



Office for **Technology Commercialization**



UNIVERSITY OF MINNESOTA  
**Driven to Discover<sup>SM</sup>**

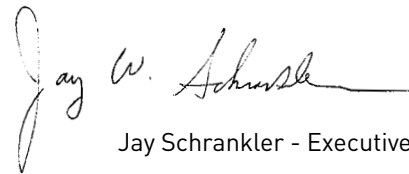
**2014 ANNUAL REPORT**

## Greetings,

Over the past five years, the Office for Technology Commercialization (OTC) has produced year-over-year growth in nearly every important measure of technology transfer success, and 2014 was no exception. We increased our base revenue, managed more technologies, served more faculty, conducted more inventor training, completed more licensing agreements, and created more start-up companies than at any other time in the history of this office.

In 2014, OTC continued to enable start-up companies, provide easier access to University technologies and research, and support our inventors and researchers. The newly created the Discovery Capital Investment Program provides early-stage funding to start-up companies that are based on University discovered technology and innovation. The Try and Buy option of the Minnesota Innovation Partnerships (MN-IP) program offers companies a low-cost, low-risk method to determine the commercial potential behind existing university-developed technologies. MIN-Corps, the University of Minnesota I-Corps site, assists faculty and students with training and resources to increase entrepreneurial activity across the University.

We are fortunate to be associated with one of the top ten public research institutions in the country, which provides the fuel that powers the robust innovation we see every year at OTC. This is an exciting time to be involved in technology transfer at the University of Minnesota, and I encourage you to give us a closer look and join in partnership.



Jay Schrankler - Executive Director



OTC Executive Team, from left to right - Doug Johnson (Director - Venture Center), Rebecca Gerber (Technology Marketing Manager), Russ Straate (Associated Director - Venture Center), Johanna Casas-Forero (Associate Director - Operations), Rick Huebsch (Associate Director - Software & Physical Sciences), Jay Schrankler (Executive Director), Reggie Bowerman (Associate Director – Life Sciences), Anne Hall (Technology Strategy Manager), Andrew Morrow (Technology Marketing Manager)

# 2014 IN REVIEW

## FY 2014

### New Licenses

FY	10	11	12	13	14
Value	10	15	14	18	25

### MN-IP Agreements

# 51

### Invention Disclosures

FY	10	11	12	13	14
Value	10	10	15	18	20

### Start-ups

FY	10	11	12	13	14
Value	10	11	14	18	20

### New U.S. Patent Filings

FY	10	11	12	13	14
Value	10	12	15	18	17

### Material Transfer Agreements

FY	10	11	12	13	14
Value	10	15	18	17	18

### Gross Revenue

# \$27.36

(million)

OTC Numbers					
GENERAL	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Disclosures	255	250	321	331	343
New Licenses	67	76	71	91	154
Gross Revenues	\$83.80M	\$10.10M	\$45.70M	\$39.47M	\$27.36M
Outgoing Material Transfer Agreements	171	271	313	281	288
PATENTS					
Number of issued patents - US	56	44	59	65	65
Number of issued patents - Foreign	25	56	94	64	39
New U.S. Patent Filings	66	78	115	148	138
MN-IP					
MN-IP research agreements	NA	NA	14	41	51
START-UP					
Start-Ups	8	9	12	14	15

## HIGHLIGHTS

- The Discovery Capital Investment Program, the first-of-its kind seed-investment program, provides funding to startups in the highly critical early stages to accelerate the process of turning breakthrough research into commercially available products.
- The Celebrating University Innovators event honored 285 University of Minnesota inventors in December.
- The Minnesota Innovation Partnerships Try and Buy program was launched with 200 eligible technologies and 76 published term sheets. This option allows companies to try a technology before committing to the technology.
- Minnesota Innovation Corps (MIN-Corps), funded as a NSF I-Corps Site, is aimed at helping students and researchers identify the commercial potential of their discoveries and test those ideas in the marketplace.
- A University of Minnesota record 15 start-ups were launched during FY 2014.

### Awards Received in FY 2014

- Tekne Innovative Collaboration Award with Boston Scientific
- Minneapolis/St. Paul Business Journal Eureka! Award
- Finance & Commerce Progress Minnesota Award
- Tech Connect National Innovation Award



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### CURx Pharmaceuticals

CURx Pharmaceuticals is developing a non-oral treatment for patient epilepsy seizures that occur in the hospital.



James Cloyd, PharmD



- Inventor
- Professor, Experimental / Clinical Pharmacology

### MesoFlow

MesoFlow uses a microfluidic technology to gently remove cryoprotective agents from frozen preserved cells, significantly increasing the yield of these valuable cells used in research and therapy.

Allison Hubel, PhD



- Inventor, Co-Founder, CEO
- Professor, Mechanical Engineering



### Niron Magnetics, Inc

Niron produces Fe<sub>16</sub>N<sub>2</sub> magnets as environmentally friendly replacements for the expensive rare earth materials now used in motors, generators and wind turbines.



Jian-Ping Wang, PhD



- Inventor
- Professor, Electrical and Computer Engineering
- C-SPIN, Center Director

### Surgical Information Sciences

Surgical Information Sciences provides a genuine, patient-specific, 3D anatomical model of the patient's own brain that is used for precise localization and targeting in neurosurgical procedures.

Noam Harel, PhD



- Inventor
- Associate Professor, Radiology and Neurosurgery



### Vigilant Diagnostics

Vigilant Diagnostics delivers patented Thermal Contrast Amplification (TCA) technology into a point of care reader for increasing the sensitivity of lateral flow assays by > 10X.



John Bischof, PhD



- Inventor
- Professor, Mechanical Engineering

### Zepto Life Technology

Zepto biosensors use giant magnetoresistance (GMR) to deliver a highly sensitive and selective lab based and point of care diagnostic tool capable of multiplexed biological detection.

Jian-Ping Wang, PhD



- Inventor
- Professor, Electrical and Computer Engineering
- C-SPIN, Center Director



## INTERNAL PARTNERSHIPS

### Medical Devices Center \ Medical device research collaboration and training

The Medical Devices Center's Innovation Collaborations engages medtech companies in refining unmet market needs, identifying UMN transdisciplinary resources, assembling a cross disciplinary expert research/engineering team, and collaborating to produce agreed upon deliverables. The Center's Innovation Fellows Program trains the next leaders in medtech by fostering leadership and teaching risk management for medical devices.

#### OTC partnership

The Medical Devices Center Innovation Fellows program is designed to maximize both educational experience and the value of ideas to the University and to the public. OTC works closely with the Fellows to protect and license the technologies. Three start-up companies have been formed based on technologies created by the Fellows.



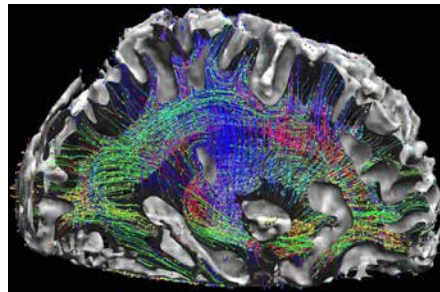
<http://www.mdc.umn.edu>

### Center for Magnetic Resonance Research \ Cutting-edge MRI technology

CMRR is an interdepartmental and interdisciplinary research laboratory that provides state-of-the-art instrumentation, expertise, and infrastructure to carry out biomedical research utilizing the unique capabilities provided by high field MRI and MRS methodology. The central aim of the research conducted in CMRR is to non-invasively obtain functional, physiological, and biochemical information in intact biological systems, and use this capability to probe biological processes in health and disease.

#### OTC partnership

As an international leader in MRI, CMRR researchers are continually developing new technologies, including quiet imaging techniques, accelerated imaging, new techniques to diagnose disease, and technologies expected to enable low-cost MRI systems. OTC works closely with CMRR to protect these technologies and license to both major scanner manufacturers as well as start-up companies.



<http://www.cmrr.umn.edu>



### College of Design \ Socially responsible design

The College of Design encompasses the full range of design disciplines at the University of Minnesota. The faculty, students and staff advance the quality and value of the natural, designed, and social environments with an emphasis on sustainable, socially responsible, civically engaged, user-sensitive, critical and collaborative design work.

#### OTC partnership

Researchers in the College of Design develop apparel, toys, furnishings and software/apps that are often overlooked as potentially licensable innovations. OTC partners with them to develop creative ways to protect, market and commercialize their designs.



<http://design.umn.edu>

The Office for Technology Commercialization received the following awards during FY 2014:



### Tekne Award

The University of Minnesota and Boston Scientific received the Tekne Innovative Collaboration Award from the Minnesota High Tech Association in recognition of the MN-IP program. (Nov 6, 2013)



### Progress Minnesota Award

Finance & Commerce Progress Minnesota Award for driving business growth, jobs and economic development in Minnesota. (Feb 6, 2014)



### Tech Connect Innovation Award

Tech Connect National Innovation Award for innovations with a positive influence on a specific industry sector. (May 22, 2014)



### Eureka! Award

Minneapolis/St. Paul Business Journal Eureka! Award for groundbreaking innovation with the MN-IP program. (Jun 12, 2014)

## CELEBRATING UNIVERSITY INNOVATORS

In December, OTC hosted the Celebrating University Innovators event honoring 285 University of Minnesota inventors for creating technologies that have issued patents or are licensed. Three awards - Early Innovator, Entrepreneurial Researcher and Impact- were given to faculty members for outstanding contributions.



Robert Vince, PhD

### Impact Award

**Professor, Medical School  
Director, Center for Drug Design**

Dr. Vince developed the AIDS drug, ZIAGEN® (abacavir sulfate) which has been used to treat patients around the world. He leads the University's Center for Drug Design and was inducted into Minnesota Science and Technology Hall of Fame in 2011.

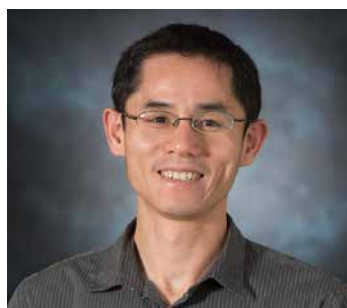


Daniel Voytas, PhD

### Entrepreneurial Researcher Award

**Professor, Genetics, Cell Biology and Development, College of Biological Sciences/Medical School  
Director, Center for Genome Engineering**

Dr. Voytas is an expert in the areas of genetics, genetic modification and genome engineering. He invented the TALENS technology, a platform technology with broad applications for genetic research, crop improvement and human diseases. This technology has been licensed to a biotechnology company.



Kechun Zhang, PhD

### Early Innovator Award

**Assistant Professor, Chemical Engineering and Materials Science  
College of Science and Engineering**

Dr. Zhang's research focuses on developing non-natural biosynthetic pathways to produce biofuels, bulk chemicals and pharmaceuticals from renewable resources. He received the Early Innovator Award for his invention of a renewable, sugar-based alternative to the petroleum used in plastic and other materials.

Jay Schrankler (OTC Executive Director)  
Robert Vince (Impact Award)  
Daniel Voytas (Entrepreneurial Researcher Award)  
Kechun Zhang (Early Innovator Award)  
Brian Herman (Vice President for Research)





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