

INNOVATION YORK

FY 2014/15

Collaborating for Innovation

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Message from the Vice-President



As we move into our third year of operation, I am pleased to see how active Innovation York has become in the research and innovation culture at York University. As you will see throughout this report, the unit continues to provide quality services, existing and new, to faculty members, trainees and students across the University.

Innovation York's mandate to provide industry liaison and commercialization services for the University is now being realized, as we work actively with each of the 11 Faculties and many of the York's 24 Research Institutes and Centers. There are many success stories from FY2014/15, a number of them are highlighted here. Most exciting was Innovation York's success in leading the development of (in collaboration with the Faculty of Health, Lassonde School of Engineering, and Faculty of Science) a successful proposal to the Ontario Centres of Excellence. Through our success in obtaining On-Campus Entrepreneurship Activities funding, York University became a member of the ONE network: the Ontario Network of Entrepreneurs. This is exciting in many ways, as we are now part of a quickly growing entrepreneurship ecosystem, one that we can build upon in the years to come.

In addition to Innovation York's support for entrepreneurship, we also continue to put significant effort into ensuring our services under the research agreements, industry liaison, and commercialization streams are efficient and effective. In order to ensure that we continue to do so and are delivering services that are meaningful across the campus, we have convened an Advisory Committee. We'd like to thank this committee for their engagement and feedback, now and in the future. It is imperative that we continue to work together in order to ensure the continued delivery of value-added services by Innovation York.

A handwritten signature in black ink, appearing to read 'Robert Haché', written in a cursive style.

Robert Haché
Vice-President, Research & Innovation

Message from the Director



It's been an exciting year for Innovation York, as we continued to engage with faculty members, trainees, and students from across the university in the delivery of value-added services within our four services streams, and with industry to support our collaborative research and commercialization efforts. We continue to support the research intensification of York University and continue our commitment to facilitating meaningful academic-industry partnerships in order to stimulate innovative research and ensure that innovations developed at York have the widest economic and social impact possible.

FY2014/15 was busy year; Innovation York team members worked diligently. The research agreements stream reviewed and executed 556 agreements, the value of which increased by 48% from \$12.5M in FY2013/14 to \$24.1M; the industry liaison stream had 166 industry interactions, which assisted in obtaining more than \$6,000,000 in cash and in-kind contributions for York-based research projects; the commercialization team successfully increased the number of invention disclosures received by 38% and executed 3 licenses / options for York-developed intellectual property; the entrepreneurship stream supported 6 companies within the Markham Convergence Centre, and successfully obtained more than \$550,000 in funding to launch and run a new entrepreneurship program over the next two years, LaunchYU.

Over the past two and a half years Innovation York has provided services to entrepreneurs, meeting with them one on one, providing advice, and introducing them to service providers within the external community. We were successful in providing meaningful support, but our service structure was not sustainable nor was it scalable. This is why we were so excited when the opportunity to participate in the Ontario Centres of Excellence, On-Campus Entrepreneurship Activities program to develop and support an entrepreneurship program on our campus. Developing LaunchYU has been a very rewarding experience; not only have we had a chance to develop an exciting and comprehensive entrepreneurship program, but we've also had the opportunity to partner with many industry experts and organizations, and bring those resources on campus to our entrepreneurial population.

With the initiation of LaunchYU, Innovation York will be able to comprehensively support faculty, trainee, student, and community member entrepreneurs in starting and growing their ventures. Since January 2015, we have successfully engaged 346 entrepreneurs, hosted 8 events, and launched a summer accelerator program with our project partners, ventureLAB and the York Entrepreneurship Development Institute. We can't wait to tell everyone about the amazing companies being created at York and to see what the program brings next year.

We remain committed to our vision and strategic goals and look forward to continued growth and partnerships in the coming year.

A handwritten signature in black ink that reads "S Howe".

Sarah Howe, MBA
Director, Innovation York

Year in Review



556

Agreements Reviewed



With a value of
\$24.1M



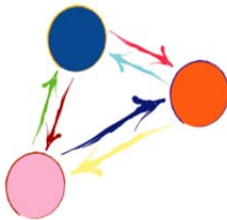
4

Controlled Goods
Screening



28

Presentations
Delivered



166

Industry Interactions



Assisted in obtaining more than
\$6M in cash and in-kind
contributions for **44**
research grants



16

Invention Disclosures
Received



18

Active
Commercialization
Projects

3
Licenses/Options
Executed



Patent Applications
Filed

6



346

Entrepreneurs
Engaged



8

Events Hosted



6

Companies Using
the MCC Space

Service Stream Activity

Agreements

Research Agreement services continues to be a very active area for Innovation York. Once again this year, we saw an increase in the number of agreements reviewed from 542 in FY2013/14 to 556 in FY2014/15. Although the increase in the number of agreements is not huge, the value of these agreements increased by more than 48% from \$12.5M to \$24.1M.

This type of increase shows that the University's efforts to become more research intensive are paying off. The research agreements team has been diligent in their review of these agreements. With an increase in value comes an increase in complexity and as such, it is to the credit of this team that service levels remain high.

One example is an agreement between York and The Ministry of Child and Youth Services. Dr. Uzo Anucha, Associate Professor in LA&PS was successful in obtaining \$3.7M in funding in order to support her research under the Youth Research and Evaluation Hub program. Agreements that support such large-scale funding opportunities are highly complex and require close review to ensure that the terms and conditions are in line with University policies and practices and that the rights of the researcher are protected. Janet Newton of the research agreements team took the lead in this review and was able to navigate a number of complex issues until it was successfully executed.

Industry Liaison

Industry liaison services have had a very successful year, developing relationships with many companies in the York Region, the GTA and beyond, and finding many industry partners for York University researchers. It is the goal of the industry liaison stream to ensure that we have ongoing and active relationships with companies, so that finding partnerships for researchers is faster and more effective. This year, the industry liaison stream developed relationships with more than 166 companies, increasing the total meaningful interactions to 391 since the inception of Innovation York.

Out of relationships developed, the goal is to make introductions to researchers and to develop research collaborations that can be funded by government grants. In the current fiscal year, this stream assisted in obtaining more than \$6 million in cash and in-kind contributions for 44 research projects. This is a 20% increase from the previous year, when we assisted in obtaining \$5 million in cash and in-kind for 30 research projects.

In order to further these activities, the Industry liaison stream successfully held an event at the end of January bringing together academic researchers, industry and government funders to explore "Developing a Long-Term Collaborative Research Roadmap". The event was funded by both NSERC and OCE and was very well attended with more than 125 registrations. In addition to valuable networking activities, the event provided a platform for speakers such as Gerald Audette, Associate Professor, Department of Chemistry, Faculty of Science to discuss the success they've had in collaborating with industry. Other notable speakers included representatives from NSERC, OCE, MITACS, and IRAP.

Commercialization

Commercialization at York continues to grow as an increasing number of faculty members, trainees, and students start to realize the potential of the intellectual property they are developing through their

research activities. With 16 invention disclosures in 2014/15, Innovation York was able to take 4 more commercialization projects into its portfolio, bringing the total number of active projects to 18.

Success within the commercialization stream can take a number of years to realize; some years there may be a number of deals closed, whereas in others the groundwork may be laid for future years. In FY2014/15 the commercialization team worked very hard on a number of commercialization projects, where startup company formation and license execution will occur in future years. Two of the key commercialization projects the team has been working on are:

Daagu. Daagu is an e-learning platform that has been developed by Principal Investigator Gail Mitchell from the Faculty of Health, along with 7 other inventors from the Faculty of Health, Faculty of Education, School of Arts, Media, Design, and Performance and the Advance Broadband and Enabled Learning Unit. The platform facilitates students to direct and create their own learning paths; increases student engagement; captures crucial 'aha' moments; identifies areas of interest and disinterest; and provides teachers and students with a visual map of the activity within a set of discussions or across disciplines. Innovation York, along with the inventors have created a business plan and are actively seeking funding in order to incorporate and launch this startup company in 2015/16.

Mobile Water Kit (MWK). Developed by Dr. Shushanta Mitra and two research associates, Ravi Chavali and Naga Siva Kumar Gunda from Lassonde, the MWK is a smartphone compatible, low-cost water monitoring system for rapid detection of E.coli. Water quality testing in developing countries and in most of the developed nations currently involves transportation of the water samples to centralized laboratories. This is time-consuming, requires well-equipped laboratories and availability of adequately trained personnel. The MWK eliminates this need, as it is a simple, rapid and field deployable test that can be performed at the point of use by an unskilled individual. Innovation York has been working with the inventors to create a business plan, find strategic partners and protect the intellectual property. It is anticipated that a startup company will be incorporated in 2015/16.

Entrepreneurship

It has been a very exciting year for the entrepreneurship stream, as we were successful in obtaining a grant from the Ontario Centres of Excellence (OCE) to create and launch a campus-wide entrepreneurship program. Supported by the Ontario Government's Youth Job Strategy fund, Innovation York, in collaboration with the Faculty of Health, Lassonde School of Engineering, and Faculty of Science was successful in obtaining \$200,000 over two years and matching it with more than \$350,000 in cash and in-kind contributions from external project partners and from units across the University.

The program, LaunchYU, officially began in December, 2014 with a very successful launch event, with workshops, networking events, entrepreneurship related events beginning in January, 2015. In addition to monthly activities, Innovation York partnered with ventureLAB and the YEDInstitute to deliver the LaunchYU Summer Accelerator Program to 20 high potential ventures. Selected through a rigorous application process, these ventures will spend 12 weeks developing and growing their ventures. The most successful ventures will have the opportunity to participate in a pitch competition to win \$30,000 in prizes. The program is open to any entrepreneur on or off campus who wishes to pursue their entrepreneurial endeavours.

Innovation York is happy to welcome Nilay Goyal to the team. He began his role of Entrepreneurship Manager, managing the day-to-day operations of LaunchYU in December 2014. Nilay has extensive experience within entrepreneurship accelerator programs and we're very lucky to have him on board.

LaunchYU

Advancing Entrepreneurship at York University



656

Entrepreneurs Engaged



156

Profiles on Collide Hub



9

Workshops/Events Held



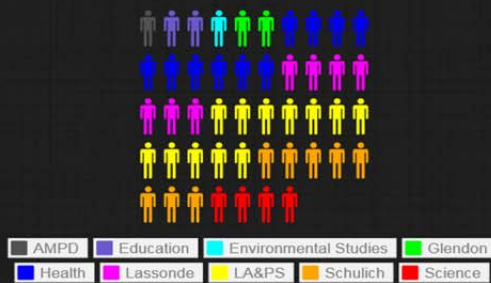
49

Ventures Applied

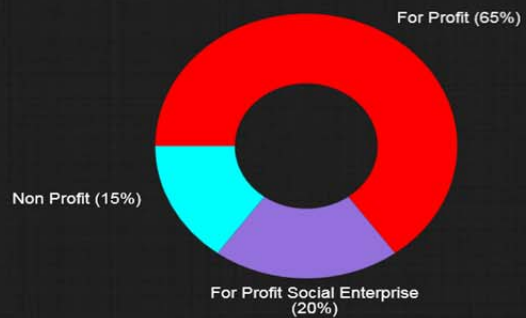
CONNECT | COLLABORATE | LEARN | SUCCEED

LaunchYU Summer Accelerator Program

Distribution of Applications by Faculty



Type of Venture Selected



launchyu.ca



The Markham Convergence Centre

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's incubator space within the MCC enables York University startup companies to have a place of business and take advantage of the entrepreneurial ecosystem at the MCC. The startup companies in the Innovation York MCC space over the FY2014/15 period were:



ENGAGE
BIOMECHANICS

Engage Biomechanics Inc. is focused on developing a wireless sensor platform for pressure ulcer care tracking. The technology gathers care data and provides it to caregivers, managers, family members etc.

Engage Biomechanics was founded by Dr. Andrew Eckford from the Lassonde School of Engineering and Dr. William Gage from the Faculty of Health. www.engagebiomechanics.com



InnoMind
Tech.

InnoMind Technology's mission is to bring medical devices from high-end systems to normal life. Founded in 2014 by Dr. Foroohar Foroozan, Lassonde School of Engineering PhD graduate, InnoMind's main project is a novel high-resolution compact ultrasound imaging system (ComUltra) for emergency applications. www.innomindtechnology.com



kaypok
At the root of your data insight

Kaypok Inc. was incorporated in 2012 through a partnership between Innovation York and MaRS Innovation. Kaypok provides the next generation of unstructured text analytics solutions for enterprises. The technology, developed by Razieh Niazi formerly of the Faculty of Science, analyzes data regardless of source. www.kaypok.com



Ladon Labs is building a solution that will reduce the rate of theft at self-service checkouts by identifying produce without barcodes as they are scanned. The technology is also able to decrease lineups for cashiers by eliminating the need for product lookup codes for produce and increasing adoption of self-service checkout systems. www.ladonlabs.com



return TRUE
media

Return True Media is a marketing and software consulting agency that combines integrated marketing strategies with web and mobile apps, creative and digital media capabilities, and a focus on delivering intuitive user experiences. Its founder, Alexander Martin is an undergraduate student in the Lassonde School of Engineering.

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



The founder, Steven Vacilotto is a graduate of York's Kinesiology and Psychology program.

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

Celebrating our Innovative Researchers

PROBLEM: When a baby dies the experience of grief can be extremely intense for families. Few if any resources acknowledge the grief experienced by parents, siblings and healthcare professionals.

SOLUTION: Dr. Christine Jonas-Simpson, along with her nursing colleagues and film team, has produced four research-based documentaries about the experiences of different individuals living and transforming with loss after the death of a baby.



Christine Jonas-Simpson, RN, PhD has spent the last 17 years researching how human beings live and transform with loss. Motivated by her own personal experience, Dr. Jonas-Simpson focused on the profound and lasting effect the loss of an infant can have on mothers, fathers, siblings and nurses. With nursing colleagues and her film team, she has produced four research-based documentaries: *Why did baby die? Mothering children living with the loss, love and continuing presence of a baby sibling* (2010); *Enduring love: Transforming loss* (2011); *Nurses grieve too: Insights into experiences with perinatal Loss* (2011); and *Always with me: Understanding bereaved children whose baby sibling died* (2014).

All of the documentaries can be used for teaching and learning purposes as well as tools that assist families and other individuals living with grief. Dr. Jonas-Simpson has partnered with Innovation York, to develop a distribution strategy to ensure that maximum benefit is derived from her work. For more information on her journey or on each of the documentaries go to www.bereavementdocumentaries.ca.

“Working with Sarah and Innovation York has been a fantastic experience. Our intent to initiate conversations about perinatal loss and bereavement, which is often disenfranchised and misunderstood, through our documentaries is supported through the work of Innovation York. Together we are breaking down the isolation and stigma that so many bereaved families experience, by providing research-documentaries that can enhance understanding and help build relationships.” ~Dr. Christine Jonas-Simpson

PROBLEM: According the Alzheimer Society of Canada more than 700,000 Canadians are living with some form of dementia; this figure is predicted to increase by 4.9% to 1.4M by 2031.

SOLUTION: Dr. Lauren Sergio has developed an easy to use technology that enables a caregiver or healthcare professional to quickly determine whether a patient is experiencing functional problems related to early/prestage dementia.



Dr. Lauren Sergio has developed software technology that allows a user to determine if an individual is experiencing difficulty performing daily tasks as a result of being at high risk for dementia or having had a concussion. Compared to neurocognitive assessments, Dr. Sergio has developed an easy to use user interface that enables the user to execute a series of neurocognitive movement tasks. The tool has been used by the NHL, CFL and a number of university sports teams, as well as amateur sports team in the Toronto area.

Innovation York partnered with Dr. Sergio to commercialize this technology. In March 2015, QoC Health (<http://qochealth.com>) executed an option agreement for Dr. Sergio's technology in order to evaluate and assess her technology for eventual deployment on their patient engagement platform. QoC is very interested in developing a platform that facilitates the distribution and access of unique academic, intellectual property.



“There is simply no way my fundamental research would be achieving the translation into actually helping people were it not for the spectacular efforts of Innovation York, and, in particular, Hassan. I have no training in this area (I'm a bench scientist!), so the group's guidance and assistance has been crucial, and deeply appreciated.” ~Dr. Lauren Sergio

PROBLEM: Lateral Flow Assay (LFA) devices have gained great popularity in medical diagnosis, food and beverage manufacturing, and water monitoring. However these devices require visual interpretation which is inaccurate, subjective and non-quantitative.

SOLUTION: Dr. Pouya Rezai has partnered with York Region company BTNX Inc. to develop an LFA reader in order to produce more reliable results for the test users, enabling them to obtain earlier and easier detection and in a non-invasive manner.



LFA devices have gained great popularity for their effective applications in medical diagnosis, food and beverage manufacturing and water monitoring to name a few. These devices are used to detect the presence of specific analytes such as hormones, toxic chemicals or pathogenic microorganisms in many different fluidic specimens.

Existing LFAs detect the analytes and generate qualitative interpretation of results, which are inaccurate, subjective and non-quantitative. In order to combat these deficiencies, Dr. Rezai and BTNX are working together to develop a reader prototype in order to significantly improve the detection sensitivities, limits, and dynamic ranges of LFAs, hence generating more reliable results for the test users and enabling them to detect analytes in a more efficient manner, earlier in the process, and in a non-invasive manner. This project is supported by grants from both NSERC and the Ontario Centres of Excellence.

This partnership was developed through the industry liaison stream. Understanding the value of academic research collaborations, BTNX approached Innovation York about their project. Innovation York met with BTNX to understand their project and research needs, found an appropriate research partner in Dr. Rezai, participated in the introductory meetings, and provided support for granting program selection.



“My experience with Cheryl and Innovation York has been very fruitful and productive. Innovation York does not only find partnerships between faculty members and industry, but it also works towards proper formation and deep engagement of the partners in research and innovation, encouraging them to expand the work and taking the outcomes of the research to the market.” ~Dr. Pouya Rezai

Activity Overview

Activity	FY2012/13	FY2013/14	FY2014/15
Research Agreements			
Total Research Agreements	405	542	556
Government Funding Agreements	234	202	161
Industry Sponsored Agreements	23	19	28
Confidentiality Agreements	17	27	46
Material Transfer Agreements	20	31	44
Other Agreements (e.g. collaboration, intellectual property, amendments)	111	263	277
Total Value of Research Agreements	~\$25,000,000	~\$12,500,000	~\$24,100,000
Controlled Goods Screened	3	6	4
Industry Liaison			
Industry Interactions	80*	160	166
Research Grants Supported	NA	30	44
Cash and In-Kind Contributions	NA	>\$5,000,000	>\$6,000,000
Commercialization			
Commercialization Grants Co-Authored	6	8	7
Successful Grants	5	6	2
Value of Grants	\$310,000	\$325,000	\$325,000
Invention Disclosures	17	10	16
Active Commercialization Projects	8	14	18
Patent Applications Filed	6	7	6
Startup Companies Formed	1	0	0
Companies (York Obtained Equity)	1	2	0
Total No. of Active Companies	1	3	2
License/Options Executed	1	2	3
Active License/Options	3	5	4
Licensing Revenue	\$0	\$36,800	\$30,105
Entrepreneurship			
Companies Using MCC Space	2	3	6
Entrepreneurs Engaged in LaunchYU	NA	NA	346*
General			
Events Hosted	0	0	8
Presentations Made	18	21	28
Publicity	9	0	11

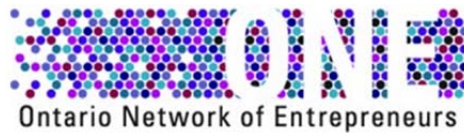
*LaunchYU formerly launched in December, 2014

Thank You to Our Partners



The Bergeron Entrepreneurs in Science & Technology

MaRS Innovation



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



Who We Are



Sarah Howe, MBA, RTTP, Director, Innovation York

showe@yorku.ca

(416) 736 2100 x.20579

“The best way to predict the future is to invent it” ~Alan Kay



Cheryl Giblon, P.Eng., MBA, PhD, Industry Liaison Manager

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(416) 736 2100 x. 55753

“Alone we can do so little; together we can do so much” ~ Helen Keller



Nilay Goyal, MBA, Entrepreneurship Manager

goyaln@yorkuk.ca

(416) 736 2100 x.20595

“The world is moving so fast these days that the man who says it can’t be done is general interrupted by someone doing it.” ~Elbert Hubbard



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“All day, every day” ~Unknown



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“Expect problems and eat them for breakfast” ~Alfred A. Montapert



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“Start where you are. Use what you have. Do what you can.” - Arthur Ashe