



**WE ARE  
PUSHING  
BOUNDARIES**

**APPLIED RESEARCH & INNOVATION  
A YEAR IN REVIEW | 2016-2017**

# MESSAGE FROM THE DEAN

# QUICK FACTS



The 2016-17 academic year was one of incredible change and growth for Applied Research & Innovation (ARI), as we continue to break down obstacles to applied research by finding more flexible and non-traditional ways of achieving results.

With the launch of our ARI Strategic Plan, we will be focusing on 5 key research areas: Internet of Things, Social Innovation, Sustainable Architecture, System Integration, and Transmedia. These are the five areas in which Humber is currently best equipped to explore, with faculty experts, talented students, and high end facilities to expedite each - but this doesn't mean we stop there. Applied Research & Innovation at Humber has never been more prominent, and we continue to cultivate innovative research projects that address the needs and challenges of our industry and community partners.

Humber is rolling out the launch of three Centres of Innovation to support research activities across all campuses: the Centre for Creative Business Innovation, the Centre of Innovation in Health & Wellness, and the Barrett Centre for Technology Innovation (CTI). The CTI building is currently under construction and is scheduled to open in 2018. As these Centres of Innovation develop alongside the growing success of ARI and the Centre for Entrepreneurship (formerly HumberLaunch), we are building capacity for even more projects and gaining traction with funders and partners who want to collaborate with Humber on applied research and innovation activities.

I am incredibly excited to see how Applied Research & Innovation will continue to develop over the next year.

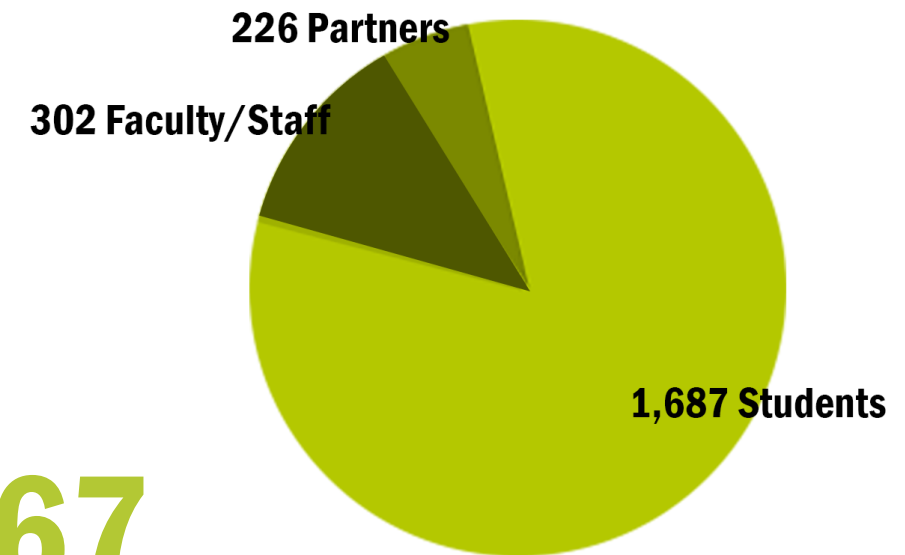
Darren Lawless, PhD  
Dean, Applied Research & Innovation

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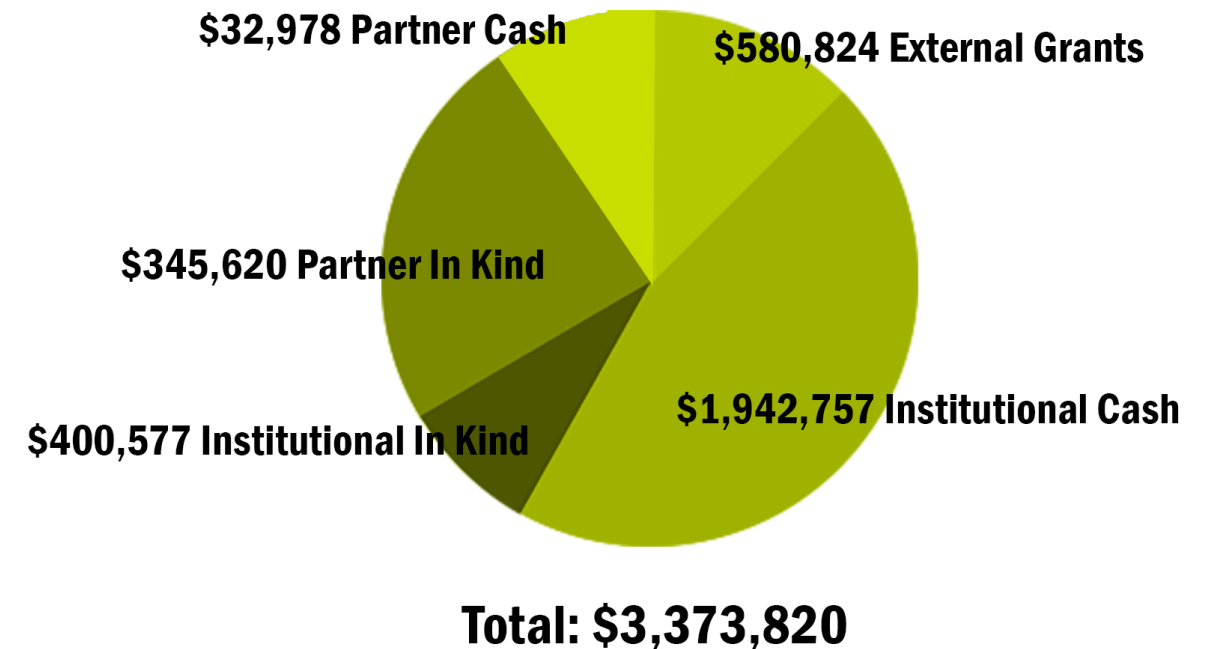
## 2017 FISCAL YEAR

### OUR CONTRIBUTORS



# 267 PROJECTS

### RESEARCH DOLLARS



# RESEARCH EXCELLENCE AWARD

## AMANDA BASKWILL 2016-2017 AWARD RECIPIENT



Amanda Baskwill, Associate Dean - Allied Health, is the 2017 recipient of Humber's Research Excellence Award. Amanda has a strong track record as a researcher who aims to leverage what she learns to positively impact massage therapy education and practice.

In 2013, Amanda was awarded a Canadian CAM Research Fund (CCRF) grant from the Canadian Interdisciplinary Network for Complementary & Alternative Medicine Research in order to investigate the use of information videos to improve the experience of massage therapy patients. She has also conducted a study analyzing changes in blood sugar level in people with type 2 diabetes following massage therapy that showed that blood sugar levels decrease during a treatment. Amanda also organizes an Annual Student Massage Therapy Night to encourage students to improve their research literacy and has just ended her 3rd year on the Humber Research Ethics Board. Amanda will continue her research with two new projects: Patients' Experiences of Ending Massage Therapy Care, and Flunking or Flying Colours: A Canadian MT Education Environmental Scan, with the support of the College of Massage Therapy of Ontario (CMTO) and the Massage Therapy Research Fund (MTRF).

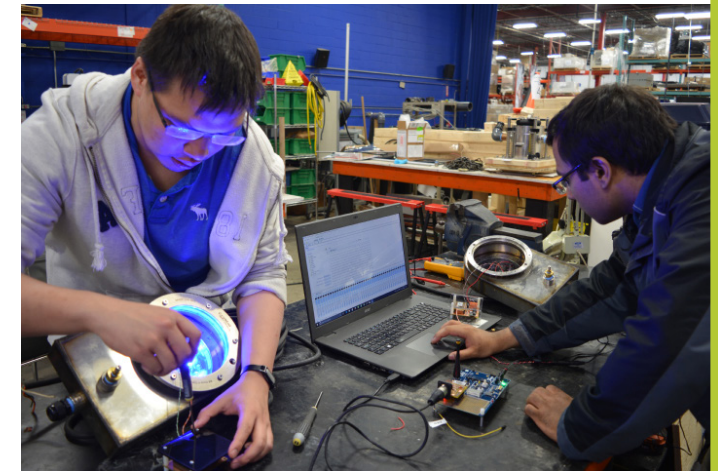
### About the Award

The Research Excellence Award is designed to recognize faculty and staff members who have made significant contributions to the growth of Humber's applied research program. These contributions may include:

- creation of a well-established applied research program;
- applied research that involves students as research assistants or researchers. Ideally, the applied research will enable students to apply concepts they are learning in their program;
- applied research that attracts external partners as well as external funding. Often the applied research program will begin with internal funding and then it will grow to attract external dollars;
- applied research that has an impact on the researcher's field or industry (e.g. patents) as well as on Humber students and/or curriculum; or
- applied research that includes knowledge dissemination through presentations, conferences, publications, etc.

# APPLIED RESEARCH PROJECTS

Applied Research & Innovation activities at Humber focus around, but are not limited to, five strategic priority areas: Internet of Things, Social Innovation, Sustainable Architecture, System Integration, and Transmedia. The following pages highlight some project successes from the 2016-2017 academic year.

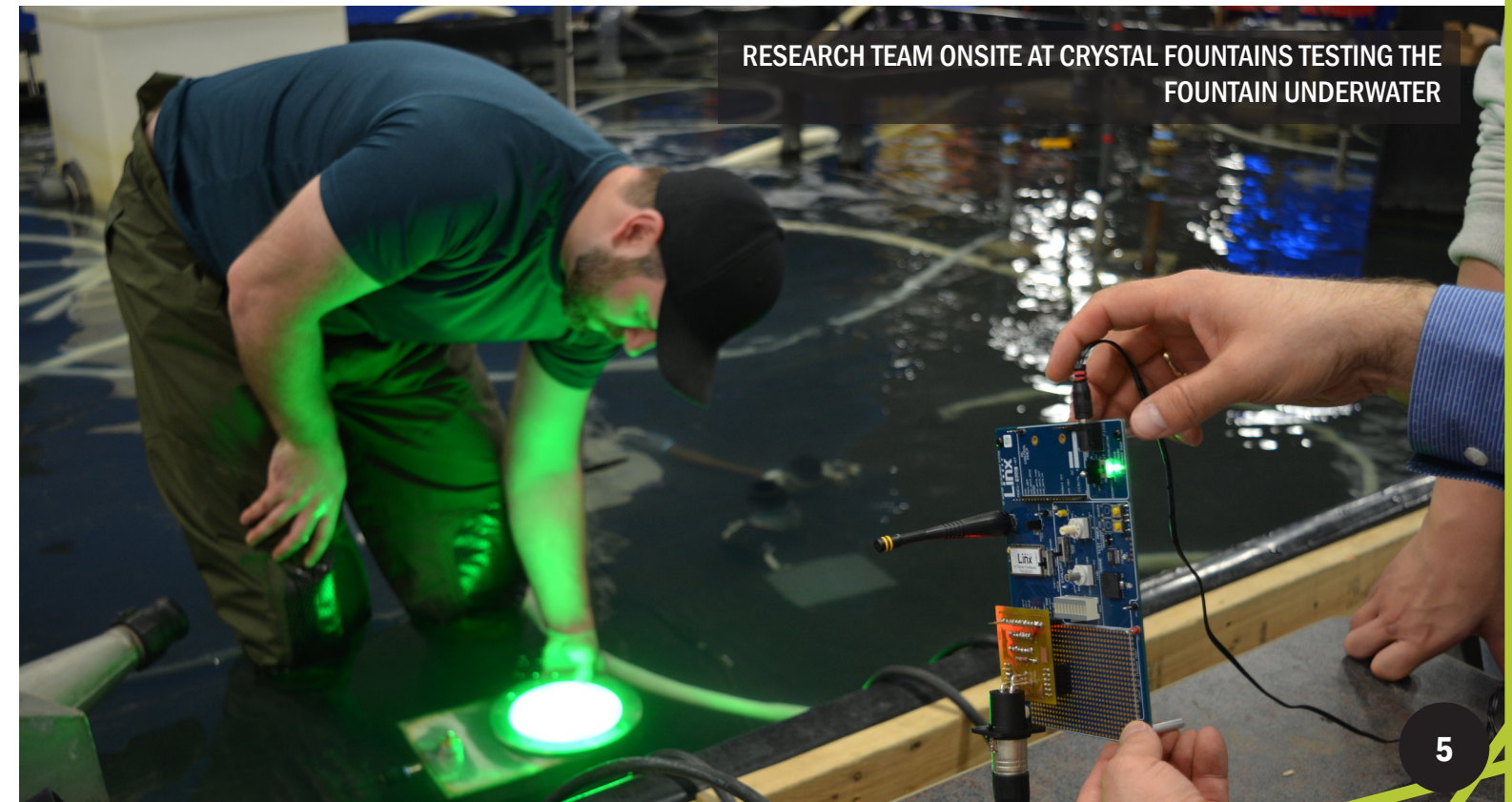


## SYSTEM INTEGRATION

### WIRELESS CONTROL OF UNDERWATER FOUNTAIN FIXTURES

**Partner:** Crystal Fountains Inc.  
**Project lead:** Kristian Medri  
**Funder:** Humber Applied Research & Innovation  
**Students:** Thomas Chang, Prमित Roy

Decorative water fountain technology is advancing with innovations in water pressure, stream shape, direction, lighting choreographed to music, and audience interaction. Computer Engineering Technology students worked with partner Crystal Fountains to enable wireless control of fixtures submerged under water. Students learned industry standard protocols for this type of lighting system and its use in practical applications. They contributed to creating an innovative lighting system with more control flexibility and increased their knowledge of and experience with hardware and software composition.



RESEARCH TEAM ONSITE AT CRYSTAL FOUNTAINS TESTING THE FOUNTAIN UNDERWATER



INDUSTRIAL DESIGN CLASS PRESENTING THEIR IDEAS TO CRYSTAL FOUNTAINS' SENIOR ART DIRECTOR

**FOUNTAIN DESIGN COMPETITION:  
EXPLORING NEW HORIZONS**

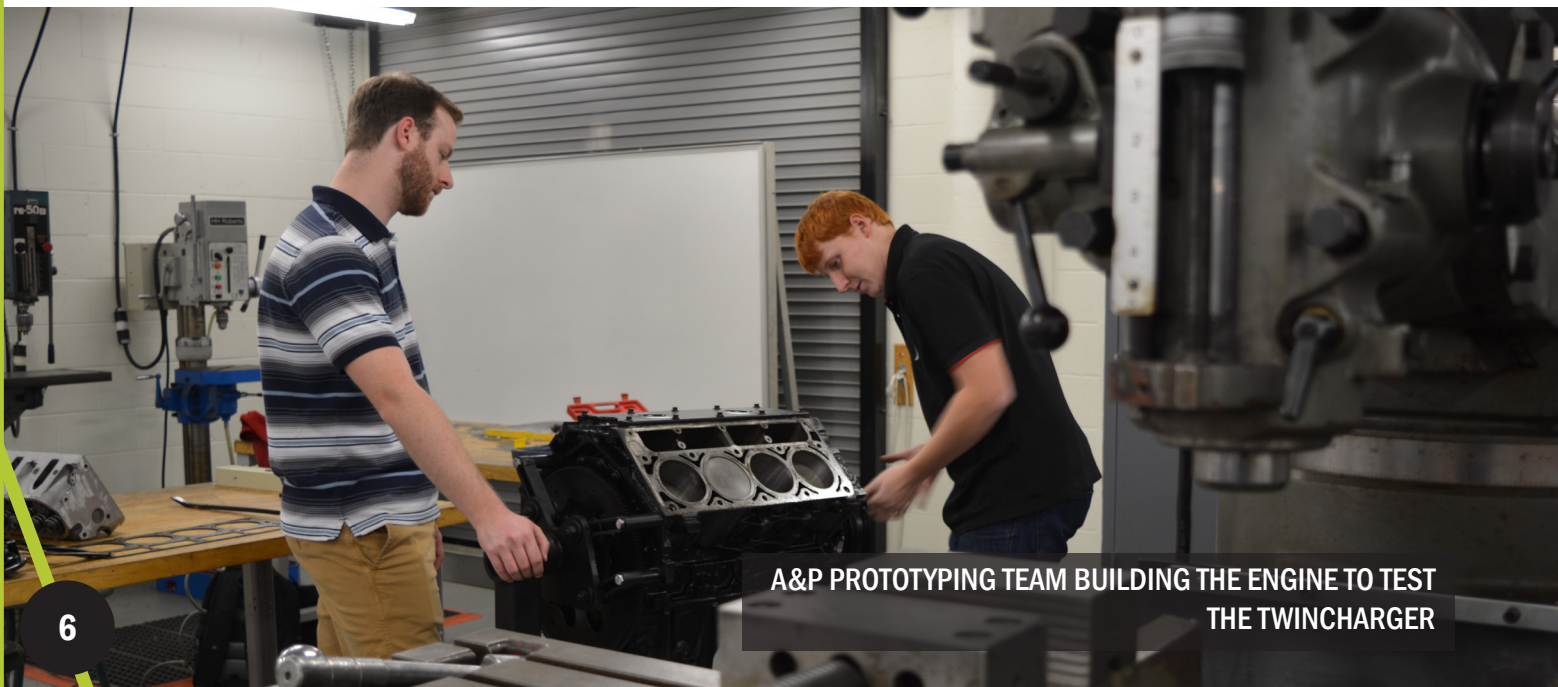
**Partner:** Crystal Fountains Inc.  
**Project lead:** Odin Cappello  
**Co-investigator:** Glenn Moffat  
**Students:** 2nd year Industrial Design students

Second year Industrial Design students spent their fall term with Crystal Fountains partners Jongmu Lee and George Ayer designing fountain concepts that would be put to a real test: each student team created a complete product experience and presented their design to a panel of judges for a chance to win sponsored prize money and have their design developed by an industry leader. Students worked in teams to design working fountain models to present to Crystal Fountains – a leading company in creating beautiful and functional water displays around the globe. Lee, Senior Art Director at Crystal Fountains, helped direct these students throughout the process of sketching and building their designs before participating on the judging panel to evaluate their final work. Prizes were awarded to five winning teams who moved on to present their ideas at the Crystal Fountains Head Office.

**TWINCHARGER**

**Partner:** A&P Prototyping  
**Project lead:** Hassan Hassan  
**Co-investigator:** Jacob Pranger  
**Funder:** Humber Applied Research & Innovation  
**Student:** Eric Andrews

Mechanical Engineering Technology alumni Eric Andrews and Jacob Pranger launched A&P Prototyping and partnered with Humber to create a prototype for their product, the Twincharger. The Twincharger combines the most efficient and cost effective aspects of a turbocharger and supercharger to maximize a combustion engine. The project team accessed Humber's machine shop and labs to build this initial prototype, which will undergo testing and then progress to be marketed for commercial sale.



A&P PROTOTYPING TEAM BUILDING THE ENGINE TO TEST THE TWINCHARGER



STUDENT RESEARCHERS PRESENTING THE SAFETY TRAINER TO PARTNERS AT OMRON CANADA

**OMRON SAFETY TRAINER**

**Partner:** Omron Canada Inc.  
**Project lead:** Peter Villalta  
**Co-investigator:** Neal Mohammed  
**Funder:** Ontario Centres of Excellence  
**Students:** Daniel Abisso, Kyle Nyman, and Paul Schiabel

Electromechanical Engineering Technology students worked with Omron to program and build a machine that would be able to demonstrate industrial safety practices and ensure that companies in the manufacturing industry are in compliance with these safety standards. The resulting Safety Trainer cell achieves this while being easily transportable for use at various locations. Omron was very pleased with the final product and plans to work with Humber to make more of the Safety Trainer cells, one of which may be used at Humber to train students.

**“TO SEE A WORLD CLASS COMPANY GIVE THAT KIND OF REACTION TO STUDENTS WAS REALLY SATISFYING.”**

**PAUL SCHIABEL, STUDENT  
ELECTROMECHANICAL ENGINEERING TECHNOLOGY**

# INTERNET OF THINGS



STUDENT RESEARCHERS ANALYZING THE HIVE HEALTH PRODUCT MOLD

## HONEY BEE HIVE HEALTH DEVICE

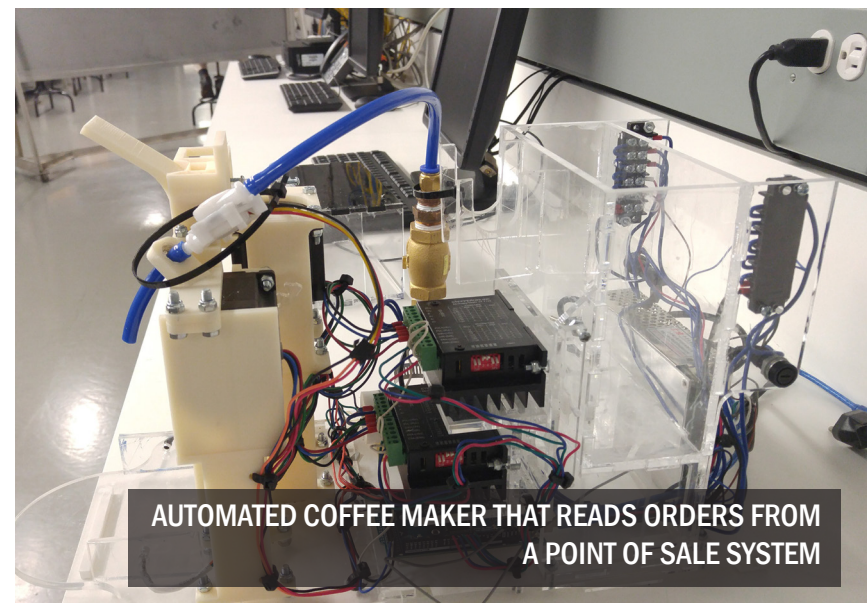
**Partner:** miRoute Inc.  
**Project lead:** Peter Wheeler  
**Funder:** Humber Applied Research & Innovation  
**Students:** Derick Cheaney, Stephen Farr, Nicholas Romano

Humber collaborated with miRoute to produce a hive health device that counts bees as they go in and out of a hive, measures the weight of the hive to indicate the build-up of honey, and takes the temperature inside of the hive – a tool that would be incredibly helpful to bee keepers and the farming community. Students designed and prototyped a printed circuit board and enclosure, built a weight sensor, and coded an embedded controller and application display of the data. miRoute arranged for commercialization and online marketing of the product. The device will eventually be commercialized as a total agriculture product line solution including everything from sensor inputs to data prediction.

Codehesive Solutions Inc. leveraged Humber expertise to create a fully integrated coffee service system that uses sensors, pneumatics, electronics and a feedback system to fulfill orders directly from a point of sale system as soon as it has been punched in. This innovative solution will reduce human labour, increase order accuracy, and increase the speed at which a coffee is made. With a functional proof of concept, Codehesive Solutions is now working to develop an industrial grade finished product.

## AUTOMATED COFFEE SERVICES USING INTEGRATED TECHNOLOGY FOR VENDORS

**Partner:** Codehesive Solutions Inc.  
**Project lead:** Harshvadan Panchal  
**Co-investigator:** Neal Mohammed  
**Funder:** Humber Applied Research & Innovation  
**Student:** Dylan Godfrey



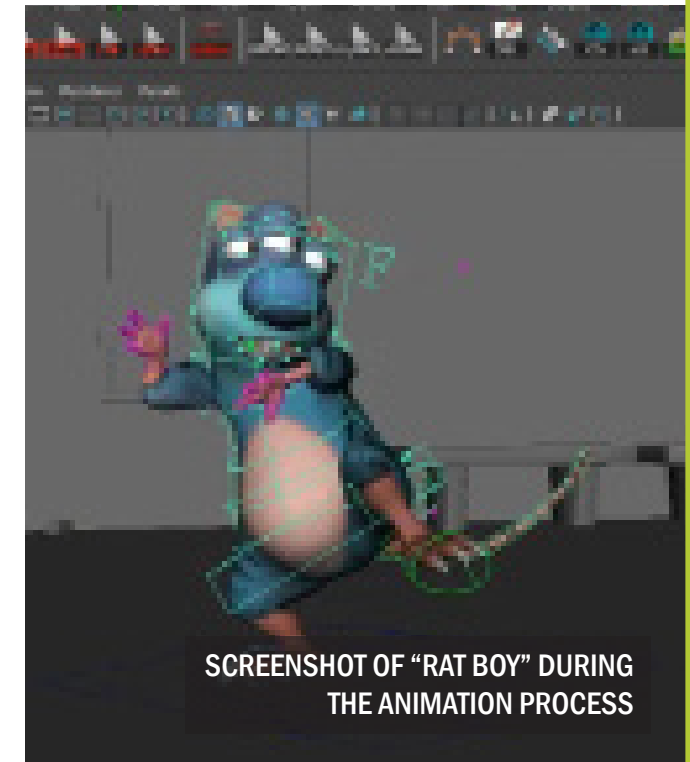
AUTOMATED COFFEE MAKER THAT READS ORDERS FROM A POINT OF SALE SYSTEM

# TRANSMEDIA

## 3D CHARACTER DEVELOPMENT

**Partner:** Advanced Micro Devices, Inc.  
**Project lead:** Cory Avery  
**Co-investigator:** Paul Neale  
**Funder:** Humber Applied Research & Innovation, Ontario Centres of Excellence  
**Students:** Jacob Cattapan, Matt Cook, Saul Garcia

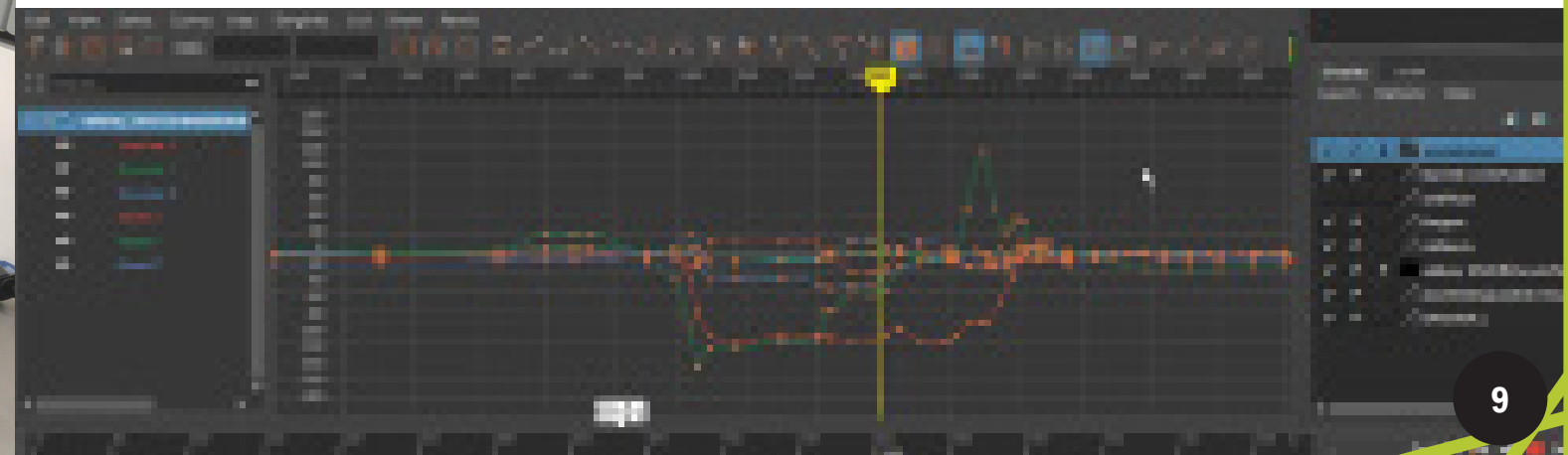
Humber worked with Advanced Micro Devices, Inc. (AMD) to create models, animations, and an environment to demonstrate AMD's proprietary technology. A team of 3D Animation, Art and Design students not only refined a character model, "Rat Boy," that the company had created, but also animated an entire subway environment and the character in order to show off AMD's TressFX technology, which gives realistic hair and fur movement to video game characters. AMD showcased their technology and the students' work at Game Developers Conference 2017, the largest annual gathering of professional game developers.



SCREENSHOT OF "RAT BOY" DURING THE ANIMATION PROCESS

**"THE STUDENTS STEPPED UP TO THE PLATE AND WORKED HARD TO GET WHAT NEEDED TO BE DONE, DONE. THEY WENT ABOVE AND BEYOND."**

**SEAN SKELTON, GRAPHICS & EFFECTS - RESEARCH & DEVELOPMENT  
ADVANCED MICRO DEVICES INC. (AMD)**





SECOND YEAR WEB DESIGN AND INTERACTIVE MEDIA CLASS DESIGNING APP SOLUTIONS FOR LEGALSWIPE

Students in Robert Blain’s second year Web Development class worked with Legalswipe to review and revise the company’s existing iOS app. Legalswipe provided students with a detailed brief that outlined the objectives, target audience and deliverables for the app. Each student team devised a strategy and developed wireframes, mock ups, design flow diagrams and an interactive prototype. They pitched their design to Legalswipe, then validated their design decisions through user testing. Legalswipe and Robert Blain selected a winner and runners-up, and will continue to work with Humber to develop the winning concept.

**MOBILE APP USABILITY PROJECT**

Partner: Legalswipe Inc.  
 Project lead: Robert Blain  
 Students: Second Year Web Design and Interactive Media

**E-COMMERCE WEBSITE DEVELOPMENT FOR CUSTOM 3D PRINTED GAME CHARACTERS**

Partner: U-Dimensions Inc.  
 Project lead: Bernie Monette  
 Co-investigator: Joanna Kommala  
 Funder: Humber Applied Research & Innovation, Ontario Centres of Excellence  
 Students: Susan Saler, Lee Situ

Working with U-Dimensions, Humber students developed a web-based platform with a unique user experience for the start-up company. This involved deploying, configuring, testing, and launching an e-commerce management system. Once the site has launched, U-Dimensions will be able to effectively promote and sell their products.

**“THE SOFT SKILLS THAT I HAVE DEVELOPED IN PROBLEM-SOLVING ISSUES, COLLABORATING WITH CLIENTS, COMMUNICATING WITH A TEAM, AND PROJECT AND TASK MANAGEMENT HAVE BEEN AN INVALUABLE PART OF MY HUMBER EXPERIENCE.”**

**SPENCER FU, STUDENT HUMAN RESOURCES MANAGEMENT**

**“WHEN STUDENTS GET INVOLVED IN SOCIAL JUSTICE AND TRY TO BE MORE ACTIVE AND PRESENT AND ARE A PART OF THE CHANGE THEY WANT TO SEE IN THE WORLD, I THINK THAT’S AMAZING.”**

**MARIA BARCELOS, DIRECTOR THE GATEHOUSE**



STUDENTS PRESENTING THEIR WORK AT THE APPLIED RESEARCH INDUSTRY BREAKFAST

**E-SOLUTIONS FOR SMALL BUSINESSES**

Partners: Ingenium, Tantu Designs, Milton Youth Theatre Productions, Living Pharmacy Inc., Canadian Foods Distribution, M.S. Mohindru Professional Corporation  
 Project lead: Hanadi Alnawab  
 Funder: Ontario Centres of Excellence (OCE)  
 Students: Kiran Bajwa, Fariyah Chowdhury, Spencer Fu, Irina Gorea, Christine Howald, Shyren Husham, Alina Kniazeva, Pedro Oliveira

Hanadi Alnawab, Program Coordinator of the Digital Business Management degree program, and a multidisciplinary team of students helped six Toronto-based companies develop and implement online tools to support new market opportunities. This work received funding from the OCE Voucher for E-Business and Technology Adoption program, which gives small and medium-sized businesses access to expertise and resources at Humber to help scale up their online profiles. Partner companies received a variety of e-solutions, ranging from new information websites to e-commerce tools to online re-branding. Students from a wide range of disciplines, including the Digital Business Management degree, Human Resources Management degree, and Graphic Design diploma programs brought these solutions to life. Students learned both from industry partners and their peers from other programs, and all of the industry partners were impressed with the results.

# SOCIAL INNOVATION

## PROGRAM EVALUATION OF NEIGHBOURHOOD OFFICER PROGRAM

**Partner:** Toronto Police Service  
**Project lead:** Jeanine Webber  
**Co-investigator:** Samantha Brown, Alyssa Ferns, Daniel Fowler, Michael Gamble, Doug Thomson  
**Funder:** Social Sciences and Humanities Research Council  
**Students:** Jamal Brown, Chelsea Burton, Brooke-Lynne Chapham-Haynes, Justyna Fabisiewicz, Mckensy Hamner, Vanessa Headley, Mia Hershkovitz, Sarah Medves, Nico Novembre, Kammy Padda, Akbar Qaderi, Daniel Romero, Kayla Sheehan, Stephanie Sulit, Sherene Whyte



The Toronto Police Service's Neighbourhood Policing Program (NPP) aims to reduce crime, increase public safety, and increase public trust in the police. The research team from Humber's School of Social & Community Services are completing a comprehensive evaluation of the NPP by conducting surveys and focus groups with adults and youth community members living in the neighbourhoods where the NPP is operating. Students from several programs are gaining valuable experience with co-facilitating focus groups, survey collection and data analysis. Since the project began in 2015, the team has collected over 3,000 surveys and conducted numerous focus groups with community members and neighbourhood officers. Data collection was completed during summer 2017 and the research team is excited to begin the analysis and dissemination processes.

Renn Scott's team of students collaborated with the CNIB to design four independent web accessibility solutions aimed at improving access to services and information. Using a Design Thinking methodology, students interviewed and received input from CNIB industry experts and a visually impaired user to understand the goals and needs of their target audience. The design process included empathy interview exercises, user research, in class workshops and brainstorming sessions. Results include mockups and coded web carousels, web pages with parallax scrolling, complex search queries, and search result navigation that are accessible and can be implemented to work with screen-readers. CNIB's goal is to make all effective solutions open source and available to the web development community to promote best practice in accessible design. CNIB will be presenting these accessible web carousels examples at the 2017 Accessibility Innovation Showcase.

### ONLINE ACCESSIBLE CAROUSEL

**Partner:** Canadian National Institute for the Blind (CNIB)  
**Project lead:** Renn Scott  
**Students:** Abbigail Abas, Amanda Coelho, Alison Hall, Daniel Mccahon, Haley Odegaard, Jiang Qiongrong, Rene Ramirez, Kristen Singh, Ariel Villa-Veluz

**"IT'S REALLY IMPORTANT FOR STUDENTS TO SEE BEYOND THE CLASSROOM AND TO SEE THAT THERE ARE APPLICATIONS IN THE REAL WORLD FOR THE KNOWLEDGE THAT THEY'RE GAINING."**

**LYNN SHORT, PROFESSOR  
SCHOOL OF APPLIED TECHNOLOGY**

Partnering with Mothers in Mind (MIM), a mother and child program developed by the Child Development Institute (CDI) for mothers who have experienced trauma, Josephine Mazzuca and a team of students worked with CDI to assess links between violence against women and the potential impact of this violence on their parenting. The team conducted in-depth qualitative interviews with women who have recently participated in the MIM program to understand what impact participation in the program has on the participants and discovered that the mothers who attended the MIM group saw an increase in their self-esteem and a decrease in their social isolation.



### MOTHERS IN MIND PARENTING GROUP IN THE COMMUNITY

**Partner:** Child Development Institute (CDI)  
**Project lead:** Josephine Mazzuca  
**Funder:** Humber Applied Research & Innovation, Social Sciences and Humanities Research Council  
**Students:** Ayelet Ary, Blythe Fletcher, Natalia Palacio, Fabliha Prima, Chantal Ragoonanan

### YOUTH IDENTIFIED SPARKS FOR FIREARM POSSESSION IN TORONTO

**Partners:** Amadeusz; City of Toronto, Social Development, Finance and Administration division  
**Project lead:** Tina-Nadia Chambers  
**Funder:** Humber Applied Research & Innovation  
**Student:** Shefat Golam

Humber, Amadeusz, and the City of Toronto's Social Development, Finance & Administration division collaborated on a project 'Look at my Life: Youth Identified SPARKS for firearm possession in Toronto.' During this project, youth groups identified that support for families impacted by incarceration, such as uninterrupted educational attainment, and intense mentored economic opportunities, need to be addressed through the collective impact to deal with firearm possession in Toronto. Based on the project outcomes, partners have proposed a pilot initiative to work with youth aged 18-30 accused of firearm possession that are incarcerated in Toronto to enable participation in a throughcare program model that uses a trauma informed care framework to provide continuity of care throughout and beyond a participant's remand, possible conviction, and release back into the community.

# SUSTAINABLE ARCHITECTURE

## N-BUILDING RESKIN PROJECT

**Partners:** B+H Architects, Morrison Hershfield Engineers  
**Project lead:** Elizabeth Fenuta  
**Co-investigators:** Angelo Crupi, Cheryl Francis Nurse, Elaine Gergolas, Aman Hehar, Kerry Johnston, Teresa Kutcheran, Dragos Paraschiv, Vasillaq Xoxa  
**Funder:** Humber Applied Research & Innovation  
**Students:** Seyed Amirmehdi Pooladgar, Stefan Bedard, Curtis Deenah, Tanya Lupo, Aaron MacRitchie, Cameron Mitchelmore, Gayatri Mohapatra, Pradip Sharma, Mohammed Siddiqui, Jeffrey Taylor

Industry partners B+H Architects and Morrison Hershfield Engineers mentored a multi-disciplinary student team comprised of Architectural Technology, Sustainable Energy and Building Technology, Project Management, Civil Engineering Technology and Supply Chain Management students as they worked collaboratively to create a design for Humber's N-Building recladding project. The students analysed the existing building for user experience, energy efficiency and structural integrity and produced a 3D digital model, a physical model, presentation panels, and working drawings for partner feedback. This gave the student team the opportunity to go through the same process B+H had gone through to redesign the building, and compare ideas.



DRAGOS AND CONNOR GRIEVE PRESENTING THEIR FINDINGS AT AN APPLIED RESEARCH EVENT



STUDENT AND FACULTY RESEARCH TEAM WITH PARTNERS FROM B+H ARCHITECTS AND FINAL BUILDING MODEL

**“BEING IN A ROOM WITH KNOWLEDGABLE FACULTY, STUDENTS WHO ARE EAGER TO TRY NEW THINGS, AND PEOPLE IN THE INDUSTRY CREATES A GREAT SYNERGY. IT’S AMAZING FOR LEARNING, AND I’M VERY GRATEFUL FOR IT.”**

**CAMERON MITCHELMORE, STUDENT ARCHITECTURAL TECHNOLOGY**



## BUILDING ENVELOPES AND INSULATION: THE FOUNDATION OF PASSIVE HOUSE DESIGN

**Partner:** ROXUL Inc.  
**Project lead:** Rory McDowall  
**Co-investigator:** Dragos Paraschiv  
**Funder:** Natural Sciences and Engineering Research Council of Canada  
**Students:** Chad Thurlow, Kathleen Agustin, Stefan Bedard, Connor Grieve, Giovanni Arend Madalozzo

Humber and ROXUL® analyzed thermal energy performance of residential building envelope assemblies utilizing ROXUL® building insulation products in combination with standard building products from a variety of Canadian manufacturers with the aim of achieving the Passive House standard for energy efficiency. This standard reduces ecological footprint and creates low-energy buildings that require little energy to heat and cool space. The resultant thermal analysis data including 2-dimensional details and drawings of the assemblies will aid ROXUL® in promoting high-performance building technology to the Canadian market. The project demonstrates how Humber College and ROXUL® are leading innovation in sustainable building.



# OTHER PROJECTS

Applied research and innovation activities at Humber are not limited to our five strategic areas of focus! We support many projects in a variety of other areas where Humber faculty, staff, and students are demonstrating emerging expertise and competency.

## MANUAL REMOVAL STRATEGIES FOR NON-CHEMICAL CONTROL OF INVASIVE PHRAGMITES AUSTRALIS

**Partner:** City of Toronto, Parks, Forestry & Recreation division; Ontario Phragmites Working Group  
**Project lead:** Lynn Short  
**Funder:** Humber Applied Research & Innovation  
**Student:** Ben Doerksen



ANALYZING THE CONDITIONS OF PHRAGMITES AUSTRALIS GROWING IN VARIOUS CONDITIONS

Faculty member Lynn Short and student Ben Doerksen conducted research in the Humber Arboretum to control an invasive plant species, Phragmites Australis, which threatens biodiversity and wildlife in Ontario wetlands. Lynn and Ben tested the removal conditions under which Phragmites Australis would be least invasive to other plant and animal species. They evaluated the effects of various situational factors, such as number of removal attempts and varying removal methods and discovered that Lynn's spading method is an effective, non-chemical method to remove the invasive species and keep Phragmites growth under control without harming the surrounding environment.

## EFFECT OF FERTILIZER, SALT AND COVER CROP ON THE ESTABLISHMENT OF NATIVE PLANTS

**Partner:** Toronto and Region Conservation Authority (TRCA)  
**Project lead:** Iginio Teolis  
**Co-investigator:** Lynn Short  
**Funder:** Humber Applied Research & Innovation  
**Student:** Ben Doerksen

The research team conducted a greenhouse experiment to examine the effect of salt and fertilizer on the establishment of native plants. Phase I of an outdoor study examined the effect of cover crops on weed suppression prior to the establishment of native plants was also completed. The team also monitored the actual growth of native plants, as well as researched pollinator use of heavily urban-affected plants.



INVESTIGATING THE EFFECT OF FERTILIZER ON NATIVE PLANTS



STUDENT TEAM PITCHING THEIR HEALTHY KIDS INITIATIVE FOR THE REXDALE COMMUNITY

## HEALTHY KIDS CHANGE-MAKER CHALLENGE

**Partner:** Rexdale Community Health Centre  
**Project lead:** Matias Golob  
**Funder:** Humber Applied Research & Innovation  
**Project teams:** 164 students, 16 faculty and staff

The Healthy Kids Community Challenge provides funding and other support to multi-disciplinary teams of students and faculty to address real-world challenges affecting the well-being of children in our communities. Humber's Centre of Innovation in Health & Wellness partnered with the Rexdale Community Health Centre to develop innovative solutions that encourage children and families to eat healthier and to make vegetables and fruits part of their everyday lives. Over 150 students and faculty experts representing a diverse range of programs worked in teams to develop and design solutions that included hands-on culinary skills workshops, food access programs, and promotional campaigns. Two of the proposed initiatives, "Let's Eat Together," and "Give Junk Food the Boot" were chosen by members of the Rexdale community for implementation, leading to internships and jobs for Humber students.



STUDENTS PARTICIPATING IN THE HEALTHY KIDS CHANGE-MAKER CHALLENGE

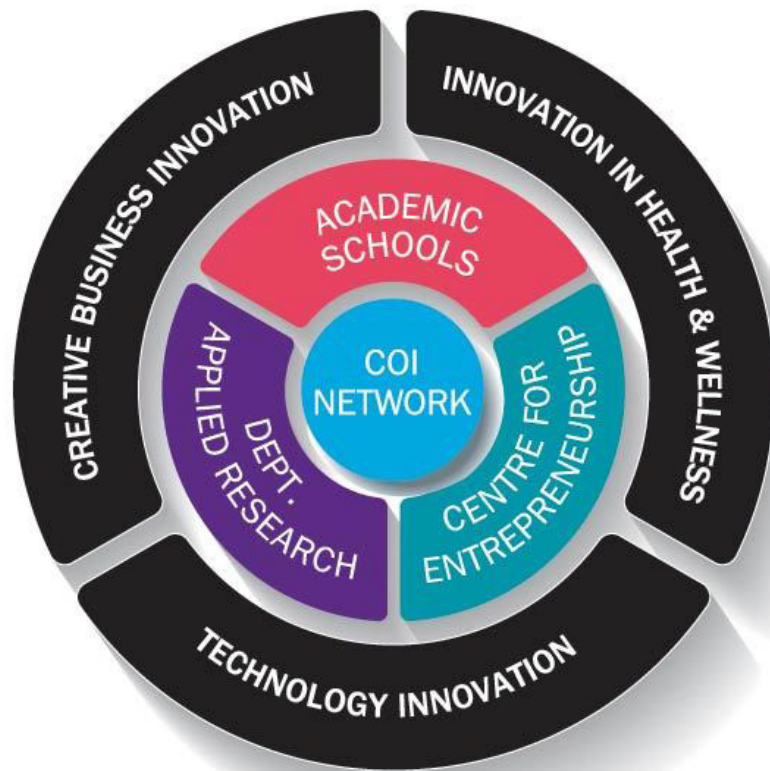
# CENTRES OF INNOVATION

Humber's three multidisciplinary Centres of Innovation (COIs) leverage resources, students, faculty, and staff to help businesses and communities succeed and grow.

Our COIs are innovation catalysts, solving real-world problems, accelerating new concepts, developing new applications and preparing our graduates to drive progress and performance in an era of unprecedented change.

Humber's COI network brings together talented people with the insight, imagination and skills to put ideas into action.

We are collaborating in exciting new ways, bringing unique perspectives to challenges and opportunities. Our COI teams examine problems from many different angles, leveraging their diverse backgrounds and industry expertise to disrupt traditional thinking and design creative, user-centred solutions.



Humber's COIs are centred around three areas of proven strength and industry sector growth:

- Barrett Centre for Technology Innovation
- Centre of Innovation in Health & Wellness
- Centre for Creative Business Innovation

Our COI network bridges the gaps between innovation and application, concept and commercialization.

Located within two new, best-in-class buildings, the COIs will strengthen our innovation ecosystem, providing flexible, technology-enabled spaces for exploring, learning, making and knowledge-sharing.

The COIs are supported by exceptional resources:

- 8 Academic Schools, each with specialized programming
- Faculty expertise in more than 180 subject areas
- 11 Centres for Excellence
- The Centres for Entrepreneurship
- The office of Applied Research & Innovation

We are mobilizing the creative power of next generation innovators and problem-solvers

## BARRETT CENTRE FOR TECHNOLOGY INNOVATION

Developed in response to the growing demand for technology enabled solutions, the Barrett Centre for Technology Innovation (CTI) will be a powerhouse of technological innovation. Our expert teams will provide the in-depth insight that businesses need to embrace technological progress, respond to new markets and be globally competitive. By bringing together different disciplines, people and ideas, the CTI will be ideally positioned to help organizations improve processes, test new concepts, prototype new products, enhance customer relationships, and solve problems limiting growth and productivity. Students will be actively involved in the problem-solving process, using new and emerging technologies to address relevant issues and create meaningful change. They will be immersed in a rich learning environment, gaining the professional experience and entrepreneurial attitudes that power business success.

## CENTRE OF INNOVATION IN HEALTH & WELLNESS

The Centre of Innovation in Health & Wellness (CIHW) plays an integral role in helping businesses and community organizations achieve measurable, positive improvements in employee health and productivity. Established in response to the growing demand for human capital innovation, the CIHW provides the expertise and support that organizations need to address complex challenges affecting peoples' health and productivity in the workplace. By integrating Humber's unique breadth and depth of expertise, the CIHW helps organizations design, develop, and evaluate comprehensive and sustainable improvements in productivity and performance.

## CENTRE FOR CREATIVE BUSINESS INNOVATION

The Centre of Creative Business Innovation (CCBI) will leverage the power of creative enterprise thinking to boost business competitiveness. The CCBI will combine expertise in usability and user experience, creative thinking, global business and entrepreneurship, enabling businesses to gain a deeper understanding of customer perception and take market research to the next level. Expert teams will broadly apply creative practices to create innovative and competitive solutions to business challenges.



THE BARRETT CENTRE FOR TECHNOLOGY INNOVATION WILL OPEN IN 2018

# CENTRE FOR ENTREPRENEURSHIP

The Centre for Entrepreneurship (CfE), located at Humber's Lakeshore Campus in the G Building, provides space for the Humber community to meet, collaborate and create innovative ideas. The CfE first opened its doors in September 2016.

The CfE is the student-focused on-campus destination for anyone who wants to explore the world of entrepreneurship and intrapreneurship. No matter your passion, interest, or previous entrepreneurial experiences, the CfE provides specialized opportunities that stimulate new ways of thinking and support unique entrepreneurship goals. The building houses many resources for entrepreneurs, including a media lab, focus group room, 3D printer, production lab and meeting space.

Experiential learning opportunities offered through the CfE include interactive workshops, networking events, and startup competitions. Participating students, alumni, and community members are encouraged to use the CfE facilities and physical resources to help develop, grow, and test business ideas.



**52**  
**WORKSHOPS**  
**& EVENTS**

**1000+**  
**ATTENDEES**

The Centre for Entrepreneurship runs a wide range of workshops led by Humber professors, mentors and industry professionals, offering plenty of experience and insight for our budding entrepreneurs. CfE members can access networking opportunities, entry into tradeshows, mentorship, funding opportunities and other support.

## MENTORS

The Centre for Entrepreneurship provides members with access to mentors, Humber faculty and industry professionals with experience in a wide variety of areas including financial services, fine arts, and marketing and advertising. CfE mentors have proven to be an invaluable resource for CfE members as they develop their business ideas. By providing one-on-one support and guidance, our mentors are instrumental to the successes of our entrepreneurs.

We are continuously growing our mentor roster and are always looking to network with individuals – both within and beyond the Humber community – who have the experience, expertise, and desire to support the startup community by providing mentorship to new entrepreneurs.

- Olufemi Adegurym – Entrepreneur, Centre for Entrepreneurship Leadership
- Oleg Amurjuev – Program Director, YEDI Institute, York University
- Andrea Auerbach Vieira – Entrepreneur, Artist – Auerbach Vieira
- Steve Bang – Professor, the Business School, Humber College
- Stephen Eiler – President, Plan to Prosper
- Anne Frost – Professor, School of Creative & Performing Arts, Humber College
- Brad Herd – Program Coordinator, The Business School, Humber College
- Ayesha Khan – Senior Marketing Professional, Independent Consultant & Marketing Teacher at U of T
- Wendy McDonell- Entrepreneur, Heart to Mind Leadership Inc.
- Arnon Melo – Entrepreneur, MelloHawk Logistics
- Andrew Mullin - Entrepreneur - Triceratone Audio; Professor - School of Creative & Performing Arts, Humber College
- Suzanne Ross - Professor, The Business School, Humber College
- Mark Stoiko - Professor, The Business School, Humber College
- Zale Tabakman – Entrepreneur, Local Growth Salad



GRAND OPENING OF THE CENTRE FOR ENTREPRENEURSHIP

## MENTOR SPOTLIGHT



### SUZANNE ROSS

Suzanne Ross is a full time professor at Humber and the University of Guelph-Humber with expertise in Marketing. She teaches Entrepreneurial Studies and serves as a faculty advisor for the Guelph-Humber Entrepreneurial Society. Suzanne has participated in coaching and judging competitions with the Centre for Entrepreneurship, acting as a business mentor to a number of new ventures, teaching them how to go about budgeting, marketing, selling, and managing operations.

Suzanne was an entrepreneur herself for seven years. She had a marketing consultancy offering strategic, creative, and project management services to businesses and advertising agencies. Suzanne was also employed as an advisor to new startups with a government-sponsored incubator assisting in the launch of more than 450 ventures, many of which are still in business today. Suzanne says that “the most rewarding thing about being a mentor to students is experiencing the energy and creativity that comes with bringing an idea to fruition. Their enthusiasm and joy brings me great satisfaction”.

### WENDY MCDONELL

Wendy McDonell is the Director of her own company, Heart to Mind Leadership. As a certified coach, she works with startups to offer leadership training and personal development. She has worked in education for over thirty years and held leadership positions for almost three decades. While working as an educator, she introduced the Entrepreneurial Venture program to elementary schools in Etobicoke.

Wendy has mentored the winners of the Centre for Entrepreneurship’s pitch competitions and also assisted with the selection process. She has also been involved with the drop-in mentorship workshops at the CfE. Wendy is driven by the idea that entrepreneurs are their business and teaches entrepreneurs to understand not only their product, but also their environment and their customers. Wendy is passionate about adding value to the next generation of leaders in the business community. “I love what I do because I am using my experience for good by inspiring Humber students to achieve their dream and create a compelling vision for their future.”



## FEATURED STARTUP

### WORKING FOR FULL BELLIES



Alicia Gunning is the founder of Working for Full Bellies (WFFB), a social enterprise created to close the communication gap between millennials and food banks to help get healthy food to food bank clients.

WFFB collaborates with food banks and grocery stores to create stickers indicating food products needed in local food banks. By buying one of these products, consumers can also purchase the same product to be sent to a food bank.

Alicia started the Business Management program at Humber. Through that program, she was introduced to the expertise available at the Centre for Entrepreneurship. CfE mentors, meetings, and conferences helped Alicia grow her business idea. She entered the CfE’s *LaunchPad* Competition in 2016 which helped to develop WFFB’s budget and business plan. WFFB made it to the final round of the competition, and was one of two winners to receive \$7,500 in seed funding. Since the *LaunchPad* competition, WFFB has developed a relationship with suppliers and designed its communications. In August 2017, WFFB launched the ‘One for Me, One for You’ pilot campaign in stores – a campaign that has piqued the interest of many neighbourhood grocers and continues to spark further partnerships in the community.



# LAUNCHPAD

Since the *LaunchPad* competition was introduced in 2012, it has awarded a total of \$175,000 to 23 new startups.

The 2017 competition received 30 applications from Humber student and alumni entrepreneurs. Applicants were narrowed down to eight semi-finalists who attended two speed-pitching events. At each event, entrepreneurs pitched their business ideas to a variety of coaches who offered feedback and assistance. Based on the coaches' feedback and other criteria, finalists were chosen to pitch their ideas in front of a live audience to a panel of judges for the chance to win startup funds.

The *LaunchPad* Competition live pitch finale was held in February 2017 at the Centre for Entrepreneurship. Four finalists pitched to a panel of four judges, and winners were announced live. Both winners received \$7,500 towards their startup business costs.



THE LAUNCHPAD WINNING STARTUPS, JUDGES, AND CENTRE FOR ENTREPRENEURSHIP TEAM

## WINNERS

### Litebulb

An online community where artists and designers pay experts to review creative work in fields such as music, art, design and film.

Team: Benjamin O'Toole and Morgan Zwicker

Amount Awarded: \$7,500

### Working for Full Bellies

A social enterprise collecting food donations and delivering them to local food banks.

Team: Alicia Gunning

Amount Awarded: \$7,500

# UNLOCK YOUR BIG IDEA

The Unlock Your Big Idea Pitch Competition provides entrepreneurs in the GTA with the opportunity to pitch their idea to an esteemed panel of judges and win funding and support. The competition is delivered in partnership with the Peel members of the Ontario Network of Entrepreneurs, including the Brampton Entrepreneur Centre, ICUBE operating out of the University of Toronto Mississauga, the Mississauga Business Enterprise Centre, Sheridan College, the Mississauga RIC Centre, the Town of Caledon and the Humber Centre for Entrepreneurship.

## WINNERS

**Best Young Entrepreneur**  
EMAGIN Inc.

**Best Non-Tech Business**  
Exclusive Dry Cleaners Inc.

**Best Technology Business**  
Aposys Technologies Inc.

**Best Peel Region Business**  
Hybrid Power Solutions



JUDGES DELIBERATING THE WINNERS

The Unlock Your Big Idea live pitch finale was held at the Centre for Entrepreneurship on March 23, 2017. Nine finalists across three categories pitched for the opportunity to win up to \$10,000 in cash and in-kind prizes. Categories included Best Young Entrepreneur, Best Non-Tech Business, and Best Technology Business, with a bonus category for the Best Peel Region Business.



THE WINNING TEAMS AND JUDGES OF THE UNLOCK YOUR BIG IDEA COMPETITION

# PARTNERS & FUNDERS

416 Automation Inc.  
 81 Entertainment Inc.  
 9891048 Canada LTT.  
 Amadeusz  
 Angelene  
 ATI Technologies ULC Inc. (AMD)  
 B+H Architects  
 BeautySeat  
 Bezek Foundation  
 BioSteel Sports Supplements Inc.  
 Black Creek Community Health Centre  
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 Carleton University  
 Child Development Institute (CDI)  
 Chrysalis Yoga  
 Chumbuggy.com Inc.  
 Codehesive Solutions Inc.  
 Crystal Fountains Inc.  
 Elizabeth Fry Society of Peel-Halton  
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 Milton Youth Theatre Productions

miRoute Inc.  
 Mississauga Photography Studio & Gallery Inc.  
 Omron Canada Inc.  
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 Restoration and Empowerment for Social  
 Transition (REST) Centre  
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 Sigma Six  
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 Tantu Designs  
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 (TRCA)  
 Toronto District Catholic School Board (TDCSB)  
 Toronto Police Services  
 Trainsmart Wellness  
 TranQool Inc.  
 U-Dimensions Inc.  
 Up River Trading Co.  
 Urban Poling Inc.  
 Working for Full Bellies



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<b>Michelle Bozzetto, BA</b> Communications Coordinator	<b>Jessica Nwaluka, BHSc</b> Project Coordinator
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## Barrett Centre for Technology Innovation

<b>Neal Mohammed, MEd</b> Director, Barrett Centre for Technology Innovation	<b>Nelia Louro</b> Coordinator, Barrett Centre for Technology Innovation
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## Centre for Innovation in Health & Wellness

<b>Matias Golob, PhD</b> Director, Centre for Innovation in Health & Wellness
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## Centre for Entrepreneurship

<b>Catia Rudnicki, BBA</b> Entrepreneurship Development Coordinator	<b>Marisa Tomassi, BHSc</b> Program Assistant, Centre for Entrepreneurship
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