

Collaborating for Innovation



# Innovation York

Annual Report 2015-2016

[www.innovationyork.ca](http://www.innovationyork.ca)

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## Message from the Vice-President



As I look at Innovation York over the past four years, I am pleased at how it has become an integral part of the innovation culture at York University. Although there is still much work to be done – there are always more faculty members, trainees, and students to engage and support, and new services to offer – the strides this office has taken and the success stories it has produced in only a short time are impressive.

Research and innovation and the meaningful translation of the related results are key to the success of York University as a research intensive comprehensive university. Similarly, emphasis on and improvement in the student experience, whether it be through research, commercialization, or entrepreneurship activities is integral to York University as an innovative and engaged academic institution. Innovation York is an important contributor to both of these priorities.

As York University evolves and grows, it is imperative that Innovation York responds and ensures that the services offered continue to provide value. I want to thank our Advisory Board for providing valuable feedback and I look forward to continuing to working with our research and innovation community to ensure that our services are meeting the needs of faculty members, trainees and students.



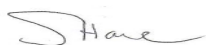
Robert Haché  
Vice-President, Research & Innovation

## Message from the Director



From complex agreements to large-scale industry partnerships to startup company creation to improving the student experience, Innovation York continues to grow and mature in its service offerings. FY2015/16 was a productive year for the team, where each member stepped into a leadership role to drive the operations of their individual service units. Whether it was the continued growth in research dollars brought in through our research agreements and industry liaison teams, the creation of five new startup companies based on intellectual property developed at the University, or the successful graduation of 18 ventures from the inaugural LaunchYU accelerator program, Innovation York continues to prove that support for innovation activities at York University can yield significant and impactful results.

As we move into a new year we look forward to focusing on not only the growth of each unit, but also ensuring seamless service delivery between them in order to support our research and innovation community in an increasingly meaningful manner. I look forward to the year ahead and working with many of you to continue to realize the successful outcome of research and innovation at York University.



Sarah Howe, MBA  
Director, Innovation York

Year in Review

# Innovation York

## Agreements



Agreements  
Reviewed

494



Value of  
Agreements

~\$28M

## Industry Liaison



Industry  
Interactions

100



Cash & In-kind  
Contributions

~\$19M

## Entrepreneurship



Entrepreneurs  
Engaged

1345



Ventures  
Supported

20



Companies  
Hosted

10



Accelerator  
Spaces

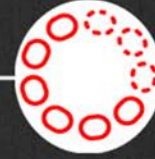
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## Commercialization



Invention  
Disclosures  
Received

9



Active  
Commercialization  
Projects

20



Startup  
Companies  
Formed

5



Patent  
Applications Filed

8



Events Hosted

38



Presentations  
Made

14



Marketing Stories

5

## Services

### **Agreements**

The research agreement team is a central service for Innovation York. The team drafts, negotiates, and executes research and commercialization agreements for the University. The team executed 494 agreements in FY2015/16. Agreements continue to increase in complexity and size, as evidenced by the increase in total value of agreements from \$24M in FY2014/15 to \$28M in FY2015/16.

An example of one of the key agreement clusters negotiated this year was for the Big Data Research Analytics and Information Network (BRAIN) Alliance, initiated by the late Professor Nick Cercone, now led by Professor Aijun An and funded by the Ministry of Research and Innovation for \$3.5M. This multi-disciplinary alliance will develop new resources to analyze, optimize, and visualize data and will have wide ranging impacts within the fields of healthcare to website readership. The

agreements team not only put in place the main funding agreement, but also agreements with ten industry partners (IBM, Dapasoft, Empress, FuseForward Solutions Group, Globe and Mail, iNago, Manifold, Nlogic, Shore, and Metrolinx) and five public sector organizations, (PHAC, Ontario Brain Institute, UofT, Ryerson, and OCADU). Agreements with industry are often more complex, as the parties often have differing ideas and opinions on how issues such as intellectual property, overhead, confidentiality, and publication should be handled.

The research agreements team continues to handle a large number of agreements with significant complexity, efficiently and effectively. We continue to look for ways to improve our service and work effectively with faculty members.



Professors Aijun An and Nick Cercone (photo / York University)

## ***Industry Liaison***

The industry liaison team has had another very successful year. The focus of the team has expanded from relationship building and support of early stage collaborative grant, to include actively supporting and building large scale projects.

This year the team developed relationships with more than 100 companies, increasing the total meaningful interactions to more than 500 since the inception of Innovation York. This resulted in more than \$19 million in cash and in-kind contributions for research projects, a >200% increase from the previous year.

Every time the team introduces a faculty member to a company, it is with a view to forming a relationship that will grow into long-term collaboration. Often these relationships begin with a small project and then snowball into something larger. A great example of one such relationship is between Dr. Dan Palermo of the Lassonde School of Engineering and Burnco Manufacturing Inc. ([www.burncomfg.com](http://www.burncomfg.com)).

Collaborating in order to establish the seismic performance of precast composite wall panels, including the lateral strength and lateral

displacement capacities, these panels have found application as load bearing walls and floor slabs in residential, commercial, and industrial buildings. However, their capacity to sustain lateral forces degenerated from earthquakes was unknown and thus, an alternative structural system was required to sustain any lateral loadings. This collaboration has resulted in a number of improvements, which will allow Burnco to further develop a more reliable contribution of the wall system for lateral loading, and to realize the full structural benefits of the wall.

This relationship came to fruition when Burnco was introduced to our industry liaison manager, Cheryl Giblon by the Ministry of Economic Development and Growth. Cheryl then identified Dr. Palermo as a potential collaborator, and assisted in forming and supporting the relationship. The partnership began with an NSERC Engage and then evolved into a longer-term partnership with Burnco donating equipment into the Palermo lab. The next step will be to identify a larger grant that can further support future research.



Laboratory of Dr. Dan Palermo, a precast composite wall (photo / York University)

### **Commercialization**

It was an exciting year for the commercialization team. Not only did some of our projects reach key milestones, we also welcomed Yaser Kerachian to the team. Building on commercialization and industry liaison roles at Wilfred Laurier, Yaser is a great addition to Innovation York.

Commercialization of intellectual property can take time, so it is important to celebrate key milestones. After working for a number of years, five of our projects reached the point where a startup company could be created. Innovation York, and in the case of Zucara, its commercialization partner MaRS Innovation, incorporated the following companies:

**Bitnobi** is a big data exchange company that allows end users to acquire data segments faster, easier and more securely. *Faculty Member: Marin Litoiu, LA&PS.*

**Glacierclean Technologies** has developed a colorimetric E.coli test kit that can be deployed

anywhere, anytime and used by untrained professionals. *Faculty Member: Sushanta Mitra, Lassonde.*

**Northwood Photonics** designs and develops auto-locking laser systems with applications ranging from studies of cold atoms to industrial instrumentation. *Faculty Member: Anantharaman Kumarakrishnan, Science.*

**OcularAI** has developed a computer vision platform that connects video content generators with consumers automatically based on image recognition that is identified within the content generator's video stream. *Faculty Member: John Tsotsos, Lassonde.*

**Zucara**, commercialized through MaRS Innovation, developed a long-term therapeutic approach to prevent hypoglycemia in people with diabetes who are insulin-dependent. *Faculty Member: Mike Riddell, Health.*

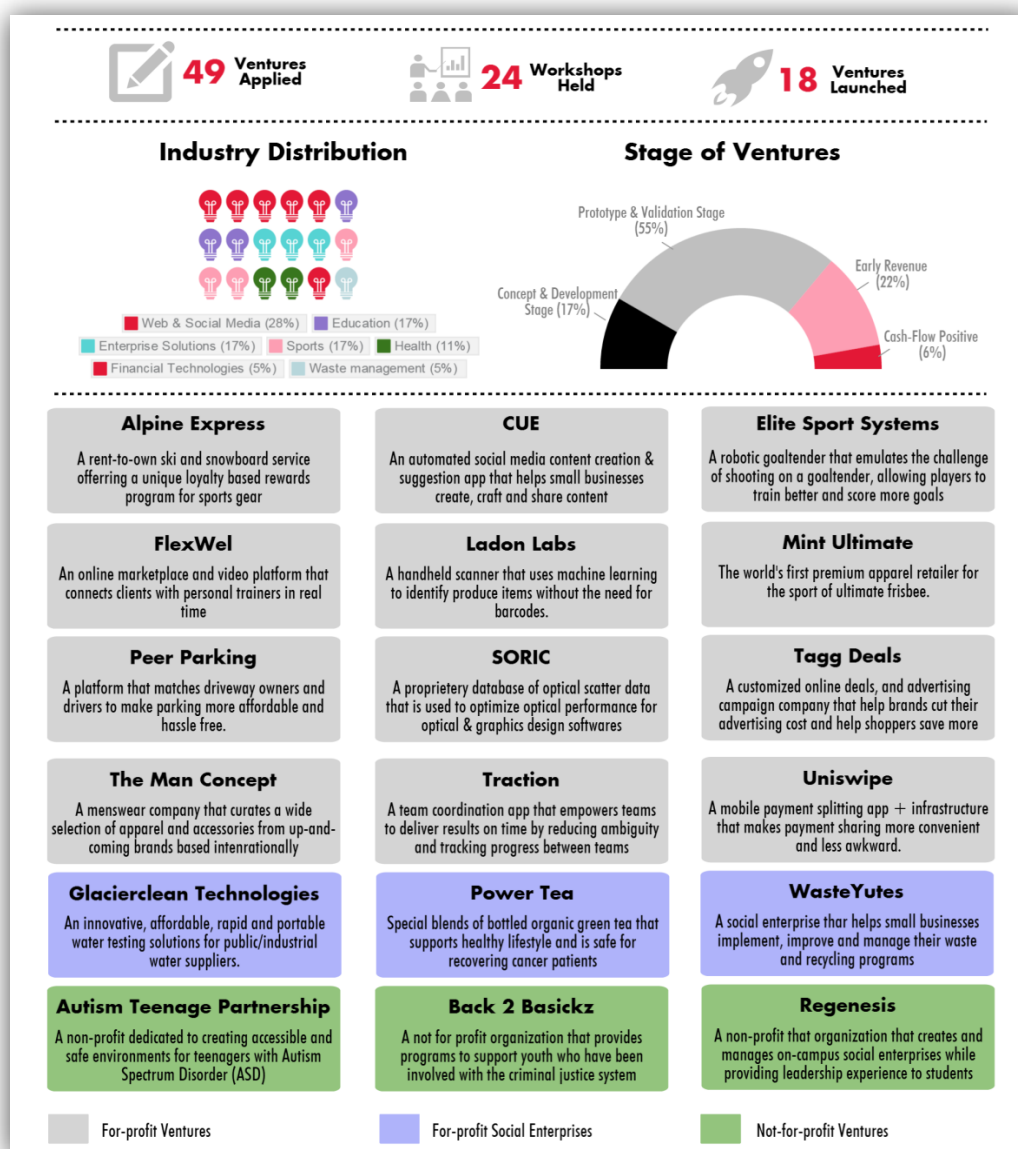


Naga Siva Gunda, president and CTO of Glacierclean, is performing a test at one of the field locations in Delhi, India. (Photo / York University)

## Entrepreneurship

Entrepreneurship services are delivered through our entrepreneurship program, LaunchYU ([www.launchyu.ca](http://www.launchyu.ca)). Funded by the Ontario Centres of Excellence and matched by internal and external project partners, 2015 was an exciting year as we engaged 1345 entrepreneurs, held 36 workshops and events, opened a new accelerator space in York Lanes, and successfully graduated the first cohort from

the accelerator program. Eighteen ventures graduated from the accelerator program, which culminated in a pitch competition with \$30,000 in prizes. The quality and diversity of ventures in the program was truly outstanding, as shown in the infographic below. The top three teams from the competition were 1) Mint Ultimate, 2) CUE, and 3) Uniswipe.





## Accelerator Space

### ***LaunchYU BEST Hub***

The LaunchYU BEST Hub was opened by Innovation York and the Lassonde School of Engineering to promote collaborative entrepreneurial endeavours and hold entrepreneurial related events. The Hub serves as an innovation sandbox for entrepreneurs from all Faculties across the University and beyond. Both Nilay Goyal, entrepreneurship manager and Yaser Kerachian, commercialization manager have offices within the Hub, so entrepreneurs not only have a place to work and collaborate, but also have access to two professionals with significant entrepreneurship and commercialization experience.

### ***Innovation York @MCC***

The Markham Convergence Centre (MCC) helps entrepreneurs start and grow, regardless of where they are in the business life cycle. Managed by the industry liaison team, Innovation York @MCC enables startup companies to have a place of business and take advantage of the entrepreneurial ecosystem within the building. The following are the startup companies supported in 2015/16.



**ATS Solutions**



**Code Guy**

[www.codeguy.ca](http://www.codeguy.ca)



**eKoor**

[www.ekoor.io](http://www.ekoor.io)



**Engage Biomechanics Inc.**

[www.engagebiomechanics.com](http://www.engagebiomechanics.com)



**GeoCloud**



**InnoMind Technology**

[www.innomindtechnology.com](http://www.innomindtechnology.com)



**Ladon Labs**

[www.ladonlabs.com](http://www.ladonlabs.com)



**Return True Media**

[www.rtruemedia.com](http://www.rtruemedia.com)



**The Public Appraiser**

[www.thepublicappraiser.com](http://www.thepublicappraiser.com)



**Thin Ice Inc.**

[www.thiniceweightloss.com](http://www.thiniceweightloss.com)

## Celebrating Our Innovators

### **Andrew Oh** **Mint Ultimate**

A graduate of the Faculty of Health, Andrew Oh knew he wanted to be an entrepreneur from his second year in university, as he wanted to make an impact on the world. Passionate about ultimate Frisbee, Andrew identified a problem with existing ultimate Frisbee gloves on the market: they did not wear very well, nor did they fit different players of varying sizes properly. He set out to solve this problem and so his company was born, Mint Ultimate ([www.mintultimate.com](http://www.mintultimate.com)).

Founded in 2014, Andrew spent a year sampling gloves in order to find the right one. It paid off, so he built his e-commerce website and placed his first order of 1000 gloves. The rest is history; Mint Ultimate today has sold gloves in 20 different countries and has a customer base ranging from high school to professional players. Mint Ultimate has become a well-known brand and currently sponsors 10 professional players. Andrew recently raised a seed funding round for Mint Ultimate with a private investor and is working on launching its second product line soon.

Andrew's first exposure to entrepreneurship education came when he attended an undergraduate entrepreneurship course at Schulich and began working closely with a faculty member as a mentor. Since that time, Andrew has worked with the Bergeron Entrepreneurs in Science & Technology in the Lassonde School of Business and with LaunchYU, Innovation York's entrepreneurship program to take his business to the next level. Andrew's success is clear, as he won his entrepreneurship class competition twice and took home first prize (\$15,000) in LaunchYU's pitch competition.

Andrew is an excellent example of the type of dedicated and dynamic entrepreneurs we have at York University.



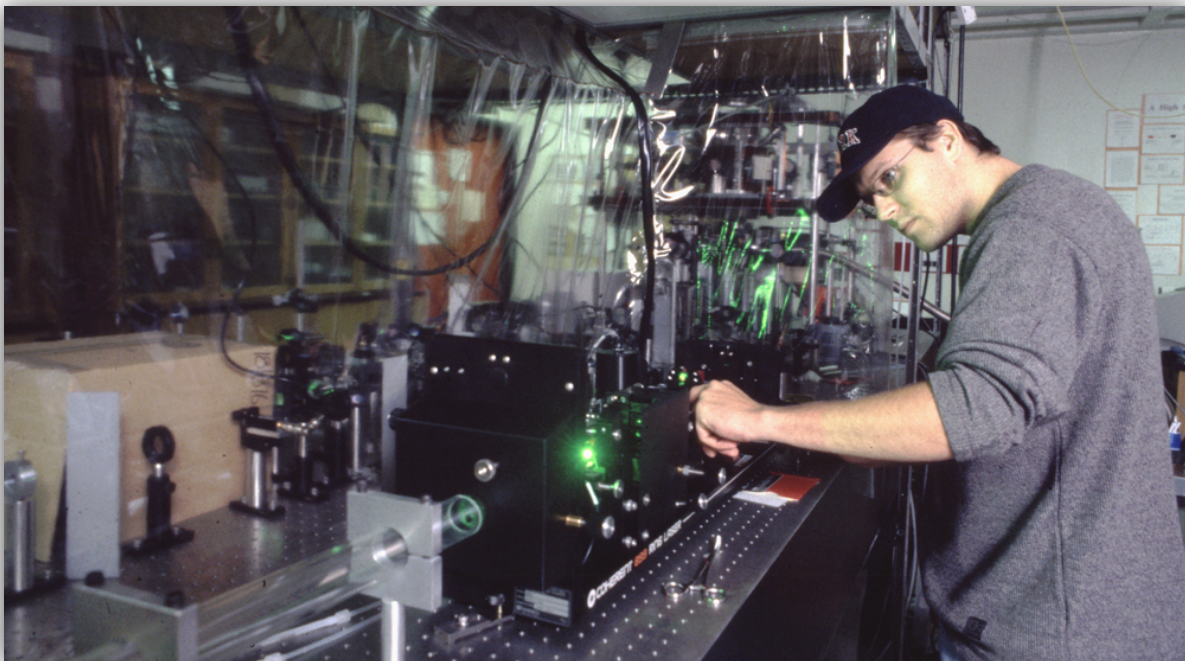
Andrew Oh, President & CEO of Mint Ultimate (Photo / Mint Ultimate).

***Dr. Anantharaman Kumarakrishnan***  
**Northwood Photonics**

Northwood Photonics is a startup company incorporated in order to commercialize a class of lasers called continuous wave lasers used in gravimetry, a highly precise technique involving measurements of gravitational acceleration that is used in natural resource exploration. Developed by Dr. Anantharaman Kumarakrishnan and his research team in the Faculty of Science, these laser systems are more cost effective and have better stability than traditional lasers currently available on the market.

Working with Innovation York for the past three years, the team has had a great deal of success in moving the commercial development of these lasers forward. After successfully obtaining an NSERC I2I Phase 1 (\$125,000), NSERC I2I Phase 1b (\$60,000), and Ontario Centres of Excellence, Market Readiness 1 (\$50,000), the team has been able to obtain significant customer traction with a company called Scintrex Limited ([www.scintrexltd.com](http://www.scintrexltd.com)), a pioneer in geophysical exploration of natural resources. Scintrex will be collaborating with Dr. Kumarakrishnan to test and validate two commercial prototypes in the summer of 2016.

Northwood Photonics was incorporated in early 2016 and Dr. Kumarakrishnan appointed as the Chief Executive Officer. Northwood Photonics, with the support of Innovation York, continues to commercialize this laser system. Once the system has been validated, Northwood Photonics will begin taking orders and generating revenue, with Scintrex as the company's first customer.



Graduate student Matthew Weel aligning titanium: Sapphire Ring Laser (photo / York University)

## ***Dr. Lauren Sergio***

### **BrDI**

BrDI, short for Brain Dysfunction Indicator, is a ten minute neurocognitive program that provides a risk profile for concussion and dementia. The tool is a software application that engages thinking and movement at the same time and requires the user to track a dot on a touch sensitive surface with two different planes of view. The exercise assesses brain network integrity and a user's performance and provides accurate indicators for the degree to which they are affected by concussion or dementia.

Developed by Dr. Lauren Sergio and her research team, the first version of BrDI was an interface using a computer screen and a tablet. When Dr. Sergio and Innovation York, and later Innovation York's commercialization partner, MaRS Innovation, began to work together, the technology was adapted into a sleek software application that could be used on any touch surface. The commercialization and team continues to focus on increasing the usability of the application and developing a professional product that could be publicly disseminated for mass consumption.

Over the past few years, key partnership have been formed that enable the further development and testing of BrDI. A strategic partnership was formed with gaming company, Andy Fire Games ([www.andyfiregames.com](http://www.andyfiregames.com)) who have been instrumental in developing BrDI 2.0. Other strategic partnerships with York Region based company, Memory and Company ([www.memoryandcompany.com](http://www.memoryandcompany.com)) and Defense Research and Development Canada ([www.drdc-rddc.gc.ca](http://www.drdc-rddc.gc.ca)) have been key in testing the technology on their respective populations, elderly individuals and military personnel.

Next development steps are to validate and finalize BrDI 2.0 and to move on to development of a new technology, one that will build on the original concept but assist individuals in recovering from concussion and staving off the effects of dementia.



Dr. Lauren Sergio and Christina Stevens, Global News (photo / York University)

## Activity Overview

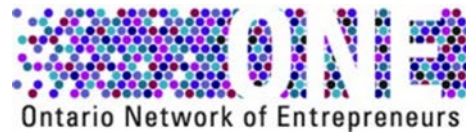
Activity	FY2013/14	FY2014/15	FY2015/2016
<b>Research Agreements</b>			
Total Research Agreements	542	556	494
Government Funding Agreements	202	161	149
Industry Sponsored Agreements	19	28	37
Confidentiality Agreements	27	46	36
Material Transfer Agreements	31	44	34
Other Agreements (e.g. collaboration, intellectual property, amendments)	263	277	238
Total Value of Research Agreements	~\$12,500,000	~\$24,100,00	~\$28,300,000
Controlled Goods Screened	6	4	1
<b>Industry Liaison</b>			
Industry Interactions	160	166	100
Research Grants Supported	30	44	29
Cash and In-Kind Contributions	>\$5,000,000	>\$6,000,000	<\$19,000,000
<b>Commercialization</b>			
Commercialization Grants Co-Authored	8	7	6
Successful Grants	6	2	5
Value of Grants	\$325,000	\$325,000	\$219,155
Invention Disclosures	10	16	9
Active Commercialization Projects	14	18	20
Patent Applications Filed	7	6	8
Startup Companies Formed	0	0	5
Companies (York Obtained Equity)	2	0	5
Total No. of Active Companies	3	2	8
License/Options Executed	2	3	0
Active License/Options	5	4	3
Licensing Revenue	\$36,800	\$30,105	\$1,806
<b>Entrepreneurship</b>			
Companies Using MCC Space	3	6	10
Size of the LaunchYU Community	NA	346*	1345
<b>General</b>			
Events Hosted	0	8	38
Presentations Made	21	28	14
Publicity	0	11	5

\*LaunchYU formerly launched in December, 2014

Thanks to our Partners



MaRS Innovation



Office of the Counsel, Research Accounting,  
Risk Management & Insurance, & the Stacie  
Library



## Who We Are



**Sarah Howe, MBA, RTTP**  
Director, Innovation York

## Research Agreements



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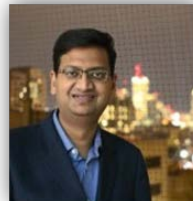
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