business Administration	4			
Dentistry	7	3		
College of Engineering	50	44	6	6
Liberal Arts & Sciences	6	7	1	15
Medicine	65	58	20	11
Nursing	4			
Vice Chancellor for Research	1			
Pharmacy	24	25	5	10
Public Health	2	1		
Social Work				12
Innovation Center	2	2		

*Note: As a result of the large amount of interdisciplinary research on campus, inventions are often associated with more than one college or unit. As a result, the numbers reported in the table may be counted multiple times, once for each associated college or unit.*

# Royalties and Royalty Distribution

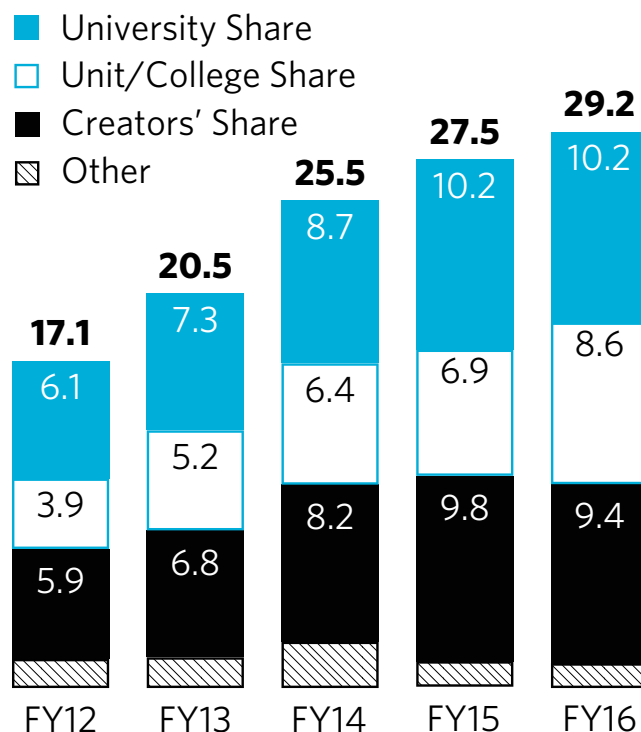
Royalties Earned: ..... \$29,178,473\*  
 External Collaborators Share: .... \$46,386  
 Patent & Legal Expense  
 Reimbursement: ..... \$718,478  
 Net Available for  
 Distribution: ..... \$28,285,698  
 \*includes litigation reimbursement from the NIH

## ACTUAL DISTRIBUTIONS

Creators' Share: ..... \$9,439,249  
 Unit/College Share: ..... \$8,602,083  
 University Share: ..... \$10,197,979

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

## UIC OTM FIVE-YEAR HISTORY Royalties (\$ million)



**"UIC OTM is in the TOP 15% of university technology transfer offices in terms of revenue generated from licenses."**

— Suseelan Pookote, Interim Director, OTM

# Licenses to Faculty Start-Ups

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## RETMAP INC.

*Dr. John Hetling Research Group*

*Bioengineering*

Retmap is currently developing its CLEAR Lens System™, which is a cost-effective, early detection system able to diagnose retinal disease, including glaucoma, when it begins in the peripheral retina.

## TTC ONCOLOGY

*Dr. Gregory Thatcher Research Group*

*Medicinal Chemistry & Pharmacognosy*

TTC Oncology is a clinical stage drug development company focused on developing and testing therapeutics for Tamoxifen-resistant breast cancer.

## CROPGROWERS

*Dr. Steffen Mueller Research Group*

*Energy Resources Center*

CropGrowers LLC utilizes satellite-derived imagery combined with ground-based observations to provide crop condition and production information for grain buyers and commodity analysts.

Over the last 5 years, university start-ups  
in the State of Illinois have raised more than  
**\$345 MILLION**

*Source: Illinois Innovation Index Winter 2016 report*

## Top Five Revenue Generating Technologies

Product	IP	Description
Prezista	Patent	Anti-HIV retroviral therapeutic
Tice BCG	Trademark	Urinary cancer vaccine/treatment
M.S. Health Informatics Curriculum	Copyright	An online master's curriculum, licensed to an international educational institution
Drug candidate (QPI-002)	Patent	A compound that increases the success of kidney transplants, in Phase III clinical trials
Intensified Algebra Curriculum	Copyright	Resources and textbook to help students with remedial learning

## Licenses to External Start-Ups

### ROCHESTER MEDICAL TECHNOLOGIES

*Dr. Mark Grabiner Research Group*

*Kinesiology and Nutrition*

Rochester Medical Technologies commercializes clinical-grade diagnostic and monitoring medical technologies that can “recognize and respond” to acute medical emergencies.

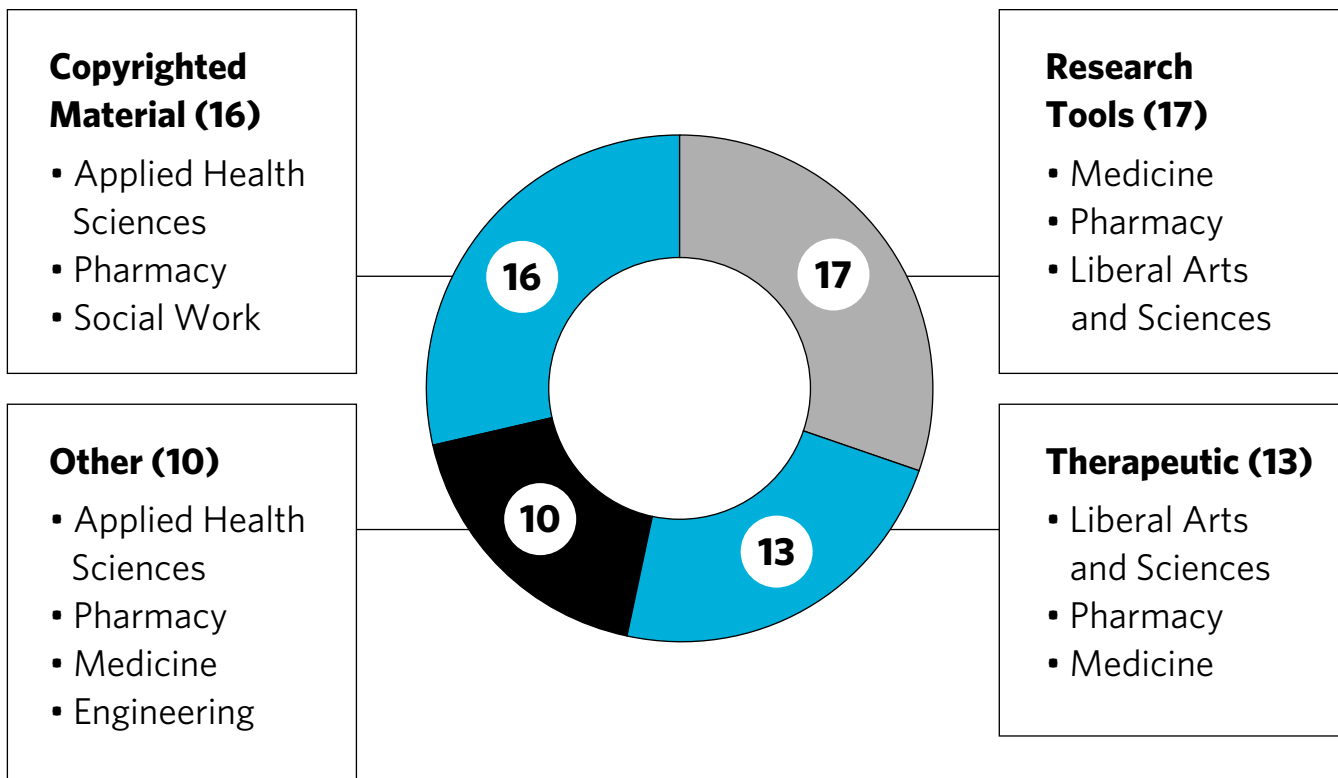
### CREATIVELY ALIVE

*Dr. Hua Xu Research Group*

*Medicinal Chemistry & Pharmacognosy*

Creatively Alive provides the online research tool MassMatrix™, which aids in the identification of protein sequences for experimental mass spectra.

# Licenses and Options by Category



**64%** of U.S. patents issued to campus have been licensed or optioned.

*Pulled from Sophia Knowledge Management System*



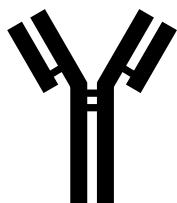
# Technology Transfer Advances Research

Research tools developed at UIC are made accessible to outside research groups through agreements with pharmaceutical and biotechnology companies: Millipore, Eli Lilly, Merck, and Santa Cruz to name a few.

In-demand research tools include:



- Cell lines
- Monoclonal & polyclonal antibodies
- ELISA kits
- Peptides
- Small molecules



- Research software
- Animal models
- Expression vectors
- siRNA
- Databases & libraries



Natural Product Alert Database (NAPRALERT) was created at UIC by the Norman Farnsworth Research Group and is licensed to the American Chemical Society, where it is available to 150,000+ researchers.

# Technology Transfer Facilitates Education

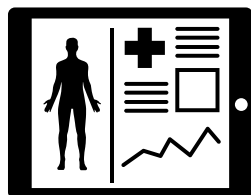
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UIC has licensed a variety of educational tools which were developed on Chicago's campus.



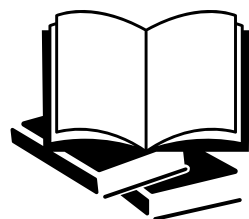
## Curriculums in Use Around the World:

- The Master of Science in Health Informatics Curriculum
- The Intensified Algebra Program



## Patient Education:

- LupusPro: Patient's self-disclosure of quality of life and medical care
- Dementia Guide: A mobile app with resources for patients and caregivers



## Textbooks:

- The Cryptoclub
- Math Trail Blazers



## Training Simulators:

- Immersive Touch System: A surgical training simulator for medical students

# Student Development in Commercialization

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Undergraduate students, graduate students, and post-doctoral talent engage in a variety of activities related to the process of commercialization.

## Commercialization

- Market analysis
- Grant writing
- Pitch deck preparation

## Business Operations

- Finance
- Marketing
- Database management

## Intellectual Property Protection

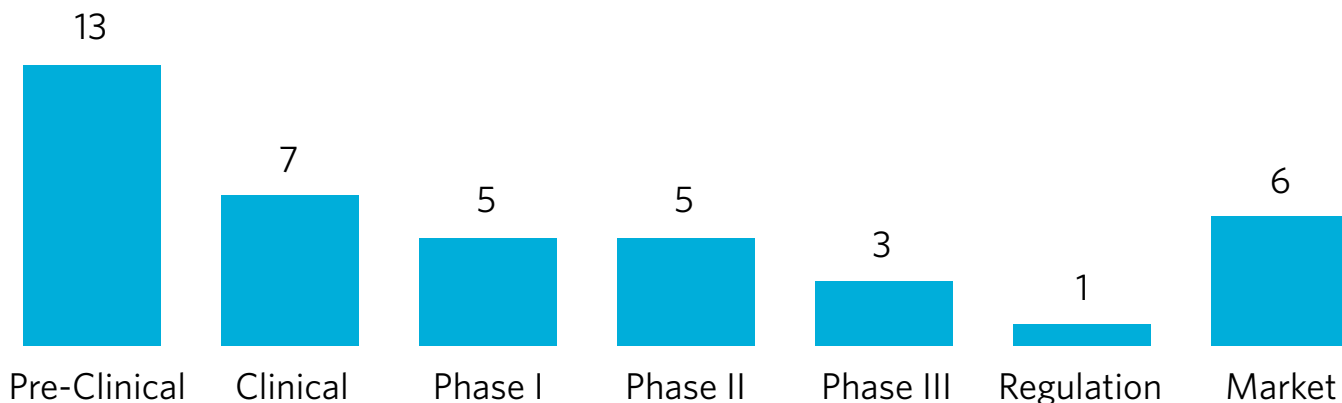
- Prior-art searches
- Patent filing research
- Federal compliance reporting

The OTM employs up to  
**14 STUDENTS**  
each year.

Former students have gone on to careers in: Technology Transfer, Patent Law, Consulting, Business Development, Corporate & Academic Science, and more.

# Clinical Drug Pipeline

## NUMBER OF PROJECTS PER STAGE OF DEVELOPMENT

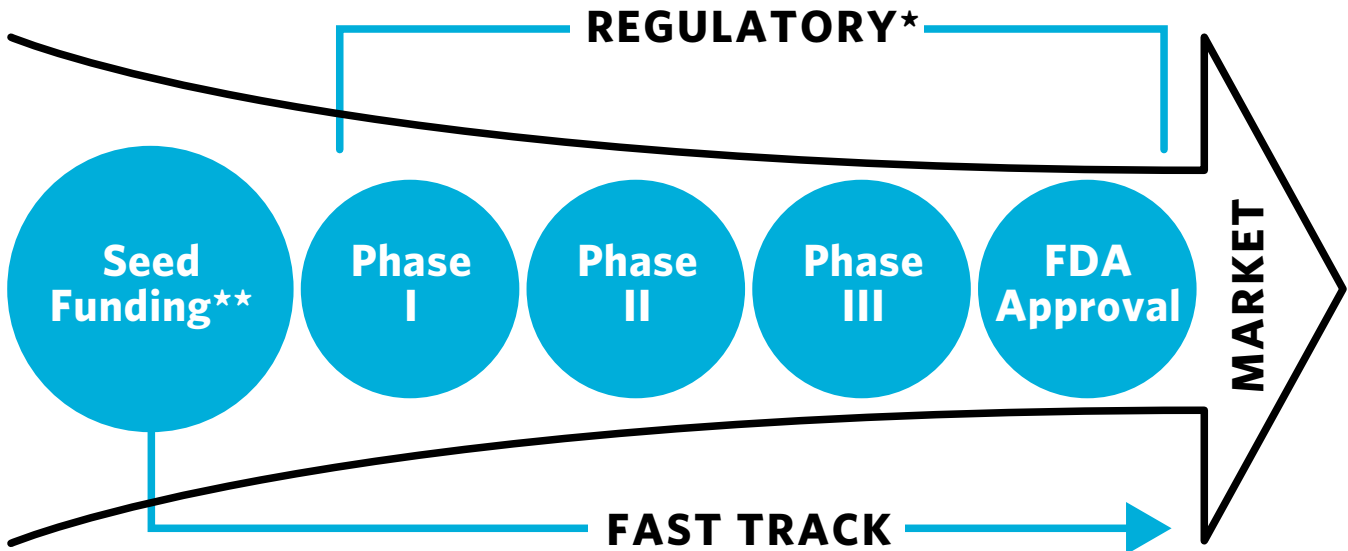


## DRUG PIPELINE UPDATES

- **EvoFem:** A New Drug Application has been filed for Amphora, a non-hormonal contraceptive gel.
- **Tianhe Stem Cell biotechnologies:** Stem Cell Educator Therapy System for the treatment of Type I Diabetes has been approved by FDA for Phase I/II clinical trials.
- **Quark Pharmaceuticals:** QPI-1002, an Orphan Drug with Fast Track Designation from FDA has entered Phase III clinical trials for prevention and amelioration of Delayed Graft Function in kidney transplant patients, and a Phase II study for prevention of Acute Kidney Injury in patients undergoing major cardiovascular surgery.

# Start-Up Accomplishments

- **Sahane Biotech:** \$735,000 from Phase I STTR and JDRF grants to continue development on immunotherapy for Type-I Diabetes
- **Cell Biologics:** \$660,000 from a Phase I STTR grant to develop therapeutics for Acute Respiratory Distress Syndrome
- **3PrimeDX:** PROPEL grant to attend AdvaMed 2016 to promote technology that predicts Sudden Cardiac Death
- **Quark:** Renewed a \$20 million option with Novartis to continue drug development.



\* Regulatory only applicable to certain industries (i.e. drug discovery)

\*\* Seed Funding: Small Business Innovation Research (SBIR), Small Business Tech Transfer (SBTT), Juvenile Diabetes Research Foundation (JDRF), and Propel

# Technology Transfer Makes a Social Impact

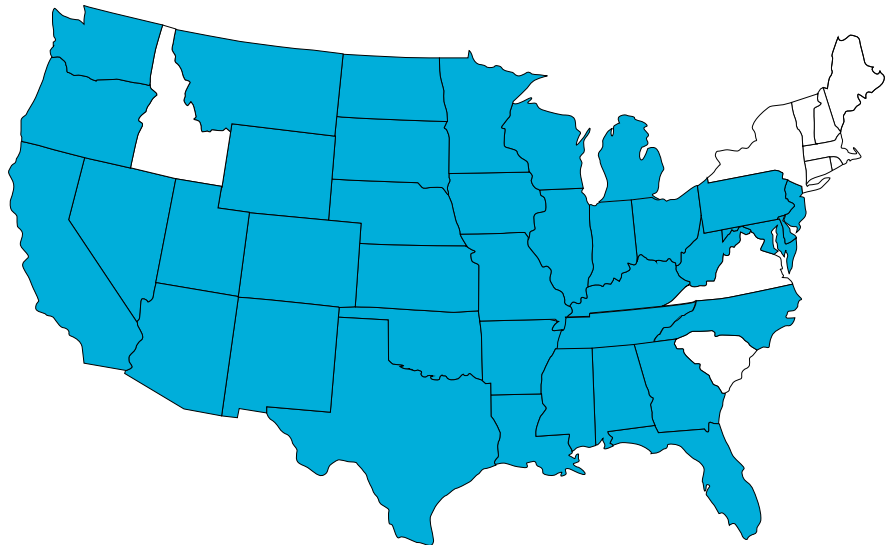
## DIABETES EMPOWERMENT & EDUCATION PROGRAM™ (DEEP)

- DEEP was developed by UIC researchers in the Midwest Latino Health Research, Training and Policy Center. It is a diabetes self-management educational curriculum available in English and Spanish.
- DEEP workshops are available free of charge and are specially designed for use in low-income, racial, and ethnic minority populations.
- DEEP is one of three curriculums approved by the Center for Medicare and Medicaid’s “Everyone with Diabetes Counts” initiative, with the goal of workshops in all 50 states.

At least  
40 states  
utilize DEEP

- Utilizes DEEP
- Does not utilize DEEP

*Not shown: Alaska, Hawaii*



## PREZISTA™ (GENERIC: DARUNAVIR) AND PREZCOBIX™

- Prezista™ is an anti-HIV retroviral therapeutic.
- Developed by UIC Professor Arun Ghosh, now produced by Janssen Pharmaceuticals.
- On the World Health Organization's List of Essential Medicines, as one of the most important medications needed in a basic health system.
- Janssen Therapeutics increases access to Prezista and Prezcofix through the Patient Savings Program, which pays all out-of-pocket costs for eligible patients in the U.S.

**First** multi-drug resistant  
HIV treatment

**128** countries have low-cost  
access to Prezista™

**99.8%** of children with  
HIV are covered

# Chancellor's Innovation Fund: Proof of Concept Awards

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The Proof of Concept Awards (POC) are designed to help researchers take the first steps towards advancing their inventions from the research stage to commercialization. Finalists are chosen from a pool of applicants to pitch their projects to a panel of venture capitalists and business leaders.

40

projects have been funded since 2012

\$2,444,302

total funding has been provided to award winners to further develop their technologies

## 2015 AWARDEES

### **Terry Vanden Hoek, MD**

Emergency Medicine

Project Title: Novel TAT-Peptide Improves Sudden Cardiac Arrest Survival

### **Maria Siemionow, MD, PhD**

Orthopedic Surgery

Project Title: Chimeric Cell Therapy for Treatment of Duchenne Muscular Dystrophy

### **Arnon Lavie, PhD**

Biochemistry and Molecular Genetics

Project Title: Novel L-Asparaginase cancer Drug: Clone 63

### **Brian Chaplin, PhD**

Chemical Engineering

Project Title: Commercialization Potential of Reactive Electrochemical Membranes (REMs)



# Proof of Concept Accelerator

The [Proof of Concept Accelerator](#) provides faculty with consulting teams to determine a pathway to commercialization.

## POC PATHWAY TO SUCCESS

**POC Funding Awarded**

### POC Commercialization Consulting Teams

- Seasoned Entrepreneurs
- UIC OTM Technology Managers
- Post-doctoral Scientific Talent
- Business, Law, and Science Grad Students

## COMMERCIALIZATION PROJECT EXAMPLES

Market and Feasibility Analysis

Preparing for SBIR/STTR or Seed Funding

Streamlining Milestones for Further Development

Advancing a Project to Start-Up Status

# The Innovator and Inventor of the Year Award

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UIC OTM, EnterpriseWorks Chicago, and IllinoisVENTURES recognized and celebrated outstanding UIC creators.

## 2015 AWARDEES



### **Innovator of the Year**

*Gregory Thatcher*

*Medicinal Chemistry & Pharmacognosy*

This award recognizes outstanding commitment through entrepreneurial efforts in a start-up or significant participation in the licensing process.

### **Inventor of the Year**

*Brian Kay*

*Biological Sciences*

This award recognizes the creation of intellectual property that has the potential to significantly benefit society.



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The Office of Technology Management is responsible for commercializing the technologies generated by research and educational activities at the University of Illinois.

[OTM.UIC.EDU](http://OTM.UIC.EDU)