SENIOR DEAN'S IMPACT REPORT

2017 – 2022

HUMBER

Faculty of Applied Sciences & Technology

HONOURING OUR LAND

Humber College is located within the traditional and treaty lands of the Mississaugas of the Credit. Known as Adoobiigok, the “Place of the Alders” in Michi Saagiig language, the region is uniquely situated along the Humber River Watershed, which historically provided an integral connection for Anishinaabe, Haudenosaunee, and Wendat peoples between the Ontario Lakeshore and the Lake Simcoe/Georgian Bay regions. Now home to people of numerous nations, Adoobiigok continues to provide a vital source of interconnection for all.

Adoobiigok

THE PLACE OF THE ALDERS

In the Ojibwe language, Adoobiigok refers to the Place of the Alders known today as Etobicoke.

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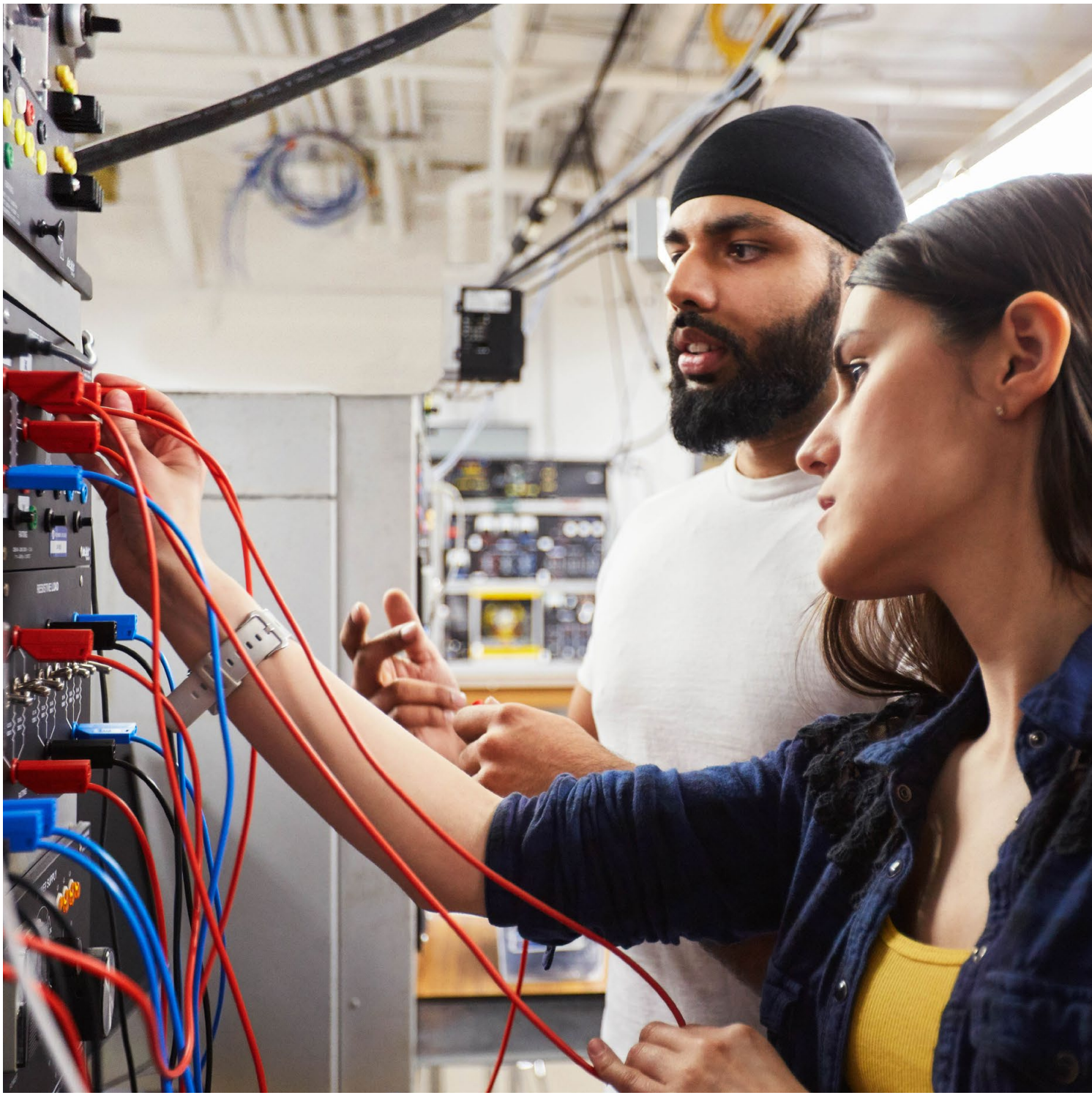


Dear Colleagues,

Milestones are life's road markers. They indicate distances reached, heralded progress, triumphant moments, and the celebration of achievements.

Personally, May 2022 marks a significant five-year milestone.

According to numerology, the number five symbolizes freedom, curiosity, and change – a desire for adventures and to explore new possibilities. For me, the number five also symbolizes a humbling moment filled with gratitude and reflection.

With great pride, May 2022 marks five years serving the Faculty of Applied Sciences & Technology (FAST) as your senior dean. Celebrating the accomplishments of the FAST community is a joy and privilege. Each successive year builds on past achievements and holds promise for an even greater future.

What we have accomplished together during my five-year tenure as senior dean would not be possible without the extraordinary accomplishments of my predecessors, the Humber community and our FAST leadership team.

This five-year tenure has been a period of transformation, innovation, and tremendous growth for FAST. As we continue to collaborate with a commitment to advancing equity, diversity and inclusion and developing career-ready graduates, I want to acknowledge and celebrate the wonderful body of work we have achieved together over the past five years.

It has been an exceptional experience for me to carry out this work with so many dedicated members of the FAST community, including members of our program advisory committee, alumni, industry partners, associate deans, program coordinators, faculty, staff and student leaders, and indeed all of our more than 600 FT/PT faculty, and more than 6,000 students.

I have been fortunate to serve under two vice presidents of academic who have supported our work, as well as collaborate with wonderful colleagues on the Academic Leadership Council and additional Humber senior executives and leaders.

Our collaborative approach these past five years has advanced FAST's strategic goals and been our north star through difficult times. Together, we have overcome the longest Ontario College strike (2017); the reorganization of 8 schools to 6 faculties (2018) to become FAST; persevered through two years of a global pandemic (2019- present); and endured corridor funding budget implications.

We have accomplished incredible growth; launched new programs including three historical engineering degrees; invested in addressing the growing skills gap; fostered strategic industry partners; and helped to transform education on a global stage.

My tenure as your senior dean has given me great optimism and excitement about the ever-growing potential and new directions for FAST. We are poised to play a leadership role in S.T.E.A.M.S. (Science. Technology. Engineering. Art. Math. Social.) and I am excited to continue to work alongside our leadership team, faculty colleagues, staff, students and dedicated industry partners, as we achieve new successes, guided by Humber College's mission to develop global citizens with the knowledge and skills to lead and innovate.

Every day, each member of the FAST community inspires me with their dedication, determination, and tenacity to deliver the very best for our community. Together, we have shown remarkable adaptability, resilience and perhaps even more importantly, empathy and compassion for each other and our students. Our leadership team's contributions and perseverance are deeply appreciated, and I am truly grateful to collaborate and work side by side with all of them.

Often, we are so engrossed in the journey, plodding away day after day, that we don't realize how much progress we're making until we stop and look back. Many small steps create a journey and if we don't stop and look around, we're going to miss some spectacular views. I encourage all of us to take a moment and look back at how far we've come and the exciting journey ahead.

It has been an absolute pleasure and privilege to serve the FAST community at Humber College and I look forward to continuing this journey and enjoying the view with all of you.

With gratitude,

Dr. Farzad Rayegani,
P.Eng, FEC.
Senior Dean

BY THE NUMBERS

ONE OF THE LARGEST & MOST DIVERSE FACULTY OF APPLIED SCIENCES & TECHNOLOGY IN ONTARIO COLLEGE SYSTEM

MORE THAN **50+** FULL-TIME PROGRAMS

13 NEW PROGRAMS

139 SKILLS ONTARIO STUDENT COMPETITORS

$9.5M EXPANSION CENTRE FOR SKILLED TRADES & TECHNOLOGY

6,000+ FULL-TIME STUDENTS

$10M NSERC & CFI & CERF GRANTS

35 SKILLS ONTARIO MEDALS

7 SKILLS CANADA MEDALS

1 SKILLS WORLD MEDAL

$11.9M INVESTMENT IN BUILDINGS & LIVING LABS

650+ PART-TIME AND FULL-TIME EMPLOYEES

▶ FAST students at the Barrett Centre for Technology Innovation

WHO WE ARE

WE ARE FAST

An engaging multidisciplinary and culturally diverse faculty that empowers the creators, engineers, designers, builders, journey people, makers, techies & thinkers setting a course for tomorrow.

We offer comprehensive programs in design, engineering and engineering technology, management, skilled trades & apprenticeships, and Continuous Professional Learning. With more than 50+ programs offered across a span of applied technology and design industries, we develop curricula that includes an educational framework with the critical thinking and hands-on skills that will graduate career-ready, global citizens.

Academic theory blended with applied learning provides a strong educational foundation, while state-of-the-art facilities, work placements, and apprenticeships provide experiential learning in the classroom, and in the industry.

Our students are the innovators and game-changers for tomorrow.

MISSION

To empower learners to be the thinkers of tomorrow and learn for the real world from the best & the brightest to become the best & the brightest.

VALUES

Courage
We are bold in charting a course to provide high quality education.

Innovation
We drive research, innovation and creative enterprise.

Equity, Diversity and Inclusion
We cultivate an environment where all individuals can achieve their full potential.

Health & Well-being
We nurture the health and well-being of our communities.

Sustainability
We preserve our collective future.

STRATEGIC GOALS

This Impact Report details our remarkable progress against the 2017 Strategic Goals we established when I joined Humber College to serve FAST. Aligned with the strategic priorities and three pillars of the Humber College 2018-2023 Strategic Plan, we are providing accessible education in a healthy & inclusive community to prepare career-ready citizens.

- Build and sustain excellent academic programs that move easily from **theory to practice**, from **book to bench**, from **campus to community**, from the **gates to the globe**.
- Continue to invest and build state-of-the-art **academic facilities** designed to accomplish student and faculty engagement and **hands-on learning opportunities**.
- Promote an open, hospitable and engaging environment that fosters curiosity, intellectual, social, ethical and spiritual growth and an appreciation for the dignity of work.

BUILDING THE FAST COMMUNITY

Fostering a strong sense of teamwork is about laying the groundwork for a highly productive team that can communicate, cooperate and innovate in a progressive atmosphere of mutual trust and respect.

The art to building a team is to discover people's strengths and their commitment to working in harmony with all members – complimenting and supporting one another. Much like an orchestra has dozens of musicians and different instruments working in concert together, it takes a multitude of people collaborating and working together to achieve our strategic goals.

I take great pride in the FAST community of learners, associate deans, directors, managers, staff and faculty who are committed to collaborating and cultivating a positive environment that spans three locations and five distinguished clusters.

Our success is built from a strong foundation of contributions from past team members. Nancy Sherman, acting dean, August 2016 - April 2017 played a pivotal role in strengthening the framework so faculty and staff would have multiple opportunities to have their voices heard and more importantly, allow everyone to have a leadership role with the confidence that FAST could positively move forward. In early 2017, she comfortably passed the leadership baton to me and has since maintained an excellent relationship with her Humber colleagues and continues to consult for the college. Former associate dean, Built Environment, Carl Oliver and Janet Bedard were instrumental in launching our three new Engineering Degrees and renovating our Design Centre. Carl is a valued FAST faculty as a program coordinator and Janet is an engineering degree program consultant.

Since 2017, we have worked together to uphold our leadership values that guide us to inspire others, influence decisions and have a positive impact on the FAST community.

Sense of Purpose

We are driven with a strong focus on achieving results and setting students up for success.

Open Communication

We cultivate an environment where we encourage one another to express our ideas and thoughts, as well as listen to what others have to say.

Trust and Mutual Respect

We respect and trust one another in a professional environment.

Shared Leadership

We encourage and welcome ideas and value input and insights.

Effective Working Procedures

We challenge ourselves to deliver our best and motivate each other to strive and achieve our full potential.

Building on Differences

We uphold the Humber College Institutional Equity, Diversity and Inclusion Framework and Strategy and cultivate an environment where all individuals can achieve their full potential.

Flexibility and Adaptability

We are adaptable, agile and open to change in a fast-paced working environment.

Continuous Learning

We are a high-performance team thirsty for knowledge and hungry for new discoveries that may improve our craft and performance.

WE ARE FAST

Design and Built Environment

Dr. Martine Spinks
Associate Dean

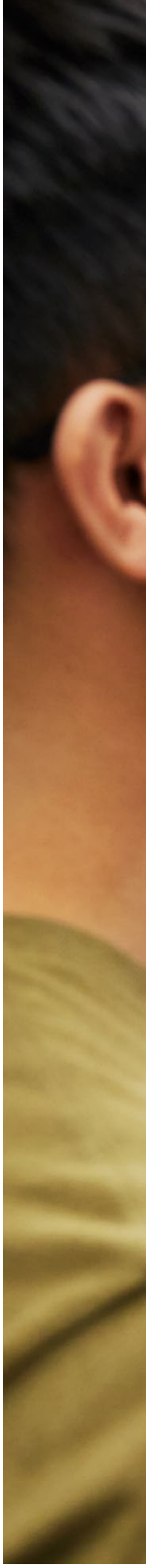
Dr. Martine Spinks holds a PhD from the Bartlett School of Planning, Faculty of the Built Environment, University College London (UCL), England; a MSc. from the London School of Economics and Political Sciences (LSE), England; and, a BA from McGill University, Canada.

She previously worked as a government and public sector consultant in program and project management, policy and legislation development and public consultation for sustainable building and major infrastructure projects. She left consulting to become a tenure-track professor of planning (sustainability and real estate), at the Bartlett School of Planning, Faculty of the Built Environment, University College London, England. Martine moved to Canada with her young family 4 years ago.

Martine is an internationally recognized researcher having spent 15 years living in London, England. Her research interests lie in applications of network approaches, engagement of sustainability in the building process, and incentivization for sustainable building and policy development.

Memorable Moments

1. Launched new Bachelor of Engineering, Built Environment
2. Increased Interior Decorating Diploma enrollment
3. Michael Guido, program coordinator won the League for Innovation, Community College Excellence Award
4. Community partner with Fort Williams First Nation on the successful Humber-UofT CIHR/IRSC Team Grant
5. Founded the Faculty EDI Committee (IDEAS Committee – Inclusion, Diversity, Equity, Accessibility and Sustainability); formed the FAST Student Partnership Forum (FSPF); and member of the Humber EDI Taskforce developing the new EDI Strategy for Humber College
6. Opening of the renewed Design Centre ($1.5 million renovation)



- **Architectural Technology**
- **Bachelor of Engineering - Built Environment**
- **Bachelor of Industrial Design**
- **Bachelor of Interior Design**
- **Civil Engineering Technology**
- **Design Foundation**
- **Interior Decorating**
- **Sustainable Energy & Building Technology**

Advanced Manufacturing

Dr. Shaun Ghafari, P.Eng.
Associate Dean

Dr. Shaun Ghafari, P.Eng. earned his bachelor's degree at the University of Tehran and received his MASc. and Ph.D. degrees from the University of Waterloo, Department of Mechanical Engineering.

Dr. Ghafari has more than 12 years of industry experience in the automotive and energy sectors. He is an expert in automation and machine design and has a successful track record of having successfully completed more than 40 industrial research projects.

He has designed and implemented a new, multidisciplinary Capstone Design in the advance manufacturing cluster with a central focus to provide multidisciplinary student teams with the opportunity to contribute directly to real-life projects using advanced technologies, while collaborating with industry clients.

He was the team leader for large motor and generator services with GE Canada, responsible for the engineering and design of motors and generators for oil and gas, mining and power industries. His manufacturing industry experience provides him with keen insights and the necessity of an Industry 4.0 approach in this sector. His research interests and activities include automation, robotics, machine design, advance manufacturing, and vibration analysis.

Memorable Moments

1. Launched new Bachelor of Engineering, Mechatronics, in collaboration with Sault College, Sault Ste. Marie
2. Received College Equipment and Renewal Fund (CERF) Project, "Smart City Lab", total project cost $1.56M
3. Secured eCampusOntario funding to develop Autonomous Vehicle Control, a new online course available for learners of the Bachelor of Engineering in Mechatronics. Opportunity to be made available to learners in Engineering Technology Diploma programs at Humber and Sault College such as Electronics Engineering Technology and Robotics & Automation.
4. Faculty awarded 11 NSERC Engage Grants to support applied research activities in advanced manufacturing cluster
5. Established new advanced robotics, Siemens PLC/Drive, Capstone project, and CNC (on going) laboratories

- **Bachelor of Engineering, Mechatronics**
- **Computer Engineering Technology**
- **Electrical Engineering Technician - Control Systems**
- **Electrical Engineering Technology - Control Systems**
- **Electromechanical Engineering Technician**
- **Electromechanical Engineering Technology**
- **Electronics Engineering Technician**
- **Electronics Engineering Technology**
- **Mechanical Engineering Technician**
- **Mechanical Engineering Technology**

Information & Communications Technology (ICT)

Dr. Jonathan Kim, P.Eng.
Associate Dean

Dr. Jonathan Kim has a wealth of experience in post-secondary teaching and learning, industry-sponsored applied research, and industry-guided curriculum and degree program development.

Dr. Kim graduated from the University of Toronto where he received his B.A.Sc. in Engineering Science, M.A.Sc. and Ph.D. in Electrical Engineering.

From 1990 to 1998, Dr. Kim taught in the Department of Electrical and Computer Engineering at the University of Victoria, as an assistant professor and later as an associate professor with tenure, establishing an award-winning reputation for both teaching and research excellence. From 1999 to 2009, he was a senior research associate with the Centre for Applied Power Electronics (CAPE) at the University of Toronto, fully devoted to industry-sponsored research and development projects.

Since 2011, Dr. Kim has worked in the Ontario college system as a full-time professor in Electrical Engineering, and has held leadership roles in applied research, capstone projects, curriculum development, industry engagement.

Memorable Moments

1. New program development: Successfully developed and launched new programs such as Cloud Computing Graduate Certificate and new Bachelor of Engineering, Information Systems.
2. Establishment of applied research culture: Challenged, motivated, and supported ICT faculties to engage in applied research projects in collaboration with industry partners and with external funding.
3. Work-Integrated Learning and Co-op: Developed and incorporated Co-op in all diploma, advanced-diploma, and degree programs and all graduate certificates have industry-sponsored projects to implement Work-Integrated Learning.
4. New full-time faculty hires: Over the last three years, ICT cluster hired 10 new FT faculty positions to support and build a strong ICT team.
5. Increased enrollment: ICT is expanding programs at Humber International Global School (IGS), Co-op and Work-Integrated Learning programs and increasing program efficiencies to respond to industry needs and projected enrollment growth.

- **Bachelor of Engineering, Information Systems**
- **Cloud Computing**
- **Computer Programming**
- **Computer Programming & Analysis**
- **Computer Systems Technician – IT Infrastructure & Services**
- **Enterprise Software Development**
- **IGS - Enterprise Software Development**
- **IGS - Info Tech Solutions**
- **Info Tech Solutions**
- **Wireless Telecommunications**

Skilled Trades & Apprenticeship

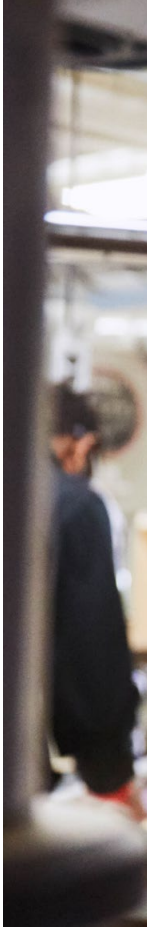
Michael Auchincloss
Associate Dean

A master electrician with certification in Electrical Construction Maintenance, Michael worked for 10 years in the commercial, residential and industrial sectors before joining Humber in 1999 to teach in the Electrical Apprenticeship program. Later, as program coordinator for both the Electrical Apprenticeship and the Electrical Techniques programs Michael was instrumental in the development and evolution of both programs. Additionally, he has designed and developed curriculum for two pre-apprenticeship programs, and implemented an extremely successful Electrical Apprenticeship C of Q preparation course. Michael's dedication and academic vision was recognized when he was the recipient of Humber's Distinguished Faculty Award.

In 2014, Michael undertook the role of associate dean for the School of Skilled Trades and has been the principal architect of growth and development for the school. Currently Michael sits as a resource member for the Ontario College of Trades, as well as a member of the Heads of Apprenticeship group.

Memorable Moments

1. More than 50 skilled trades students have competed in annual Skills Ontario Competition.
2. Ongoing expansion of Carrier Drive facilities – new 16,000 sq ft addition as well as renovation to 2nd floor to provide student collaboration and online delivery studios. New space will allow for an increase in enrolment as well as moving the HRAC program to the Carrier Drive campus.
3. New federal and provincial directives for project funding have resulted in an increase in proposal writing with a variety of Humber departments. These proposals have/will span the gamut of the School of Skilled Trades programs and will provide opportunities to explore new initiatives. (i.e. Humber/ Northern College outreach to Indigenous communities to teach Carpentry and Home Renovation).
4. Introduction of new equipment to improve lab facilities and to enhance curriculum. With the development of the new facility, the focus will increasingly become the creation of multi-purpose/ cross program spaces that will encourage both growth and cross program /discipline communications.
5. Ongoing cooperation with other FAST Programs Research including capstone and funded research. (i.e. Automated Guided Vehicle Research with School of Advanced Manufacturing and Toronto Metropolitan University).



6. Inclusion of the HRAC and Landscape programs in Skilled Trades portfolio as a step to have all skilled trades in a single area.
7. Active and ongoing outreach programs with Community Outreach and Work Force Development to provide exploratory programs (pre-apprentice) to approximately 300 students /year. Additionally, outreach to both secondary and elementary schools to provide instruction and opportunity to explore careers in skilled trades.

- **Arborist Apprenticeship**
- **Boiler Maker Apprentice**
- **Building Construction Technician**
- **Cabinet Making**
- **Carpentry and Renovation Technician**
- **Carpentry Techniques**
- **Construction Engineering Technology**
- **Electrician: Construction and Maintenance Apprenticeship**
- **Electrical Techniques**
- **Heating, Air Conditioning & Refrigeration Technician**
- **Heating, Air Conditioning & Refrigeration Technology**
- **Horticulture Apprentice**
- **Industrial Electrician Apprenticeship**
- **Industrial Woodworking**
- **Landscape Technician**
- **Millwright Techniques**
- **Plumber Apprenticeship**
- **Plumbing Techniques**
- **Urban Arboriculture**
- **Welding Techniques**

Continued Professional Learning

Dr. Dave Smiderle
Associate Dean

Dr. Dave Smiderle earned a doctorate in Industrial/ Organizational Psychology and has recognized credentials in Change and Knowledge Management.

Dr. Smiderle comes from a rich background of consulting and providing his continuous and professional learning expertise to the private sector within several industries, along with more than 14 years experience in polytechnic institutions. Over the last two years, Dr. Smiderle has been providing change management and internal continuous professional learning support to Humber and specifically FAST. He has also been teaching part-time in the Longo Faculty of Business in the areas of entrepreneurship and research methods.

Memorable Moments

1. Cultivated custom robot automation course for Magna Powertrain, Unimotion-Gear
2. Increased program efficiencies
3. Aligned CPL FAST to Humber CPL strategic plan
4. Developed tools and efficiencies for transparent financial reporting

- **IGS – Project Management**
- **IGS – Supply Chain Management**
- **Project Management**
- **Supply Chain Management**


David
Unimotion-Gear
HUMBER
Miklos
Unimotion-Gear
HUMBER
Titi
Unimotion-Gear
HUMBER

Philip Stubbs
Director,
Academic Programs
Skilled Trades &
Apprenticeship

Tina Kotsiomitis
Director,
Academic Programs

Simon Heathcote
Associate Director,
Technical Services

Jan Wojcik
Manager, Work Integrated Learning & Industry Engagement Co-op & Work Placement Services Office

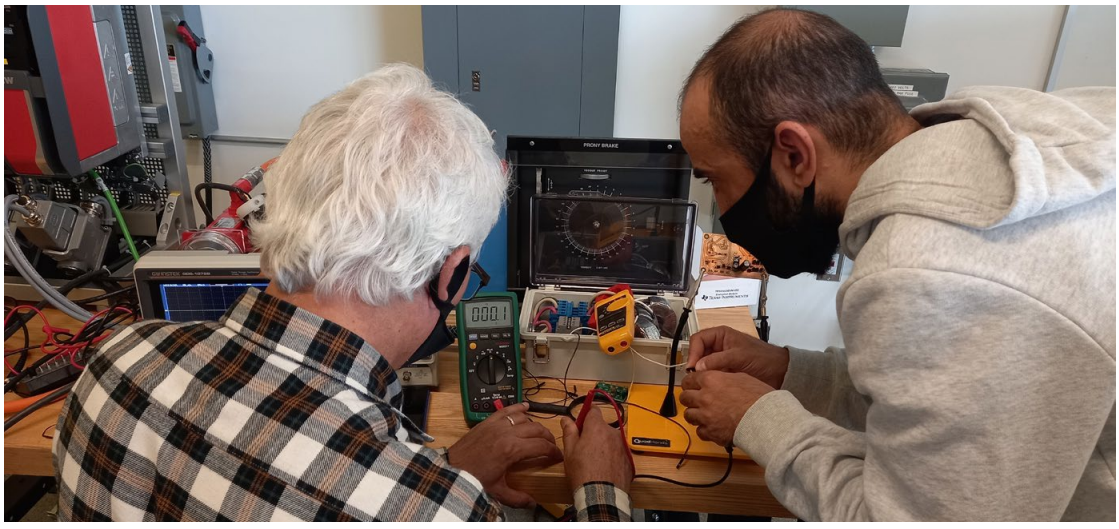
Maria Manganaan
Associate Director, Operations

Julie Pasquin
Executive Assistant
Office of the Senior Dean

PROPELLING APPLIED RESEARCH AND INNOVATION

Humber College has long been recognized as an innovative applied research institution and FAST faculty researchers have played a significant role securing research grants thanks to the Humber Research & Innovation support team under the leadership of Dr. Ginger Grant, dean. As a result, Humber College is celebrating a second-place ranking of Canada's Top 50 Research Colleges and is recognized as the top college in Ontario.

We work with industry partners to solve real-world challenges and this interdisciplinary approach, collaborating with all Humber College faculties and Applied Research & Innovation, has successfully secured more than $7M since 2017.



FAST is the recipient of more than 20 Natural Sciences and Engineering Research Council of Canada (NSERC) grants and the faculty is playing a key role in the interdisciplinary Canada Foundation for Innovation (CFI) grants.

Humber's Centres of Innovation has been key to this success as we leverage our industry partnerships, state-of-the-art technology, and the ingenuity of our employees and students. The Barrett Centre for Technology Innovation (Barrett CTI) and Advanced Manufacturing Skills Consortium facilitates several partnerships with companies, creating learning opportunities for students, faculty members and industry to work together to provide solutions for real-world challenges.

The Barrett CTI is a dynamic hub for innovative collaboration, focused on developing human-centred, technology-enabled solutions for businesses and communities. The Barrett CTI has supported many applied research projects, helping FAST students, faculty members and partners collaborate on innovative technologies. It also supports capstone projects for Electrical Engineering students, Mechanical Engineering students and Electrochemical Engineering students. In addition, the Barrett CTI contributed to the success of securing NSERC grant funding from the federal government.

Together, we are providing an experiential learning environment for students that prepares them to become the innovative and strategic problem-solvers of tomorrow while providing our industry partners with the room to innovate and succeed — empowering them to meet the challenges of today's economy through innovation.

Because innovation happens when we solve problems together.

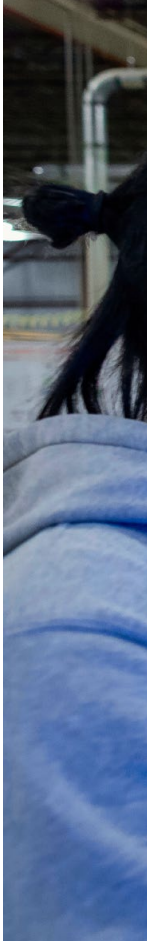
For more information on the Centres of Innovation Network, visit humber.ca/coi-network


FESTO

Funder	Project Title	PI Name
CIHR	Caring for the Thunderbird's Nest: Characterizing and Monitoring Inequitable Exposures to Ground and Air Pollution with Fort William First Nation, Using Machine Learning Tools	Maria Jacome
Cultivate	The Effect of Multiple Factors on the Establishment of Native Plants	Gino Teolis
NSERC	Automated Aircraft Maintenance Data Processing and Analytics	Mihai Albu
	Low carbon retrofit of a single family house into multi-unit apartment building	Dragos Paraschiv
	Collaborative Robots: Enhancing Productivity by Increasing Industrial Automation	Neal Mohammed
	COVID-19 Response: A scalable hand sanitizing sensing solution: IoT enabled hand sanitizer and soap dispensers	Timothy Wong
	COVID-19 Response: Canadian Hospital Simulator For Management of COVID19 Cases and Contact Tracing	Shahdad Shariatmadari
	Investigation and analysis at full and pilot scale on operational procedures of bio filtration unit processes in drinking water	Shawn Cleary
	Automated Cell Inspection	Lars Kristjansen
	Automated Gas Fueling + Shopping	Daryoush Mortazavi
	BIM Workflow for Affordable Single-Family Housing	Elizabeth Fenuta
	Cloud-based load prediction system for smart grids	Saber Amini
	Combining Ring Vac and Air Amplifier and optimizing hole sizes and Coanda effects.	Hamid Dehkordi
	Design and Simulate Leaf Guard to Improve Drainage Capability	Hamid Dehkordi
	Design Enhancements of Mobile Air Monitoring System	Sherif Hanna
	Development of a Solid-State Catheter	Somayyeh Poshtiban
	Fast sensor pairing for Mero IoT	Timothy Wong
	Feasibility of Electromagnetic Lenses	Faruk Erkmen
	Harmonic Mitigating Device and Power Factor Corrector	Mokhtar Kamli
	Indoor Navigation System-Wayfinding	Daryoush Mortazavi
	Low Carbon Retrofit of a Single Family into multi-unit apartment	Dragos Paraschiv
	Microcontroller based self-contained material loader	Savdulla Kazazi
	New post-COVID-19 and nature-based, architectural solutions for enhancing personal wellness at home	Phil Fung
	Numerical Modeling of Fluids and Gas Migration in a Sanitary Landfill in the GTA, Combining Geophysical and Gas Emission Data	Maria Jacome

Funder	Project Title	PI Name
	Occupancy Management Solution	Orren Johnson
	Optimization of Inventory Management System	Larry Mitchell
	Robotic Painting Arm Development	Sadat Nejad Seyed-Youns
OCE	BLINQ's LTE Fixed Wireless Access	Muhammad Masud
Small Non-Govt Grants	PassingBuy Apps and Web Development	Ammar Al-Qaraghuli
SoTL	Question App (Phase 2)	Timothy Wong
	Virtual Reality Applications in Mechanical Maintenance Lab	Reza Madjlesi
ORI Funded	Examination of Comparative Manual Removal Strategies for Non-Chemical Control of Invasive Non-Native Phragmites australis - Phase 2	Lynn Short
	Intelligent System for Collecting Oil Spills	Fereydoon Diba
	Kortwright Centre's Sustainable Flex Space	Elizabeth Fenuta
	Modular Textiles for Dynamic Wearables	Odin Cappello
	Off-Grid Social Housing for Six Nations Community with Re-Purposed Shipping Containers	Elizabeth Fenuta
	Unmanned Systems Zone Project	Akram Afifi
	NX Building Multi-Disciplinary Recladding	Elizabeth Fenuta
	BLINQ's LTE Fixed Wireless Access	Muhammad Masud
	Collaborative Robots: Enhancing Productivity by Increasing Industrial Automation	Neal Mohammad
	NSERC-ARD Proposal Development with SEW-EURODRIVE for the AGV project.	Reza Madjelsi
	Power supply design	Hussin Hassen
	Project Management Simulation Software Project - Tool Development	Cheryl Francis-Nurse
	Project Management Simulation Software Project - Tool Development (Phase 4)	Cheryl Francis-Nurse
	Project Management Simulation Software Project - Tool Development (Phase 5)	Cheryl Francis-Nurse
	REAL-TIME SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEMS USING VISUAL AND RGB-D SYSTEMS	Akram Afifi
	Simultaneous localization and mapping (SLAM)	Akram Afifi
	The Effect of Cover Crop on the Establilshment of Native Plants	Gino Teolis
	The Effect of Cover Crop on the Establishment of Native Plants	Gino Teolis

EXPERIENTIAL AND WORK-INTEGRATED LEARNING IS IN OUR DNA



Experiential Learning and Work-Integrated Learning (WIL) delivers hands-on, career-driven education Humber is known for. While students gain valuable experience that helps them launch a successful career, our industry and community partners benefit from access to our highly-skilled FAST talent.

From apprenticeship and co-op, to field experience and capstone projects, Experiential Learning and WIL offers FAST students with the opportunity to apply in-demand skills and knowledge to real-world work and projects.

Janice Wojcik, manager of work-integrated learning, co-op and work placement services, together with her team has successfully grown the FAST WIL program to help prepare students for their future careers and work with dedicated industry partners to help deliver on this promise.

Since 2017, applications and the number of placements has steadily grown and employer/industry contacts have increased by 27%, significantly expanding opportunities for our students and reassuring that industry is committed to cultivating and investing in future leaders.

Since we launched co-op in 2019, FAST leads Humber in the number of co-op programs (15) and we have witnessed a steady growth in the number of dedicated, loyal employers who return term-after-term due to the high-calibre and availability of our co-op students.

In response to the pandemic, the FAST WIL team created alternate learning plans for diploma students who could not secure a placement and collaborated with faculty to support alternate projects for degree students. This helped

students complete their co-op and work placement components and stay on track to graduate on time. WIL team achieved 100% placement in the design degree programs in Summer 2020 and Summer 2021.

Together with our industry partners, we are working together to ensure our students are set up for success and graduating career ready!

Memorable Moments

1. FAST leads the college in the number of co-op programs (15). Launched and operationalized co-op models of work-integrated learning in 12 diploma programs and 3 degree programs.
2. Contributed to the development of Humber's WIL Quality Assurance Framework
3. Part of the core implementation team that contributed to the development of the first Humber-wide online job portal, CareerConnect.
4. In response to COVID, successfully transitioned the WIL service delivery model from in-person to virtual, in a short period of time. During the semesters when students would normally be in the workplace and not in classes, they were distanced from their faculty and classmates. The WIL team members were key resources who supported students during an extremely challenging time to help maintain emotional well-being, engagement in placement and job search success.

Experiential Learning

- Capstone project
- Service learning
- Applied research
- Campus incubators
- On-campus labs
- Project-based learning

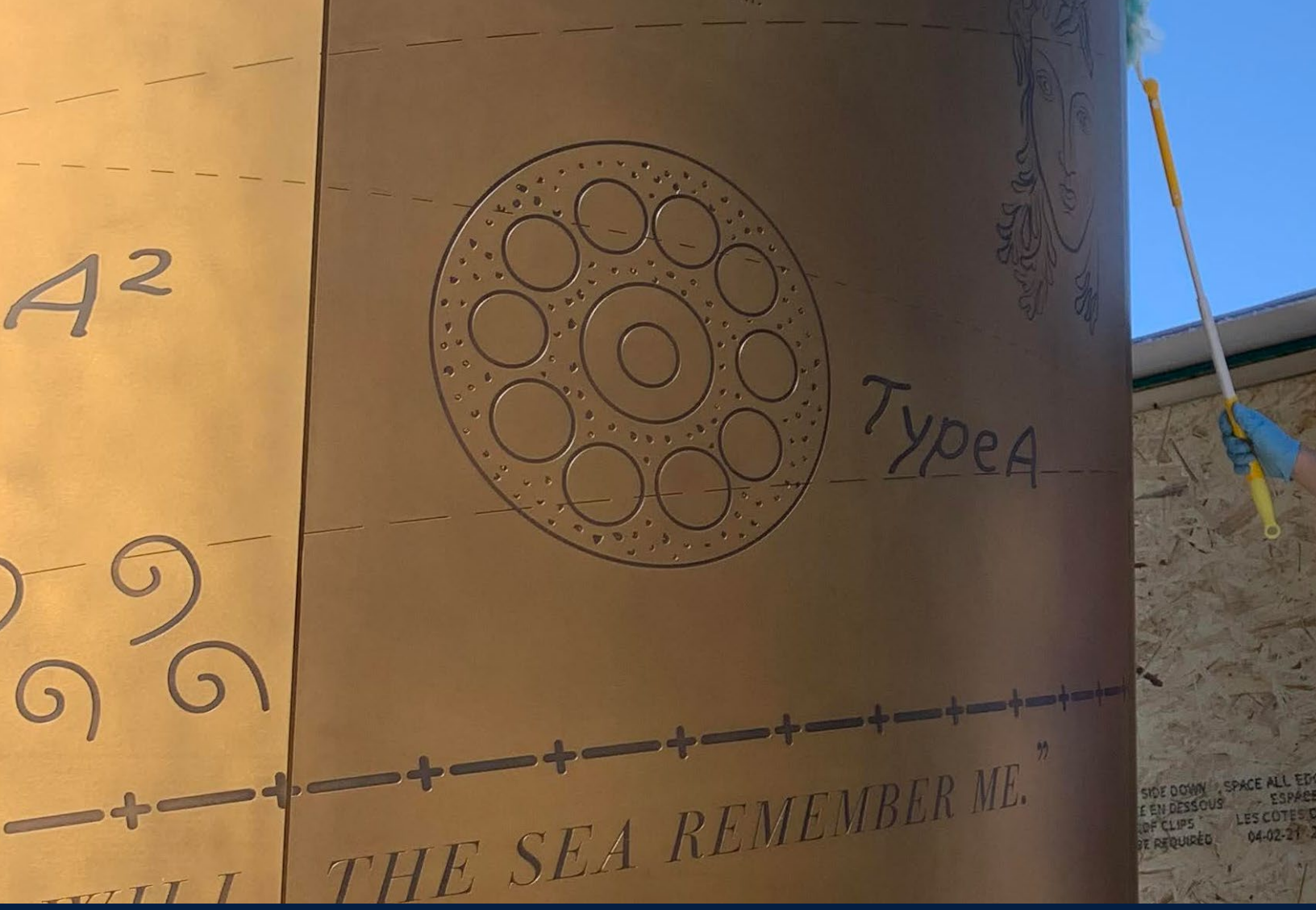
Work Integrated Learning

- Apprenticeship
- Co-op
- Field experience

◀ Ashley Nollner
Program of study: Electrical Engineering Technology and Control Systems, Co-op
Work Placement: Mobile Technology Group – Peel Regional Police

◀ Taranjeet Mann
Program of study: Computer Systems Technician – Information Technology Infrastructure and Services, Co-op
Work Placement: Polytainers Inc., full-time in Winter 2021

◀ Roberta da Silva Muller
Program of study: Mechanical Engineering Technology, Co-op
Work Placements: Ben Machine Products and CiF Lab Solutions



WIL By The Numbers

27%

INCREASE IN WORK PLACEMENT INDUSTRY CONTACTS

*4500 (Fall 2018) to 5700 (Spring 2022)

67%

INCREASE IN FAST WORK PLACEMENT PROGRAMS

*12 work placement programs (2017-2018) to 20 co-op and work placement programs (2022)

1400/YEAR

APPRENTICESHIP STUDENTS

* This number includes apprenticeships (block and day release) and OYAP

** Does not include pre-apprenticeship programs run in conjunction with COWD

◀ Harry Cotaras
Program of Study: Bachelor of Industrial Design
Work Placement: Soheil Mosun Limited

WIL and Co-op students per year (September – August)

Description of Activity	2017-18	2018-19	2019-20 (Launch of Co-op)	2020-21 Pandemic
Number of students interested in WIL (# of new applications received)	446	325	782	501
Number of eligible/active students participating in WIL	330	271	632 (Pre-Covid, W20) 456 (Post-Covid, S20)	465*

*Eligible/active students participating in WIL in 2020-21 includes new applicants who were accepted into WIL and active students from the previous year who completed placements in 2020-21

Partial List of Participating Organizations that Support WIL

407 ETR Concession Company Ltd.

A Berger Precision Ltd

A.D. Richmond Fire Protection Ltd.

ABB Inc.

ABC Technologies

ABG Engineering Inc.

Acacia Construction

Acorn Packaging

Advanced Servo Technologies Inc.

AdvantAge Ontario

Adventec Manufacturing Inc.

Aecon Group Inc.

Airwill Electric Supply Inc.

Akal Fire

Akira Health

Alectra Utilities

A-Line Tool Ltd.

All Professional Trades Inc.

Alpa Stairs and Railings Inc.

Amazon

Ambience Design Group

Amico Accessories

Ampere

AMS Automated Manufacturing Systems Inc.

Angus Consulting Management Limited

Apotex Inc.

ArcelorMittal

Array International Architects Inc.

Array Marketing Toronto

Array Marketing Toronto

Ashland Construction Group

Atlantic Packaging Products Ltd.

Atlas Transformer Ltd.

Ausenco

Autobahn Freight Lines Ltd.

Avnan Electro Inc.

Aztec Electrical Supply Inc.

Bachly Construction

Basaltic Kitchens

Bateman Manufacturing Inc.

BDO Canada LLP

Beacon Roofing Supply - PosiSlope Roof Systems

Bell Canada

Bell Technical Solutions

Ben Machine Products

Bendfab Pipe and Tube

Bertram Construction

Bevcon Construction and Paving Ltd.

BG Distribution & Marketing

Bimbo Bakehouse

Binns Kitchen & Bath Design

BlendTech Div of PT Industrial Electric Co.

BMO Financial Group

Bonavista Pools Ltd.

Bosky Inc.

Brampton Precision Parts Inc.

Brockport Home Systems Ltd. (Div. of Great Gulf Homes)

Build It (Formerly Build it by Design)

Burlington Hydro Inc.

Burnco Manufacturing

California Closets

California Innovations

Canada's Wonderland

Canadian Locators Inc

Canadian Nuclear Laboratories

Canadian Tire Corporation

Cando Aluminum Mfg Systems Inc.

Canon Canada

Ceridian

CGI

Chapi Chapo Design

Chestnut Grove Cabinetry & Millwork

CIF Lab SolutionsLP

CIMA+

Ciot Toronto Inc.

City of Brampton

City of Mississauga

City of Toronto

City of Vaughan

Clearbridge Mobile Inc.

Club Coffee

Coca Cola Refreshments Canada

Coco Paving Inc.

Collinson Interiors

Commercial Bakeries Corp

Compact Mould Inc.

Complete Survey Solutions

Continual Energy Inc.

Cortina Kitchens

Cosma Tooling and Automation (Div. of Magna)

Creation Technologies, Toronto

CRH Canada

Crosslink Technology Inc.

Crown Food Service Equipment

Crystal Fountains

Curbside Construction

Danmare Group Inc.

Defence Research and Development Canada

Delo Interiors Inc.

Deloitte Digital

Delta Light Canada Inc.

Digital Lumens Inc.

DLS Technology Corporation

DS Consultants Ltd

DVI Lighting

Eaton's Electrical Engineering Services & Systems

Ecosystem Energy Services

Edgecom Energy

EllisDon

Elte/Ginger's

e-Lumen International Inc.

Empire Communities

Emporium Natural Stones Inc.

Energy Concepts Inc.

Energy@Work Inc.

Engineered Air

EnGlobe Corporation

Equitable Bank

Estee Lauder Companies

Euro Tile & Stone

EXACT Technology

Export Development Canada

Exquisite Wood Designs

Factory Tile Depot

Festo

FGF Brands

figure 3

fluidconcepts & design inc.

Flynn Group of Companies

Forrec Ltd.

Frontop Engineering Limited

Frost Building Systems Inc.

Futurecom Systems Group ULC

G.L. Smith Planning & Design Inc.

Garage Living

General Motors of Canada Ltd.

George A. Wright & Son Toronto Ltd.

Gerrity Corrugated Paper Products Ltd.

Gib-San Pools Ltd.

Give and Go Prepared Foods Corporation

Global Custom Metal

Global Furniture (Global Group)

Gorrie - A Retail Activation Company

Government of Canada

Government of Ontario

Graham Bros. Construction Ltd.

Graziani + Corazza + Biase Interior Architects Inc.

Great Gulf Homes

Guildcrest Homes

GVA Lighting, Inc.

H.H. Angus & Associates Ltd.

H.L Blachford

Hamilton Plastic Systems Ltd.

Hanon Systems EFP Canada Ltd.

Hatch Ltd.

Honda of Canada Manufacturing

Humber College - FAST

Humber College - ITS

Humber College - BCTI

Hunt Design Associates Inc.

Hydro One

IBI Group

IBM Canada Ltd.

II BY IV Design Associates

IKO Industries

Ines Risi Design Inc.

Infrastructure Ontario

Innovapost Inc

Innovation, Science and Economic Development Canada

Integral Group

Integrated Display Group

Integro Building Systems

IPEX Group of Companies

J&T Machine Knife Inc.

K&G Machinery Works Ltd.

Kasian Architecture

KEDZ Home Services

Kenaidan Contracting Ltd

Kisp Inc.

K-Line Group of Companies

KPM Power

KPMB Architects

kubik

Lakeside Process Controls Ltd.

Larco Hospitality

Legislative Assembly of Ontario

Liberty Mutual Canada

LifeLabs Medical Laboratory Services

Light Harvesting Shading Solutions Inc.

Linamar Corporation

Loblaw Companies Ltd.

Lumenix

Magna Electronics Vision Centre - Vectrics

Magna International Inc.

Magnum Kitchens

Maple Reinders Group Ltd.

Martinrea International Inc.

Matcom

Matcor Metal Fabrication

Mattamy Homes

mcCallumSather

McMaster University

McRae Integration Ltd.

Metrolinx

MGI Construction Corp.

Microbix Biosystems

Millennium1 Solutions

Ministry of Government and Consumer Services

Mircom Group of Companies Inc.

MNP

Modatek Systems (Div. of Magna)

Modern Niagara

Modern Track Machinery, Ltd. Canada (Geismar)

Mosaic Transit Group

Mother Parkers Tea & Coffee

Multimatic Inc.

Mulvey and Banani Intl

Municipal Property Assessment Corporation (MPAC)

Myant Inc.

Myles Burke Architectural Models Inc.

Naylor Building Partnerships Inc.

NDC Development Corporation

Nestle Canada

Newmar Window Manufacturing

NFTC Telcom

Niagara Regional Broadband Network

Nienkamper Inc.

Norampac Div Cascades Canada

Normerica Authentic Timber Frame Homes

Nova Product Development Services

Ocado Solutions Canada Inc.

Olymel

Omers

Ontario Clean Water Agency

Ontario Energy Board

Ontario Power Generation

Ontario Public Service

Ontario Teachers' Pension Plan

OZZ Electric Inc.

Packaging Machinery Concepts Ltd.

Paradigm Shift Technologies

Parsons Interiors

Payment Source

PCL Constructors Canada Inc.

Peel Regional Police

Pepperl+Fuchs, Inc.

PIA Automation Canada Inc.

PICCO Engineering

POI Business Interiors Inc.

PointClickCare

Polytainers

Pragernuform Inc.

Pratt & Whitney Canada

PreCon Precast Limited

Premform

Prodomax Automation Ltd

Pro-Line Automation Systems Ltd.

PTAG Inc.

Quadrangle Architects

Quality Cheese Inc.

Quantum Lifecycle Partners

Realform Technologies Inc

Region of Peel

Remco

Restoration Hardware (RH)

Revera Inc.

Ricci Machine Manufacturing Ltd.

Rick Davis Promotions Inc.

Ridge Energy Consultants

Riipen

Rogers Communications Inc

Royal Oak Railing & Stairs Ltd.

RS Breakers and Controls

Ryerson University

S&C Electric Company

Saand Inc.

Safety Power Inc

Samuel and Son Co. Ltd.

Saputo

Sensyst Business Interiors

Septodont (Novocol Pharma)

SEW Eurodrive

Shape Products Inc.

Shared Services Canada

Shepp Industrial Design Inc.

Sherwood Innovations Inc.

Showa Canada Inc. (Hitachi Astemo Canada Inc.)

Shuttleworth Speciality Services Inc.

Sick Kids Foundation

Siemens Canada Limited

Sky2Design Manufacturing Ltd./C4P Inc.

SKYGRiD Construction Inc

Smith and Long Limited

SodaStream Canada

Sofina Foods Inc.

Soheil Mosun Limited

Solaris Disinfection

SOTI

Southport Outdoor Living

SpaceRyde

Spin Master Ltd.

St. Michael's Hospital

Stacey Cohen Design

StackTeck Systems Ltd.

Stantec Consulting Limited

Stare Design Inc.

StarFish Medical

Stargate Manufacturing

Straticom Planning Associates Inc.

StudioUno ID

Summerwood Products

Sun Life Financial

Sycor Technology Inc.

Tarasick McMillan Kubicki Limited

TCA Technologies Inc

TD Bank Group

Tech Mahindra Limited

Technical Standards and Safety Authority (TSSA)

The Collective (Formerly Office Source)

The Martin-Brower Company

The Miller Group

The Regional Municipality of York

TMS Automation (Total Meter Services Inc.)

TMX Group

Toronto District School Board (TDSB)

Toronto Hydro

Town of Bradford West Gwillimbury

Town of Caledon

Town of East Gwillimbury

Town of Orangeville

Treasury Board Secretariat

Trexo Robotics

Trimen Food Services

Trisan Construction

TTI Canada-Milwaukee®, RYOBI®, Hoover® & HART®

TTM Technologies

Tucows Inc.

UltraFit Manufacturing

Umbra Ltd.

Union Lighting and Furnishings

Universal Forest Products Canada

Van Velzen + Radchenko Design Associates

Vexos

Vinylbilt Windows & Doors Corp.

Vision Hollow Metal (VEX Group)

Ware Malcomb Architecture Inc

Wastecorp Pumps Canada Inc.

Wembley Partners Ltd.

WestRock Company

Wolseley Canada

World Vision Canada

Worx Toys Inc.

WSP

Yabu Pushelberg

Yamaha Motor Canada

Yanfeng Automotive Interiors

York Region

York University

Yorkland Controls Ltd.

ENGINEERING PASSION: DESIGNING OUR FUTURE

A digital transformation is changing the way we work and live with a growing need to skill, reskill and reskill again. We have a responsibility to develop programs that graduate career-ready citizens to address today's global challenges.

In alignment with Humber College's 2018-2023 Strategic Plan, FAST is committed to providing the best education experience for our students.

Aligned with the Humber Strategic Mandate Agreement (SMA) commitment, FAST embarked on developing new programs.

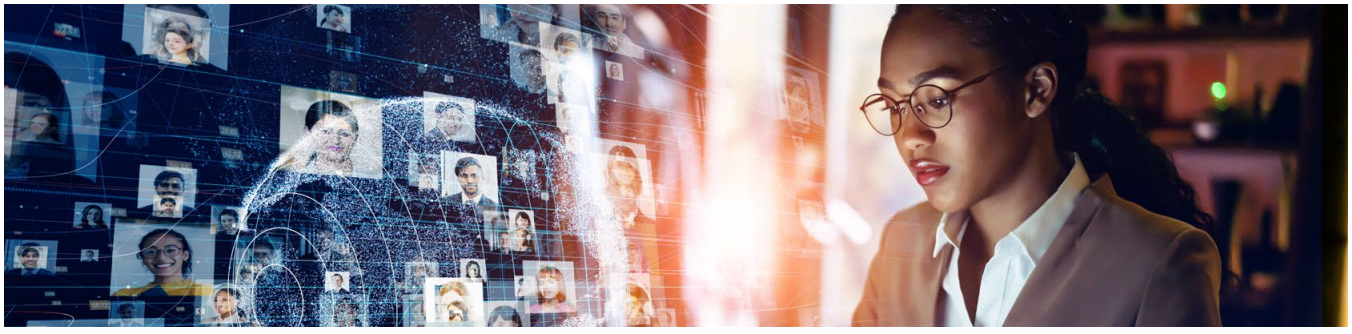
In Fall 2021, FAST boldly launched three new engineering degrees – one of the most ambitious new programs at Humber College.

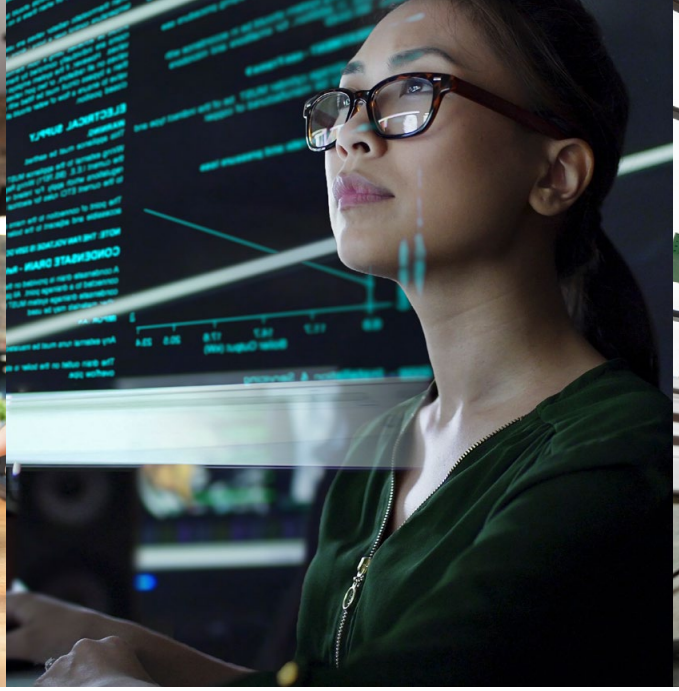
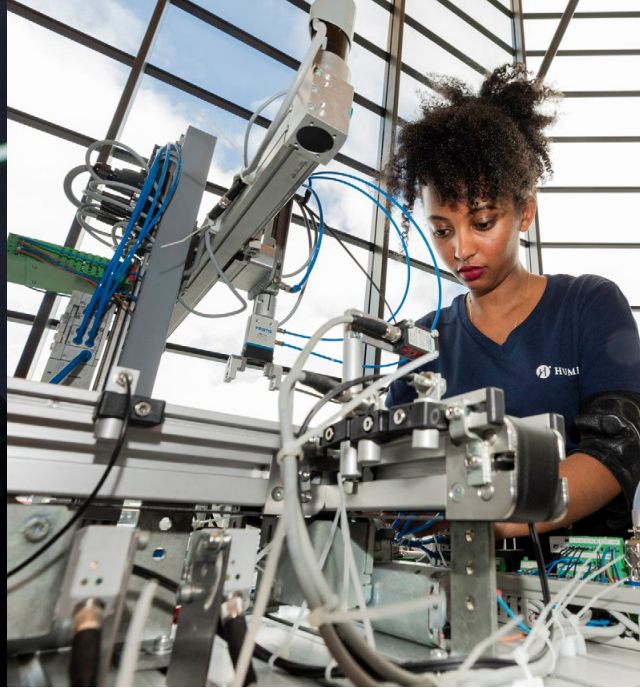
Bachelor of Engineering – Information Systems Engineering

Bachelor of Engineering – The Built Environment

Bachelor of Engineering – Mechatronics

The degrees respond to an industry-wide shortage of skilled engineering professionals and build on the success and expertise of Humber's engineering diplomas. Truly a collaborative effort, we built these degrees with a distinct competitive advantage by leveraging Humber's living labs.



The Humber Arboretum is home to the Built Environment Engineering degree, where students have access to 250-hectares of learning space.

For the Mechatronics and Information Systems Engineering students, the Barrett Centre for Technology Innovation is a technology powerhouse and home to the latest industry-standard advanced state-of-the-art labs in automation, robotics, systems integration, user experience testing, applied research and work-integrated learning.

In addition, we are co-delivering the Bachelor of Engineering - Mechatronics degree with Sault College of Applied Arts and Technology.

Together, we are providing students in northern and southern Ontario with state-of-the-art equipment, expert teaching, collaborative learning, critical thinking, and hands-on skills needed to prepare the next generation of engineering leaders.

Innovative New FAST Programs

- Info Tech Solutions (previously under Faculty of Media & Creative Arts – FMCA)
- Enterprise Software Development (previously under FMCA)
- Carpentry Stackables (3 programs): Carpentry Techniques, Building Construction Technician, Construction Engineering Technology
- Carpentry Reno Technician (formerly Home Renovation Technician)
- Computer Systems Technician – IT Infrastructure & Services
- Cloud Computing
- Computer Programming & Analysis
- Autonomous Vehicle Control (in collaboration with eCampusOntario)

BUILDING FOR SUCCESS

Humber College has taken a leadership role in creating state-of-the-art facilities, learning labs and green spaces that provide the opportunity for students to collaborate and obtain hands-on experience using cutting edge equipment. These learning environments prepare students to become the innovative and strategic problem-solvers of tomorrow.

In alignment with Humber College's 2018-2023 Strategic Plan, FAST is committed to providing the best education experience for our students. Through the development of exceptional infrastructure, systems and technologies, we are contributing to a learning environment that supports innovation, collaboration and inclusion. By investing in these fundamentals, we are empowering our mission to transform education and creating a durable framework for Humber's bright future.

Due to pivotal leadership funding from Humber College, government funding, strategic planning and working with colleagues in facilities and campus infrastructure planning, we embarked on an ambitious program of campus renovations and new construction that are transforming our facilities and enhancing the educational experience.

Barrett Centre for Technology Innovation

Humber College took a bold step forward in pioneering a new solution to the technological and innovation challenges facing Canada's advance manufacturing industry with the ground-breaking opening of the Barrett Centre for Technology Innovation (Barrett CTI).

This new world-class, award-winning facility defines the next generation of education.

Built to inspire innovation, support skills development and promote STEAM outreach, the Barrett CTI officially opened in 2019, paving the way for interdisciplinary teams of students, faculty and industry experts to solve complex, real-world problems.

This 93,000-square-foot facility hosts equipment that is unique to North America with key features including interactive technology zones, digital media studios, cutting-edge prototyping and maker spaces, open concept gathering spaces and demonstration areas for new products and technologies.

The catalyst for the Barrett CTI was a $10 million investment from The Barrett Family Foundation, the largest private donation in Humber's history. This commitment also supports student awards and scholarships, skills mentorship programs and equipment and technology. Additional funding was provided by the Government of Canada which contributed $15.5 million from the Post-Secondary Strategic Investment Fund, and the Government of Ontario which supported the purchase of key equipment within the building through $1.55 million from the College Equipment and Renewal Fund.*

A powerhouse of technological innovation and build expertise in areas such as automation, robotics, systems integration, user experience testing, applied research and work-integrated learning, the College works closely with leading industry partners to bring new state-of-the-art technologies to the Barrett CTI that is home to Humber's Advance Manufacturing Skills Consortium:

- Cimetrix Solutions, a division of Javelin Technologies
- Cisco Systems Canada Co.
- DMG MORI Canada Inc.
- Festo Didactic Inc.
- KUKA Robotics Canada Inc.
- MAGNA International Inc.
- Rockwell Automation Inc.
- SEW-EURODRIVE Company of Canada Ltd.
- SICK Sensor Intelligence

*https://humber.ca/barrett-centre-for-technology-innovation/

The Barrett CTI takes pride of place at our North Campus. In keeping with Humber's commitment to sustainability, the building is targeting LEED-Platinum certification and will be a net-zero energy building. Humber also honours Indigenous voices and experiences with the second installation of the college's Indigenous Cultural Markers (ICMs), designed by Anishinaabe architect Ryan Gorrie.

Neal Mohammed, director, Barrett Centre for Technology Innovation, is a dedicated leader who supports skills development and advocates to build state-of-the art learning environments with industry and community partners. He is passionate about the Barrett CTI and has positively contributed to the growth and expansion of Humber FAST and the development of Humber's Centres of Innovation (COI) Network.

Building the Barrett CTI is a great achievement for Humber and an historical milestone for all of us who contributed to this achievement. I value what we have all accomplished together and take great pride in each member of the Humber FAST community playing a key role as an architect for COI.

As we return to campus after two years since the initial pandemic lockdown, there is excitement in the air. Classrooms and hallways are filled with a renewed energy, providing us with the opportunity to continue the momentum of delivering student success based on our three pillars: faculty expertise; excellent curriculum; thriving educational space for in-person learning.

My hope for tomorrow is to find harmony and balance within this system and fill our state-of-the-art living labs with students who chose Humber College to learn for the real world from the best & the brightest to become the best & the brightest.

Centre for Skilled Trades and Technology (110 Carrier Drive)

The $9.5 million expansion of the Centre for Skilled Trades and Technology will enhance this state-of-the-art learning lab that takes students beyond the traditional classroom. The Centre features simulated worksites for hands-on theoretical learning in trades including plumbing, carpentry, electrical, welding industrial wood working and renovation labs.

The expansion will provide enhanced training spaces for additional pre-apprenticeship, apprenticeship and post-secondary learners. By investing in our Centre, Humber is playing a significant role in addressing the skilled trade shortage in Ontario and demonstrating its commitment to build a strong future skilled workforce.

Ready for completion in 2024, Humber will contribute approximately $2.16 million from its capital priorities fund and will receive more than $1 million from Ontario's Apprenticeship Capital Grant (ACG) for the project, which includes:

- 16,620 sq. ft. addition addressing current challenges and future needs of Apprenticeship training
- Modernizing and expanding training equipment and facilities to enhance the apprenticeship in-class training experience
- Multi-purpose space equipped with technology that will enhance hybrid learning
- Equipment that can be easily reconfigured to adapt to changing curriculum
- Adaptive technology to assist in remote delivery addressing needs of individual students and remote communities
- Provide theoretical components in mobile delivery with practical hands-on learning provided through compressed time periods
- Increasing enrolment/training capacity for in demand trades
- Increasing the efficiency of apprenticeship instruction
- Improving the health and safety conditions of the facility
- Improving access to in-class training, including removing accessibility barriers and addressing gender equity in accordance with provincial guidance to accessibility
- Multi-media rooms with on-site collaboration, studio classrooms and future opportunities for VR and AR deliver
- Labs designed to address safety concerns including improved ventilation and safe access
- Increased lab size to accommodate more students and provide Humber the opportunity to increase efficiencies in delivery

Enhancing for Decades to Come

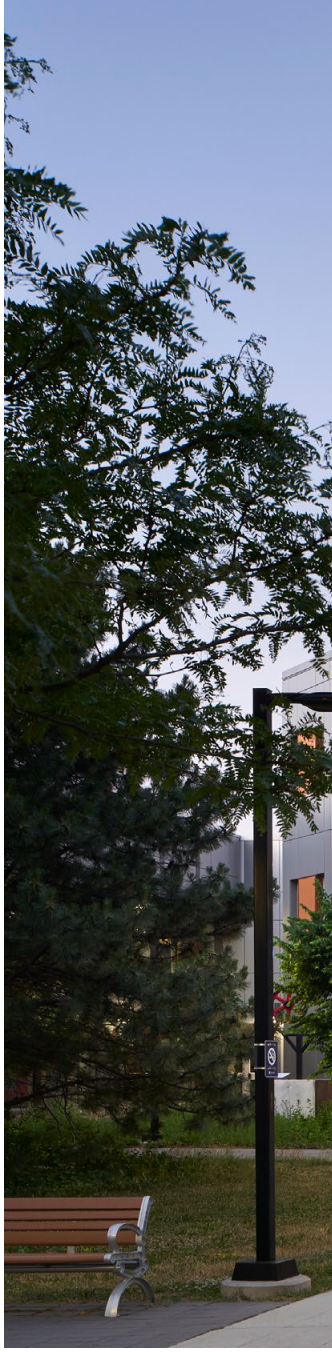
Humber College's Building NX has transformed from one of the campus' most inefficient buildings to an industry-leading example on how to perform a deep energy retrofit.

Driven by the College's commitment to providing national leadership in developing sustainable campuses, an extensive $8.5M retrofit for Building NX, originally built in 1989, was performed which addressed both the building envelope and upgrades to major core building systems. The innovative methods and environmental technologies include:

- High-performance building skin and engineered transitions for superior air control to alleviate thermal bridging
- Newly installed Passive House Certified windows
- Air-Source Variable Refrigerant Flow system which recovers and transfers heat between zones
- Dedicated Outdoor Air System with Ventilation Heat Recovery
- 24 kW Rooftop Photovoltaic Array
- LED lighting fixtures and a networked lighting control system featuring occupancy control and daylight harvesting

Guided by Humber College's 20-year Integrated Energy Master Plan, building NX will see a 70% reduction in energy use and over 90% reduction greenhouse gas emissions. Building NX is also the first retrofit project in Canada to achieve the Zero Carbon (ZCB) Design Certification from the Canada Green Building Council.

Today, Building NX is the most energy efficient building at the College and one of the most energy efficient buildings in Canada. The project emphasizes the critical importance of existing building retrofits in the fight against climate change.

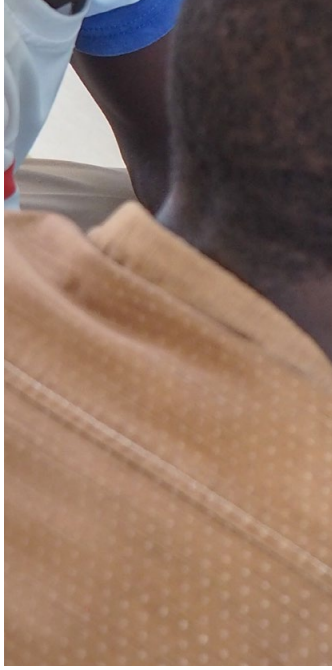


Investing in the Educational Experience

FAST also embarked on the following renovations and new builds:

- Motion Control lab renovation (LX115)
- G building renovation to create a collaborative space for students in Civil, Architecture, Horticulture and Landscape programs
- Design Centre (N First Floor) $1.5M renovation
- NB127 lab expansion
- New Smart Grid Lab with a $1.5M investment

GLOBAL IMPACT



INTERNATIONAL DEVELOPMENT

We have the collective ability and responsibility to transform education on a global stage.

Our international engagements are built on strong foundations of shared educational and research goals with interdisciplinary initiatives that have clear objectives and expectations to advance global development and prepare students with real-world skills to compete in today's marketplace and create more opportunities for them to build a better a future.

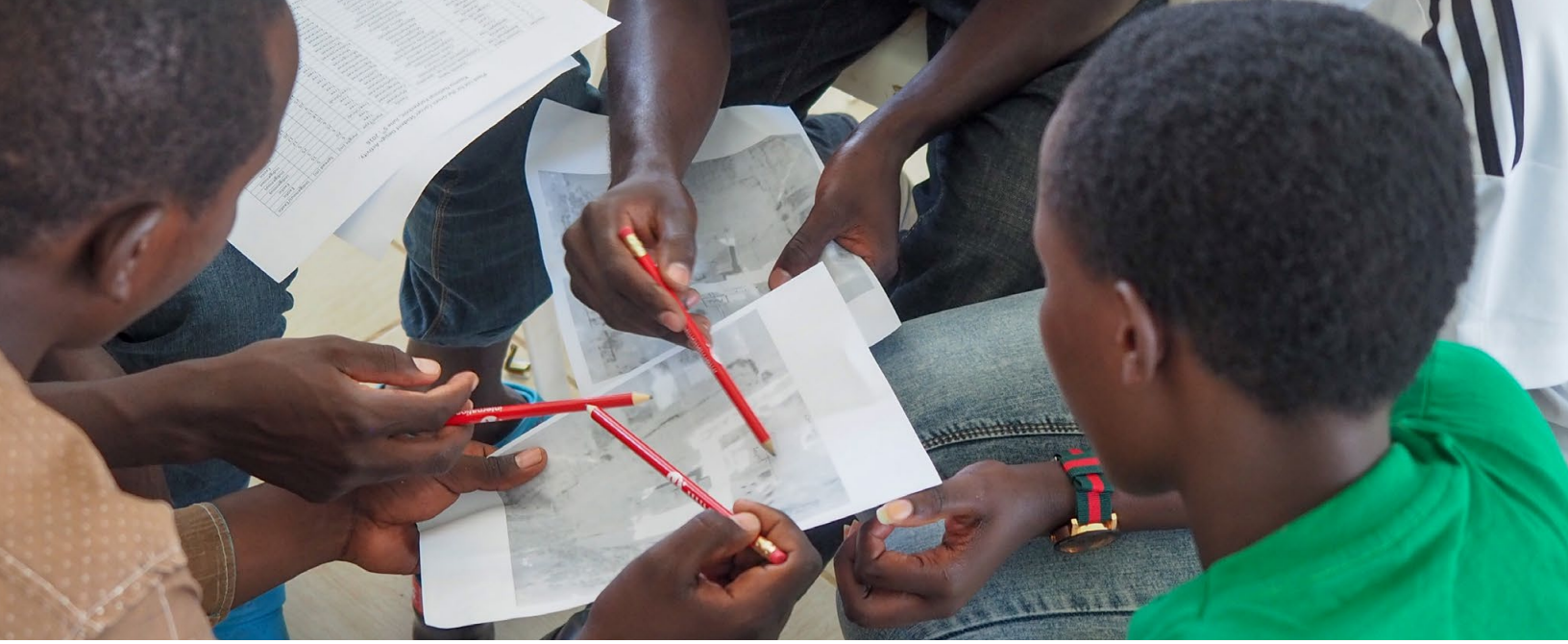
Guided by Humber's bold commitment to establish sustainable and reciprocal collaborations with international partners, the International Development Institute (IDI) brings together the Humber community and development partners to positively contribute to effective and sustainable development while addressing world challenges. Nalini Andrade, director, International Development Institute, and the IDI team have increased Humber's international development portfolio and positively contributed to student success at home and globally.

Together with IDI, FAST is growing the areas of STEM, renewable energy, engineering, skilled trades, women in STEM and applied research to inspire learners to be leaders in their country.

The joint expertise of all our faculties collaborating on international development projects provides unique intercultural learning opportunities that are transforming lives and empowering teachers and students to help build a better future.

The Kenya Education for Employment Program (KEFEP-02) 2017 - 2021

This five-year, $1.7 million initiative funded by Global Affairs Canada, through Colleges and Institutes Canada, harnessed the capacity of Kenya polytechnics to develop industry-responsive skills training programs in mechanical engineering, renewable energy and building technology to produce market-driven graduates.



“We shall forever remember KEFEP,” said Madame Catherine Kelonye, principal of Kisumu National Polytechnic. “It is not only [Kisumu] that has benefited, I believe the fruits of KEFEP have gone far and wide and has made positive impacts on the entire nation.”

The partnership consisted of three National Kenyan Polytechnics and three Canadian institutions led by Humber College to help Kenya transform its technical and vocational training programs to be more closely aligned with industry, and to graduate students who are equipped with the skills needed to positively contribute to Kenya’s economy.

Since 2017, FAST faculty travelled to Kisumu National Polytechnic (NP) in Kenya and worked closely with Kenyan counterparts to:

- Provide technical training and advice on modern equipment for a newly developed industrial plant operations program
- Launch a new solar power program at the Sigalagala National Polytechnic in Kakamega, Kenya in partnership with Strathmore University
- Lead discussions on the importance of having industry relevant curriculum and engaging with real-world projects
- Participate at the Technical and Vocational Education and Training (TVET) Fair, reviewing student’s projects and providing feedback to faculty and students
- Facilitate Kisumu NPs first-ever Industry Advisory Committee meeting
- Participate as a key-note speaker and panelist at Kisumu NP’s International Conference on Science technology and Innovations for Wealth Creation and Sustainable Development
- Provide guidance and support to our Kenyan partners as they transition to a competency based, industry-focused approach to curriculum design and delivery.

The past five years have been a transformative experience, collaborating with Humber faculties, teachers, students, and industry partners, to support the future of TVET education. I was immensely proud to work alongside FAST faculty Kerry Johnston, Shawn Cleary, Gino Teolis, Rory McDowall and Hamid Mohammadi throughout this journey.

Through KEFEP, the Kenyan institutions launched industry-responsive skills training programs in Industrial Plant Operations and Maintenance, Solar Photovoltaic, and Building Artisan at the Kenyan institutes. The partnership resulted in more than 100 hours of technical and pedagogical training and delivered CBET training to more than 200 faculty to equip them with the skills to deliver their lessons in a way that responds to Kenya's new learner-centred education model.

An additional investment of $1.5 million provided the institutes with modern equipment to complement the new programs. Modelling Humber's future thinking approach, Kisumu National Polytechnic now has a steam boiler turbine training plant - a first of its kind in the country. This plant was designed to provide hands-on advanced manufacturing and automation training to prepare Kenyan youth with the industry 4.0 skills necessary to succeed in an evolving economy.

Young Africa Works-Kenya: Youth Employability through TVET 2021-2025

TVET-07 built on the success of KEFEP-02 and FAST faculty continued to support the Kisumu National Polytechnic and the Sigalala National Polytechnic with capacity building in teaching and learning practices. These included technical training and curriculum development for a new ICT course, and the development and training of an Industry advisory committee.

The momentum continues with IDI collaborating on three TVET projects: TVET-18, TVET-21 and TVET-23.

Led by Humber College, the program will run for three years through a partnership between Colleges and Institutes Canada (CICan) and the Mastercard Foundation.

Humber is the lead institution under Young Africa Works-Kenya-TVET-18, in a partnership with Vancouver Island University (VIU), Kenyan TVET institutions Sigalagala Natvional Polytechnic and Bondo Technical Training Institute. Under projects TVET-21 and TVET-23, Humber will be the supporting institution, with Collège Communautaire du Nouveau-Brunswick (CCNB) and Cègep Saint-Jean-sur-Richelieu (CSTJ) as the project lead at five Kenyan institutions.

Once again, FAST will collaborate with these partners to:

- Support the development and implementation of TVET practices, policies, procedures and principles
- Build inclusive and equitable capacity to bridge education and industry
- Equip Kenyan youth with the skills and training to contribute to Kenya's economic growth

Additional International Development Initiatives

- Curriculum development in Bhutan: Michael Auchincloss, associate dean, was a subject matter expert on the design of a curriculum outline for a new TVET course in Electrical Engineering for Bhutan. The assignment was commissioned by the Asian Development Bank and will lead to the design and implementation of the first electrical engineering program at the TVET level in Bhutan with supporting equipment, labs and infrastructure. Funded by ADB, FAST will continue to play a leading role in future projects in Bhutan.
- STEM Education for Empowerment Project (STEEP): Humber College's STEM Education for Empowerment Project (STEEP) funded by the Government of Canada through Global Affairs Canada, and the Barrett Family Foundation, will enhance gender equality and empowerment of adolescent girls (aged 14-18) from marginalized communities in Kenya and Ethiopia. This initiative will support adolescent girls in and out of school with the knowledge, skills and support systems they need to pursue education and employment in the STEM sectors. Many components of the upcoming project have been inspired by the work that FAST is currently doing at Humber and FAST faculty members will continue to provide subject matter expertise and support as the project rolls out over the next four years.

GLOBAL ENGAGEMENT

Hosting the World

Think local. Act global. Our global impact also includes domestic efforts and faculty-led student trips abroad.

In fall 2018, we hosted a visiting professor from Dania Academy in Randers, Denmark. One of the outcomes of the faculty visit was the development of a 3-week study program Sustainable Buildings and Energy Systems at Dania Academy the following year. Students from our Sustainable Energy and Building Technology and Architectural Technology programs collaborated with Danish students to learn from each other and explore sustainable practices in Denmark.

We also hosted students from Shenzhen Polytechnic, China who attended one semester to develop and grow their engineering education.

Together, we are fostering international and intercultural learning to stimulate a sense of partnership and global responsibility as scholars and citizens.

- Shenzhen Polytechnic, China
- Humber-Dania Denmark faculty-led trip
- Institut National Polytechnique Félix Houphouët-Boigny (INPHB), Côte d'Ivoire, Africa
- Humber and BCTI provide automation and robotics training to five employees from Magna CIMS in Saltillo Coahuila, Mexico

Global Learning Opportunities

Humber's Global Summer School and Semester Abroad Exchange Programs provide enriching learning opportunities for students to gain valuable personal and professional skills while receiving Humber credit.

Elizabeth Fenuta, professor & PC International, has successfully grown these programs for FAST to help our students expand their educational journey.

The abroad programs began in 2018 with 20 students from the Architectural Technology program joining VIA University College in Denmark for a 3-week intensive course on Multi-Storey Timber Construction.

With the ability to travel again, FAST is offering its students the opportunity to receive academic credit towards their respective programs in Denmark, Italy, Austria, and Croatia. We are excited that 30 FAST students are participating from the Mechanical Engineering, Architectural Technology, Interior Decorating, Project Management, and Electrical Engineering programs – the most participants than any other faculty at Humber!

Looking ahead to fall 2022, the program will welcome students from our Architectural Technology, Sustainable Energy and Building Technology, Civil Engineering, and Industrial Design programs.

Rebecca Fitzgerald, M.Ed., associate director, international mobility and strategic partnerships, has grown our international partnerships with global polytechnics from around the world to provide our students with broader learning and cross-cultural experience through study abroad, exchange, work placement and academic pathway opportunities.

The Humber Global Summer School program provides the opportunity for Humber students to go global but stay local by earning elective credit and expanding their global skills in a 3-week intensive summer course with students from around the world! FAST is offering a course in Optimizing High Performance Build Design that will provide learners with advanced understanding of low energy, high performance buildings incorporating building physics.

These learning opportunities offer exciting educational international experience to expand world views, understand & respect cultural differences, and empower our students to become global citizens.

Humber International Graduate School

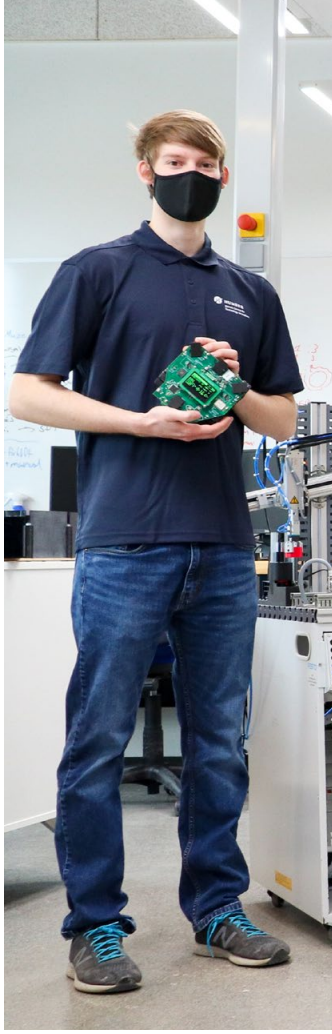
Innovate. Connect. Create.

Humber welcomes the world to the new International Graduate School (IGS) that supports international graduate learners to leverage their experience and launch their careers in Canada. Connecting students with business partners and industry professionals, the IGS supports successful transitions to learning and working in Canada. Students graduate positioned with new career opportunities and direct pathways to masters level education.

Designed as a learning hub embedded directly into Toronto's urban environment, learners experience success in and out of the classroom. The IGS offers a variety of programs at the graduate certificate level including Project Management and Supply Chain Management. These FAST programs offer direct training for some of the most in-demand roles in Canada's workplaces.

As we return to campus after two years since the initial pandemic lockdown, I am excited for the new IGS to build momentum and reach its full potential as an urban learning hub with leading classroom technology that supports innovative teaching approaches and enriched learning.

LOCAL IMPACT



Lead. Transform. Grow.

As a global leader in polytechnic education, Humber College combines in-depth theoretical learning and hands-on experience with applied research and understands the vital contribution of our industry partners and their collaborative approach to ensure our students graduate career-ready and make a positive impact locally, regionally, nationally and globally.

We support industry innovation and over the past five years, FAST has built on past achievements to grow and develop mutually beneficial partnerships that leverage our combined strengths to increase innovation capacity and enhance the quality and relevance of education for our students.

FAST has fostered strong, sustainable collaborations with a range of industry strategic partnerships, including joint funding of industrial research projects, sharing research equipment, and consulting.

These valued partnerships provide a mutual respectful exchange of ideas that provide faculty and students with the opportunity to positively contribute to our society. This helps make our world not only a more technologically advanced and connected place, but also a more sustainable, safe, healthy and joyous world.

Together with our industry and community partners, we are defining problems and working together to address and solve the grand challenges facing our world.

Below is an overview of some of these partnerships and how we are making a positive, local impact.

November 2021

Humber College is the first Ontario college to sign on as an educational partner with Accelerate Her Future (AHF). AHF is a career accelerator providing tailored programs for self-identifying Black, Indigenous and women of colour (BIWOC) to launch their careers in business and technology while building solidarity, allyship, and action networks.

▲ FAST students at the Barrett CTI host STEAM Workshops in collaboration with Community Outreach and Workforce Development.

Fall 2021

The Canadian Institute of Traffic and Transportation (CITT) formalizes an agreement with the Humber FAST Supply Chain Management Post-Graduate Certificate, streamlining graduates' pathway to secure the CCLP (CITT-Certified Logistics Professional) designation.

Fall 2021

Humber FAST Project Management Graduate Certificate Program expands its collaboration with PMI Toronto. The new agreement continues a strong tradition of joint educational and industry ventures including industry networking initiatives, community outreach, job fairs, experiential learning, volunteer and student ambassadorship opportunities, all aimed at developing skills and competencies for Project Management students, as they embark on their careers.

Fall 2021

FAST confirms Common Curriculum elective course in our Architectural Technology program with CivicLabTO: Collaborating on Renewal and Resilience. This initiative forges deep ties between academic researchers from eight higher education institution partners, city-building practitioners, and senior City of Toronto staff for knowledge mobilization and inter-sectoral collaboration.

▲ FAST students collaborate on City of Toronto Tiny Town.

June 2021

Service Learning Project: Interior Design Workshop engages 2 to 3 Bachelor of Interior Design (BID) students who each developed a workshop, held over two days, to educate younger students on basic design concepts. This project involved teaching the Grade 7 students at Pine Grove Public School (Halton District School Board) about Interior Design to inform and inspire the next generation of potential designers.

2021

FAST Continuous Professional Learning (CPL) cultivates a custom training program for Magna Powertrain, Unimotion-Gear that combined theoretical and practical hands-on learning to expand the team's knowledge and develop a unique set of skills to trouble shoot and resolve level 1 robot automation issues.

June 2021

Giant Ideas Organization collaborates with FAST 4th year Interior Design students to design affordable housing in Toronto with Giant Containers Inc. Under the leadership and guidance of Prof. Zaiba Mian, this initiative provided an opportunity for our students to extend their design skills to the larger community, allowing them to apply their knowledge to a real-world situation: Ontario's affordable housing crisis. The result: out-of-the-box thinking to create renderings showcasing feasible affordable housing design.

▲ High school students dig in to learn about Humber Sustainable Horticultural Practices course.

June 2021

FAST partners with Skills for Change to launch Horticulture Technician Pre-Apprenticeship Training Program designed for applicants who identify as women. This program prepares women who have a keen interest in the skilled trades for employment in the landscape sector. Typical jobs in this industry include landscape construction, grounds and golf course maintenance, parks operations and gardens care.

October 2020

Humber College receives $3 million over five years from Magna International to advance the College's training and leadership in the areas of mechatronics, traditional and digital skilled trades and workforce skills development.

2020

Humber College and FAST host the Spark Team and 24-hour Hackathon and Pitch Competition for 200 students passionate about coding and using technology for good in order to create more sustainable cities. An excellent community outreach to empower youth and help them gain leadership skills and practical work experience, setting them up for future success.

▲ Boilermaker Apprenticeship program receives new tank from TIW Steel Platework Inc.

2020

Humber's Boilermaker Apprenticeship Program receives an eight-foot diameter tank from TIW Steel Platework Inc., to be used by apprentices to gain real-world skills.

March 2020

City of Toronto issues challenge to FAST and Faculty of Media and Creative Arts students: reimagine a 40-year-old model of the city called Tiny Town.

2017-2018

Partnership with SIEMENS Industry, Inc. Building Technologies Division with Academic Partner, Collège Boréal. Developed the Low Carbon Business Skills – Course, Resource and Professional Development Stream (LCBS - CRPD) that gives postsecondary institutions the opportunity to support development of new courses, curriculum materials and professional development programs that will enhance students' low carbon building skills and knowledge.

▲ Celebrating new initiatives with RESCON.

June 5, 2018

New initiative with RESCON – province's leading association of residential builders committed to providing leadership and fostering innovation in the industry. Partnership supports skilled trades graduate's career goals in construction.

March 1, 2018

Official launch of The Humber PMI-Toronto Student Community to support the Project Management Graduate Certificate Program. In collaboration with partner the Project Management Institute (PMI) Toronto, this student community positions Humber and the Project Management Program to strengthen relationships with the PMI and its chapters.

May 17, 2017

Signing MOU with The Residential Construction Council of Ontario (RESCON): First step toward addressing skill shortage in the construction sector.

SKILLS COMPETITION

Humber College is playing a significant role in addressing the skilled trade shortage in Ontario and demonstrating our commitment to build a strong future skilled workforce.

Since 2004, Humber FAST students have been competing in the Skills Canada Competition – the only national, multi-trade and technology competition for students and apprentices in the country.

The Skills Canada Competition encourages a coordinated Pan-Canadian approach to promoting skilled careers in trades and technology, bringing the best of the best post-secondary students and apprentices from across Canada to compete in their trade or technology.

Humber FAST students have seen much success the past five years with more than 158 competitors bringing home 36 Skills Ontario medals; 5 Skills Canada medals; and a bronze medal from the 2017 WorldSkills!

It takes a village to prepare our students for these competitions. Thank you to the coaches, educators, staff and faculty who supported and helped our students compete and reach their goals.

Together, we are building Ontario's skilled trades and technologies workforce, empowering youth to consider a career in the skilled trades and technologies.

Total Number of FAST Student Competitors

2022 Skills Ontario – 22

2021 Skills Ontario – 11

2019 Skills Ontario – 39

2018 Skills Ontario – 33

2017 Skills Ontario – 34

Total Number of Medals

2022 Skills Canada – 1 medal (Silver)

2022 Skills Ontario – 8 medals (4 Gold, 3 Silver, 1 Bronze)

2021 Skills Canada – 1 medal (Gold)

2021 Skills Ontario – 5 medals (2 Gold, 2 Silver, 1 Bronze)

2019 Skills Canada – 2 medals (1 Gold; 1 Silver)

2019 Skills Ontario – 10 medals (3 Gold, 3 Silver, 4 Bronze)

2018 Skills Canada – 1 medal (Gold)

2018 Skills Ontario – 6 medals (1 Gold, 3 Silver, 2 Bronze)

2017 WorldSkills – 1 medal (Bronze)

2017 Skills Canada – 2 medals (Gold & Silver)

2017 Skills Ontario – 6 medals (3 Gold, 2 Silver, 1 Bronze)

*Due to the pandemic, the 2020 Skills Competition was cancelled, and reduced competitors participated in 2021 and 2022.

2022 Skills Canada

Student Competitors	Category	Medal
Andrian Movtchan	Refrigeration and Air Conditioning	Silver

2022 Skills Ontario

Student Competitors	Category	Medal
Alyaan Hussain	Computer Aided Manufacturing	Gold
Mitchell Williams	Landscape Design	Gold
Marcus Lahn	Mechanical CADD	Gold
Andrian Movtchan	Refrigeration and Air Conditioning	Gold
Alfonso Miguel Alvaran	Electronics	Silver
Adelle Ranisavljevic	Landscape Design	Silver
Dillon Kong and Nickolas de Boer	Mechatronics	Silver
Sara Houjeily and Cole Ferguson	Mechatronics	Bronze

2021 Skills Canada

Student Competitors	Category	Medal
Marko Gunja and Nickolas de Boer	Mechatronics	Gold

2021 Skills Ontario

Student Competitors	Category	Medal
Marko Gunja and Nickolas de Boer	Mechatronics	Gold
Rian Currie	Electronics	Gold
Jordan Regada and Jarod Lin	Mechatronics	Silver
Jackson Macor	Welding	Silver
Marcus Lahn	Mechanical CAD	Bronze

2019 WorldSkills Kazan

Student Competitors	Category	Medal
Mateusz Cwalinski and Bogdan Malynovskyy	Mechatronics	4th Place Medallion of Excellence

2019 Skills Canada

Student Competitors	Category	Medal
Marko Gunja and Hartej Tapia	Mechatronics	Gold
Brendan Woo	Electronics	Silver

2019 Skills Ontario

Student Competitors	Category	Medal
Brendan Woo	Electronics	Gold
Hartej Tapia & Marko Gunja	Mechatronics	Gold
Thales Leonardo DaSilva	Landscape Design	Gold
Raymond Ho	Landscape Design	Silver
Sunhail Mohammed & Alex Mosor	Mechatronics	Silver
Nicholas Roos	Electronics	Silver
Everest Bezati	Automation & Controls	Bronze
Wylie Gallant	Heating Systems	Bronze
Patrick Misko & Taylor Schottroff	Horticulture & Landscape	Bronze
Keiran O'Neill	Mechanical CADD	Bronze

2018 Skills Canada

Student Competitors	Category	Medal
Mateusz Cwalinski and Bogdan Malynovskyy	Mechatronics	Gold

2018 Skills Ontario

Student Competitors	Category	Medal
Mateusz Cwalinski and Bogdan Malynovskyy	Mechatronics	Gold
Daniel Miller	Cabinetmaking	Silver
Hartej Tapia and Marko Gunja	Mechatronics	Silver
Kevin Willcox and Connor Hockley	Horticulture & Landscape	Silver
Donald Johnston	Cabinetmaking	Bronze
Haley Johnston	Landscape Design	Bronze

2017 WorldSkills Abu Dhabi

*2016 Skills Canada gold medalists competed in 2017 World Skills

Student Competitors	Category	Medal
Avery Bird and Theodor Willert	Mechatronics	Bronze Best of Nation Award

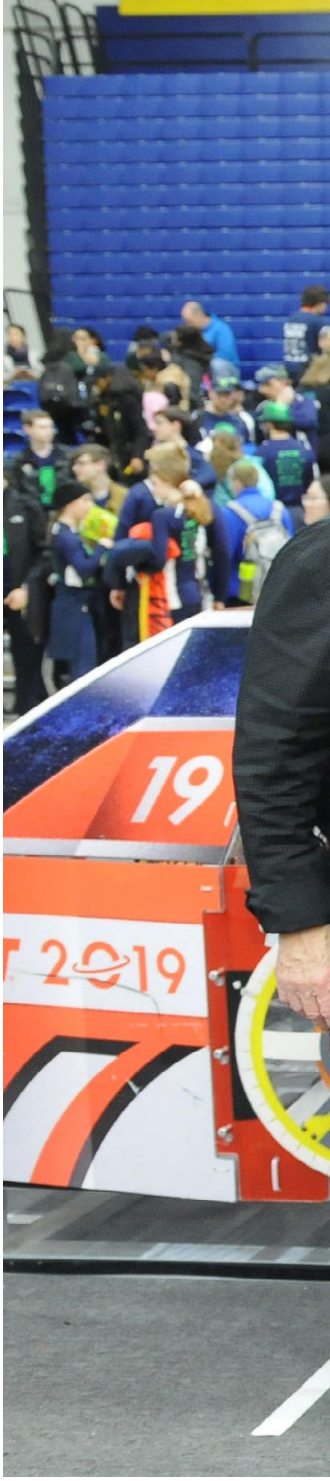
2017 Skills Canada

Student Competitors	Category	Medal
Derick Cheaney	Mechanical CADD	Gold
Mateusz Cwalinski and Bogdan Malynovskyy	Mechatronics	Silver

2017 Skills Ontario

Student Competitors	Category	Medal
Mateusz Cwalinski and Bogdan Malynovskyy	Mechatronics	Gold
David Anselmo and Zachary Goodman	Mechatronics	Silver
Derick Cheaney	Mechanical CADD	Gold
Spencer Brown	Cabinetmaking	Gold
Brie Girdler	Landscape Design	Silver
Andrew Vassallo	Automation & Control	Bronze

FIRST® ROBOTICS



Inspiring the next generation of STEM leaders

The past five years, Humber College has celebrated several firsts with an emphasis on applied learning. Therefore it was a natural fit for FAST to partner with FIRST® Robotics and host the 2019 FIRST® Robotics Competition in partnership with FIRST® (For Inspiration and Recognition of Science and Technology) Robotics Canada.

During the competition high school students, along with their robots built in under six weeks, compete in a challenge that combines sport, science, and teamwork and gives them real-world engineering experience.

Under strict time limitations, students design and build 120-pound robots that compete on a playing field to complete tasks. Students program and test their machines using skills in engineering, coding, and design. Teams also develop business and marketing plans, as well as outreach initiatives to fundraise and engage their local community.

This partnership introduced the newly added 10th Ontario district event. After competing at the district events, teams with the highest rankings and awards move onto the District Championships followed by the FIRST® World Championships.

While this exciting initiative was muted in 2020 and 2021 to a virtual platform, the sounds of metal clanging, power tools buzzing and engines whirring returned to our Athletic Centre in March 2022 as 450 high school students once again competed in the FIRST® Robotics Ontario Division Competition.

During the two-day competition, Dr. Shaun Ghafari and I welcomed more than 30 teams representing schools from London to Kingston. Ontario students flexed their engineering, coding and design skills as they put their homemade robots to the test in a series of specially designed challenges.

It takes a village and a collaborative approach to coordinate this multi-day event. I extend a sincere thank you to Lynn vanLieshout, manager community projects and Geraldine Babcock, director, Community Outreach and Workforce Development; Dean Mylie, manager, Athletics Facilities; Dr. Shaun Ghafari, associate dean; Michael Auchincloss, associate dean and the team at Carrier

Drive who provided mentorship and support throughout the weekend; all of the technologists; and our Planning Committee comprising of members from public safety, event management, risk management, communications and student services.

I look forward to FAST continuing to inspire and empower high school students to be the next generation of leaders and innovators who will go on to tackle the world's toughest challenges.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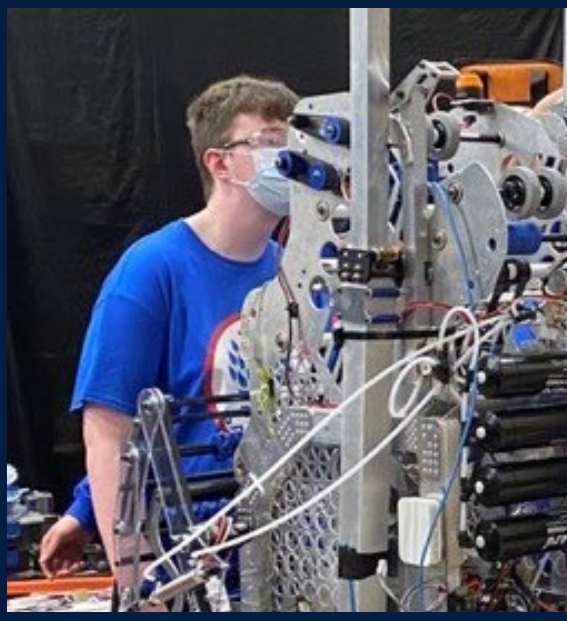

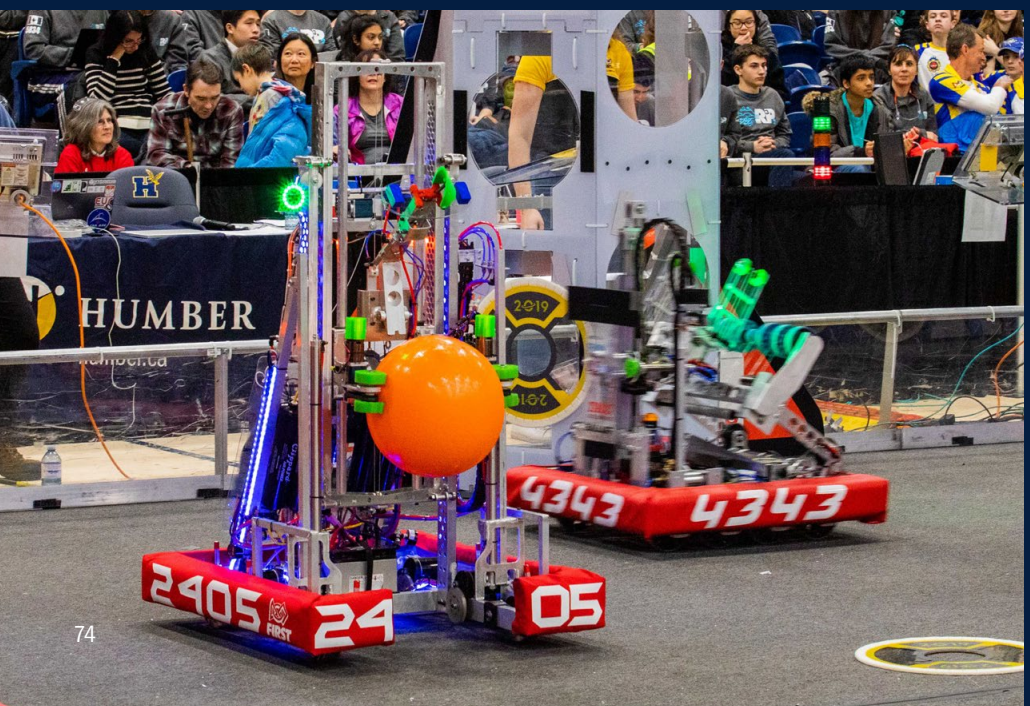
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CELEBRATING OUR ACHIEVEMENTS

When we commemorate a special occasion, we are essentially marking a moment in time that we will forever cherish.

Celebrating gives us a sense of accomplishment and the opportunity to share this accomplishment with our FAST community, including alumni, associate deans, program coordinators, faculty, staff and students.

Earning an award or scholarship commemorates the culmination of one's achievements, recognizes their efforts, and provides a celebration that one would look back on for years to come. To be honoured by our peers or an industry is incredibly humbling and motivates us to push just a little bit harder.

Since 2017, we have created 42 new scholarships and awarded a total of 2,067 scholarships for a total disbursement of $2,504,350. These scholarships are not only in recognition of student leadership, involvement in extracurricular activities or community, and/or academic achievement but also to financially support students to help offset the costs of their education. These scholarships are changing lives.

In addition, our students have been at the forefront earning industry awards that recognize their talents. These accolades generate optimism and excitement about a students' ever-growing potential and celebrates the wonderful body of work they have achieved under the guidance of faculty and support staff.

The President's Awards are a proud tradition at Humber College, recognizing excellence among Humber faculty and staff.

Each year, the President's Awards are bestowed on employees who achieve excellence in various fields and criteria, and I am truly proud that our FAST faculty and support staff continue to be celebrated and recognized for their achievements.

► Nicolas Espinosa is the recipient of the 2022 Collegiate Bronze Governor General's Academic Medal from our Heating, Refrigeration and Air-Conditioning Technician Program.

Students

2022

Association	Students	Program	Award
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Laneway House by Usman Zahoor, Ally Kitchener and Jonah Flores	Architectural Technology	Small Building Group Project First Place
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Bedrock Community Centre by Ara Chung	Architectural Technology	Large Building Individual Capstone Project Second Place

2021

Association	Students	Program	Award
Decorators & Designers Association of Canada (DDA) Awards	Dana Ramos	Interior Decorating	Student General Gold Award Winner
Decorators & Designers Association of Canada (DDA) Awards	Mariane Tiemi Kawamura & Isabela Lopes Morais	Interior Decorating	Student General Bronze Award Winner
Decorators & Designers Association of Canada (DDA) Awards	Isabela Lopes Morais	Interior Decorating	Student Universal Kitchen Design Gold Award Winner
Decorators & Designers Association of Canada (DDA) Awards	Sayaka Takahashi	Interior Decorating	Student Universal Kitchen Design Bronze Award Winner
IDEAS Competition Indigenous Classroom Ideas Competition Sponsored by Diamond Schmitt Architects	Natasha Di Paola and Vanessa Di Paola	Interior Design	First Place
IDEAS Competition Indigenous Classroom Ideas Competition Sponsored by Diamond Schmitt Architects	Danielle Fernandes	Interior Design	Second Place
IDEAS Competition Indigenous Classroom Ideas Competition Sponsored by Diamond Schmitt Architects	Daorsa Kerqeli and Sophia Cox	Interior Design	Third Place
Humber College	Courtney Donovan	Interior Decorating	Indigenous Achievement Award
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Hamlet Laneway House	Architectural Technology	First Place Small Building Category
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Alton Public Gallery	Architectural Technology	Second Place Large Building Individual Category
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Niagara Wellness Centre	Architectural Technology	Second Place Large Building Group Category
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show 2021 Design Awards	Henry Boy for project Vagaboard	Industrial Design	ROCKET Market Ready Award First Place

2021 (cont)

Association	Students	Program	Award
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show 2021 Design Awards	Bradley Staite for project Neo Ink	Industrial Design	ROCKET Award Second Place
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show 2021 Design Awards	Stephen Bykowy for project Horizon	Industrial Design	ROCKET Prototyping Award
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show 2021 Design Awards	Moriah Gonidis for project pakk		ROCKET Sustainability Award
Toronto Catholic District School Board (TCDSB)	Sarah Dunn and Marcella Perez	Interior Design	Exemplary Practice Award

2020

Association	Students	Program	Award
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Mariana Duarte and James Lee	Architectural Technology	First Place Small Building Group Category for Breezeway House
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Rebecca Jarvis and Jordyn Farquharson	Architectural Technology	Second Place Large Building Category
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Eunbi Choi	Architectural Technology	First Place Large Building Individual category for Alton Mills Arts Centre
Planning and Visual Education Partnership (PAVE)	Kareena Sankreeacha	Interior Design	PAVE Student Design Award Winner
Colleges and Institution Canada (CICan)	Brendan Woo	Computer Engineering Technology	2020 Silver Medalist Leadership Excellence Award for Students
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Evan Demczuk	Industrial Design	2020 Rocket Award

Students

2019

Association	Students	Program	Award
National Engineering Month Student Design Challenge	FAST Students		First Place
25th Annual Planning and Visual Education (PAVE) Partnership Student Design Competition	Kareena Sankreacha	Interior Design	First Place Winner
Bombardier Recreational Products' (BRP) International Design Competition	Bradley Staite	Bachelor of Industrial Design	2019 First Place Winner
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Georgena Al Yousif & Nirali Modi	Architectural Technology	First Place Small Building Category
Ontario Association of Applied Architectural Sciences (OAAAS) Competition	Madison Fedorowich, Daniel Melanson, Gheshav Rye Rampersad, Jessica Staniscia & David Tisshaw	Architectural Technology	Second Place Large Building Category
IEEE Regional Exemplary Student Branch Award 2019	IEEE Humber Student Branch		

2018

Association	Students	Program	Award
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Aaron Bavie	Industrial Design	First Place
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Philippe Gagne	Industrial Design	Second Place
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Aaron Bavie	Industrial Design	First Place Market Reach Award
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Joshua Liyanage	Industrial Design	Escape Prototype Award
Association of Chartered Industrial Designers of Ontario (ACIDO) Rocket Show Design Awards	Harley Schneider	Industrial Design	Sustainability Award

2017

Association	Students	Program	Award
Ontario Association of Applied Architectural Sciences (OAAAS) Competition		Architectural Technology	First Place Large Building Group & Large Building Individual

Faculty

PRESIDENT'S AWARDS

2021 RECIPIENTS

Distinguished Faculty Awards
Cheryl Francis-Nurse

Support Staff Distinguished Service Awards
Danny Cunha

Research Excellence Award
The B2C Lab Team
Faculty of Applied Sciences and Technology
Faculty of Media and Creative Arts
Faculty of Social and Community Services

2020 RECIPIENTS

Extra Mile Awards
Industrial Design Virtual Thesis Show Team

2019 RECIPIENTS

Research Excellence Award
George Paravantes and Dr. Dennis L. Kappen
Faculty of Media and Creative Arts / Faculty of Applied Sciences and Technology

Internationalization Awards
Elizabeth Fenuta

Research Excellence Award
Dr. Maryam Davoudpour

Humber Sustainability Award
Vanier Centre Program
Community Outreach and Workforce Development
Faculty of Liberal Arts and Sciences & Innovative Learning
Faculty of Applied Sciences & Technology

2018 RECIPIENTS

Distinguished Faculty Awards
Vanessa Vilic-Evangelista

Extra Mile Awards
Skills Ontario Booth Team

2017 RECIPIENTS

Distinguished Faculty Awards
Brandeen McDonald

Support Staff Distinguished Service Awards
Tony Fiore

Year	Association	Faculty	Program	Award
2021	Humber College	Michael Auchincloss and Tina Antunes	Arborist Proggram	Bur Oak Award
2018	Skills Canada Ontario	FAST Faculty		First Place Large Booth Category
May 2018	Skills Canada Ontario	Tim Wilkinson	Plumbing, 2014	Alumni Award
May 2018	Skills Canada Ontario	Humber FAST		Award of Excellence, Top Scoring College in Manufacturing
November 2017	Government of Ontario	Andrew Bowerbank	Industrial Design	Ontario Premier's Award

HOME SWEET HUMBER

Humber College is an inspiring place – both inside and outside the classroom. From living labs and walking trails to arts and culture, life on campus invigorates mind, body and spirit.

Students are at the heart of all that we do. Together, we work to create positive supportive spaces where we are all afforded an equal opportunity to thrive, cultivate curiosity and explore passions that have a lasting and transformative impact on students and the Humber community.

From capstone and thesis shows to daily life on campus, we celebrate the meaningful connections among students, faculty and staff and embrace the dynamic energy at North Campus and the Centre for Skilled Trades & Technology – Home Sweet Humber!

◀ Bombardier Recreational Products (BRP) International Design Competition. Industrial Design students from 3rd & 4th year, presented their Sustainable Mobility Solution projects to their faculty leads, BRP design team & senior vice president heading up the project.

▲ Skills 2017

◀ STEM Community Outreach
2020 Computer Engineering Technology Workshops

◄ ▼ 2019 and 2020 Chair Show

◄ ▼ FAST faculty and staff support me on my Camino de Santiago journey. When I surpassed raising $8,000 to support a FAST student scholarship, Carl Oliver, Shaun Ghafari and the team pledged to walk from Humber North campus to Humber Lakeshore campus for every $1,000 milestone achieved over $7,000! In total, we raised $10,000 to support FAST students travelling abroad!

◄ Bruce Thomson, professor of industrial design, is demonstrating how students learn to make models with 'Detroit wax'. Photo credit: MATT BUBBERS/ THE GLOBE AND MAIL
March 2020

► College fair October 2017

► Supply Chain Management Career Fair on March 11, 2020 – one of the final in-person events of 2020.

◄ Councillor Michael Ford visits Centre for Skilled Trades & Technology and the Humber Arboretum to showcase how we are addressing the demand for apprenticeship and trades training.

◄ Industrial Design 2022 Thesis show

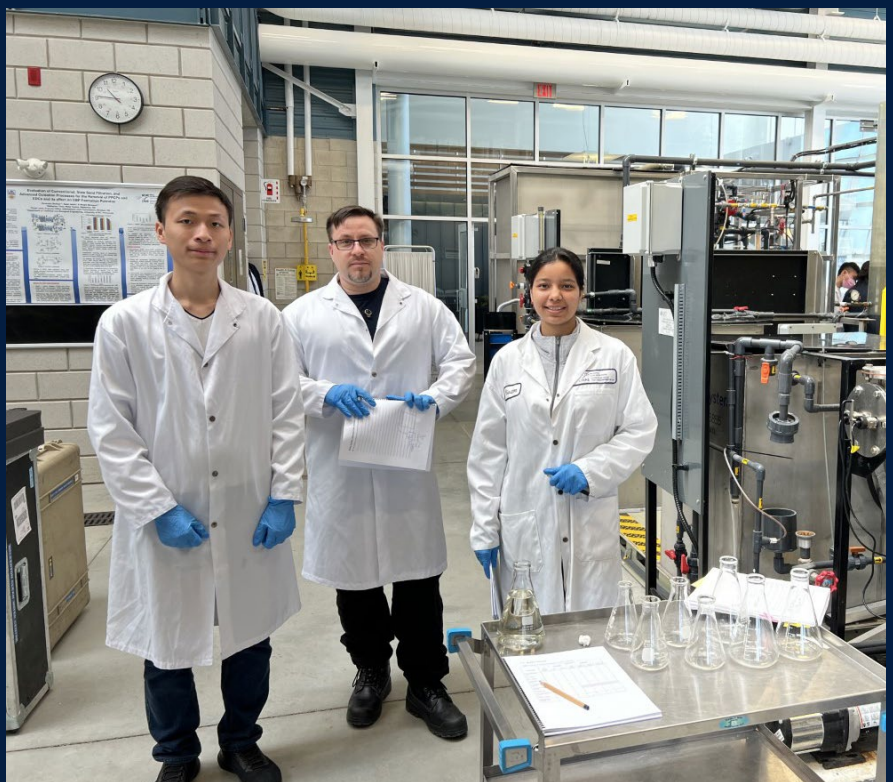
◄ 2020 International Women's Day Event

▲ Interior Design, Convocation Spring 2022.

► FAST Team at Convocation Spring 2022.

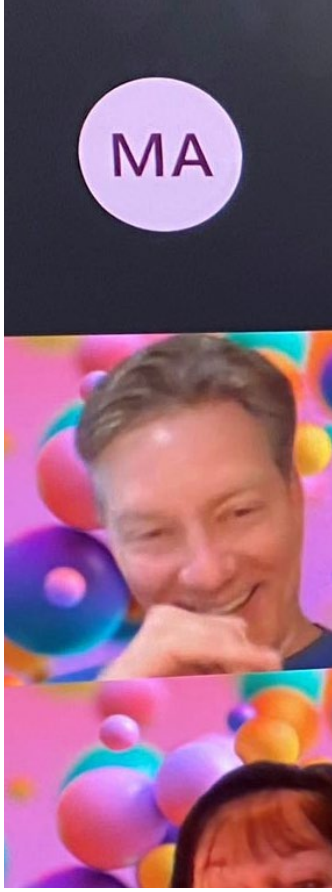
◄ Convocation Spring 2022.

► We may be FAST but The NOT SO F.A.S.T. Team took its time to participate in and enjoy the company of faculty, staff, students and friends at the 15th Annual Humber College 5K Run/Walk: The Comeback, organized by the Fitness and Health Promotion third semester students.



◄ Students from the Civil Engineering Technology Program successfully receive their certificate for the Entry Level Drinking Water Operator course after completing hands-on training at Walkerton Clean Water Centre.

PERSEVERING THROUGH A PANDEMIC



Adapting, pivoting and persevering was our mantra in 2020 and 2021.

These past two years, we all had to navigate through unfamiliar territory together. We understood the importance of human connection both in our professional and personal lives. In the face of adversity, we had to make a choice – be limited or explore the limitless opportunities.

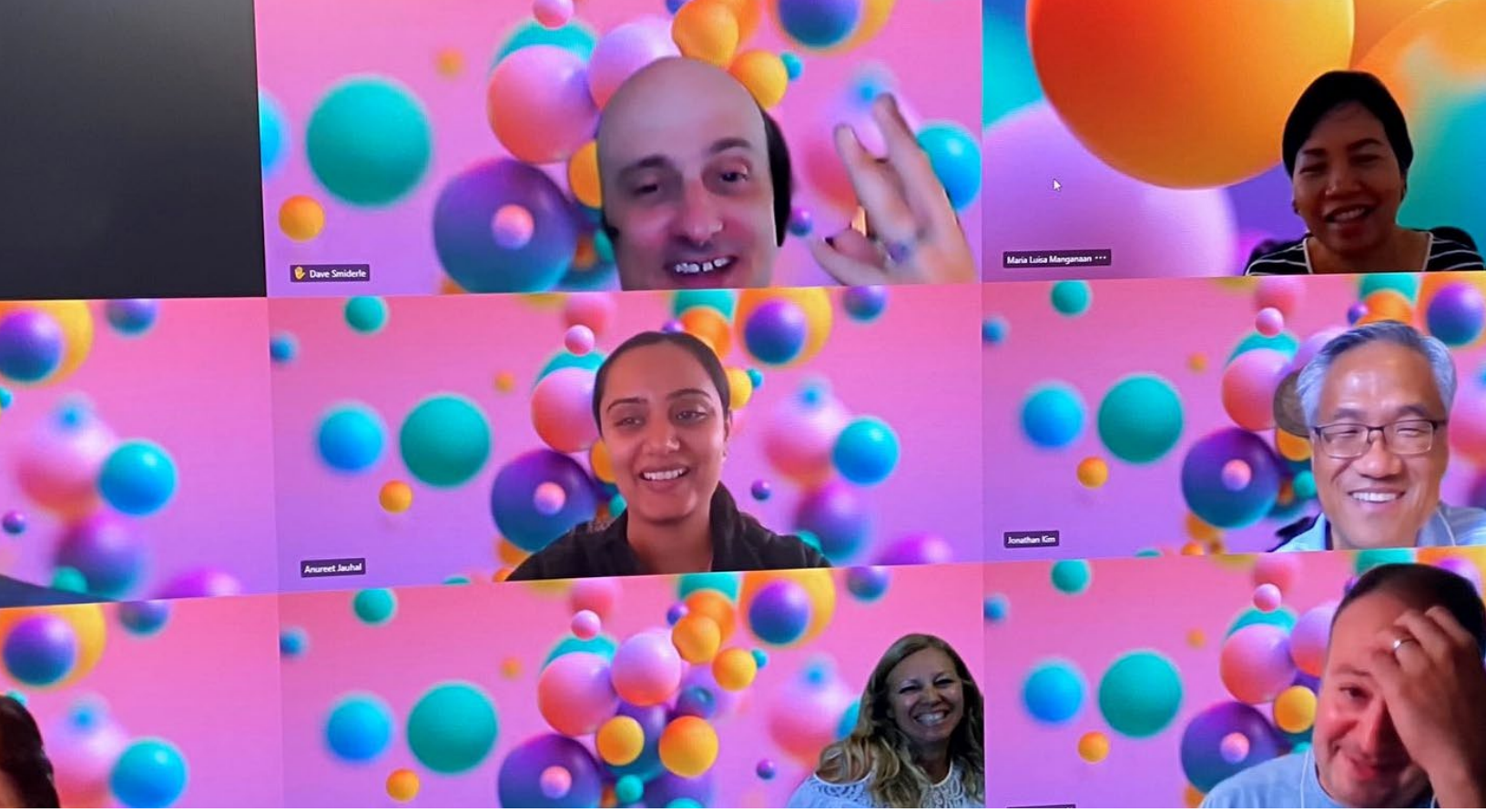
At Humber College, we rose to the challenge and our faculty, staff and students showed remarkable adaptability, resilience and perhaps even more importantly, empathy and compassion for each other.

In 2020, our community immediately shifted to create meaningful online learning and innovative opportunities for connection and collaboration, with an unwavering commitment to keep our students, faculty and staff safe both on and off campus.

Responsible for both the Humber North Campus and the Centre for Skilled Trades and Technology, our technologists were tasked to research, source, build and install protective equipment and safety measures to ensure all training spaces, classrooms and labs adhered to health & safety protocols. Protecting our students, faculty and staff from COVID-19 was priority number one.

Our technologists worked tirelessly with all stakeholders to design and build the necessary health & safety requirements for every program and space in FAST. This included (but is not limited to): installing plexi-glass barriers; regularly cleaning and sanitizing equipment; enhancing space utilization to adhere to social distancing guideline; installing signage and six feet apart markers; and so much more. These ongoing measures ultimately ensure the continued delivery of hands-on and theoretical learning with minimal disruption.

Humber's Information Technology Services also worked around the clock with all Humber faculties and departments to successfully transition our in-person learning environment to a digital platform and provide the best possible experience for faculty and students. From convocation and scholarship celebrations to industry conferences and seminars, the show must go on(line) and we continued to connect and celebrate.

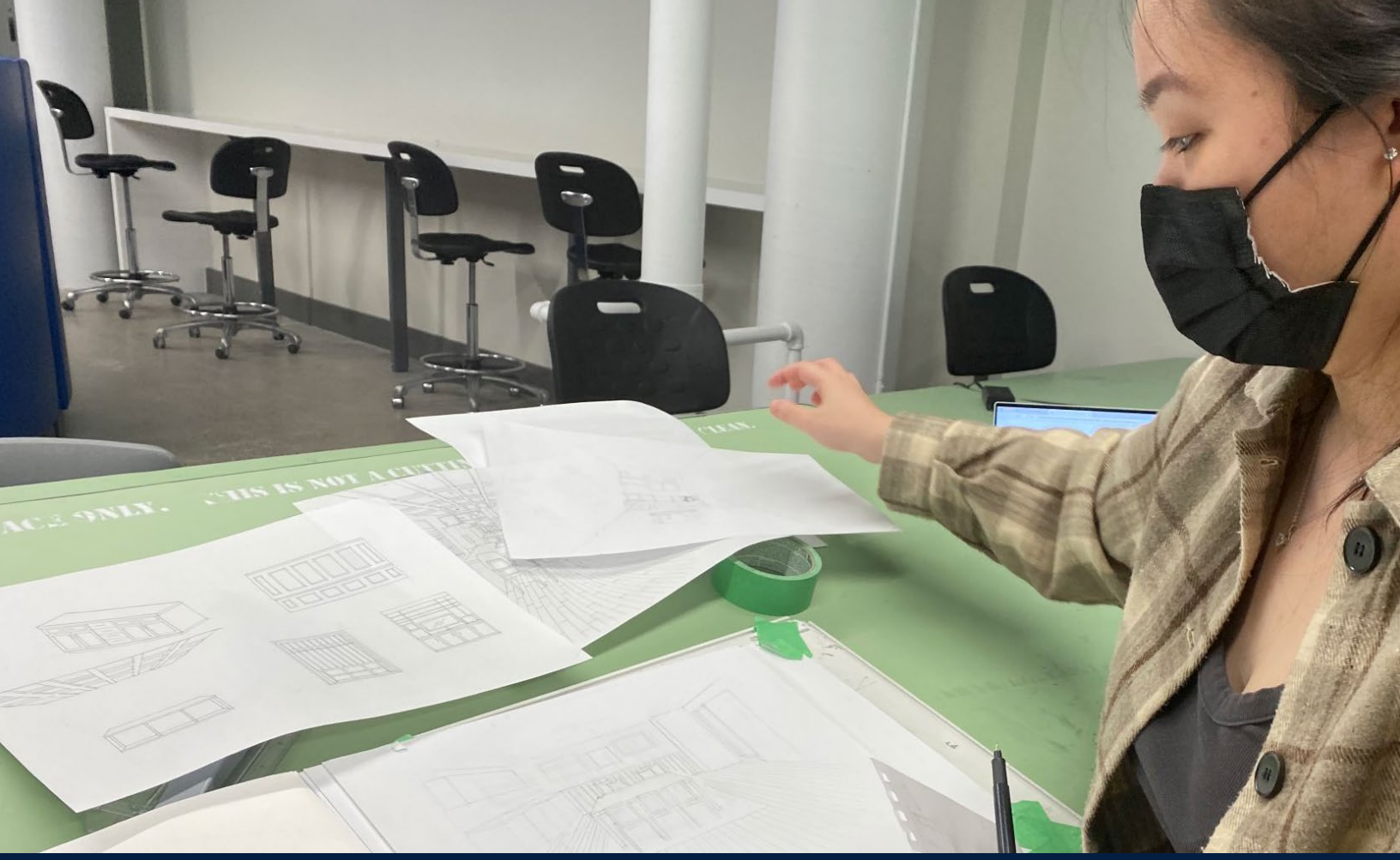


Our co-op students rose to the challenge and positively contributed to forward-thinking organizations in their response to COVID-19. From ensuring production lines were not compromised to working exclusively to manufacture, assemble, package and ship more than 150,000 face shields to keep frontline workers safe at the outset of the pandemic, our students made a difference in their local communities and industry.

They say that not all superheroes wear capes. Some wear scrubs. And some grab a pandemic by the horns and say “Not today. Watch us.” FAST was one of the first faculties in the Ontario college system to return to campus summer 2020. In July 2020, students in heating, refrigeration and air conditioning programs as well as apprenticeship programs were among the 350 Humber College students to return to in-person, hands-on learning to ensure these students would graduate on time and secure employment in positions deemed “essential workers” to contribute to solving the challenges our society faced in the depths of the pandemic.

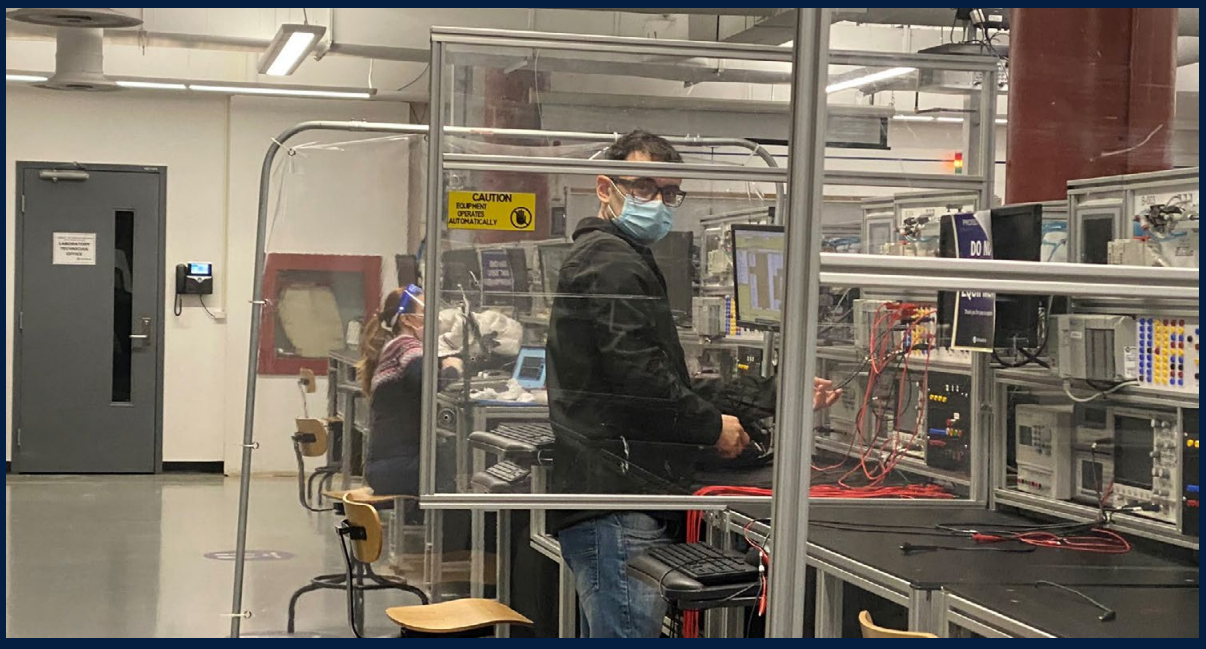
Staff, technologists and faculty were on campus every day to ensure we delivered the best education experience for our students while keeping everyone safe. To all of these unsung heroes, I offer a heartfelt thank you!

I am truly inspired by the resilience of Humber FAST faculty, staff and students. Every day, you empower me with your dedication, determination, and tenacity to deliver the very best for our community and help one another thrive. Your perseverance is deeply appreciated, and I am grateful to collaborate and work side by side with all of you.




EMERGENCY
HUMBER


PROTECT AGAINST COVID-19
Wipe equipment
before and after use
HUMBER


CAUTION
EQUIPMENT
OPERATES
AUTOMATICALLY

#HUMBERFAST ENGAGES

Engage. Inspire. Inform.

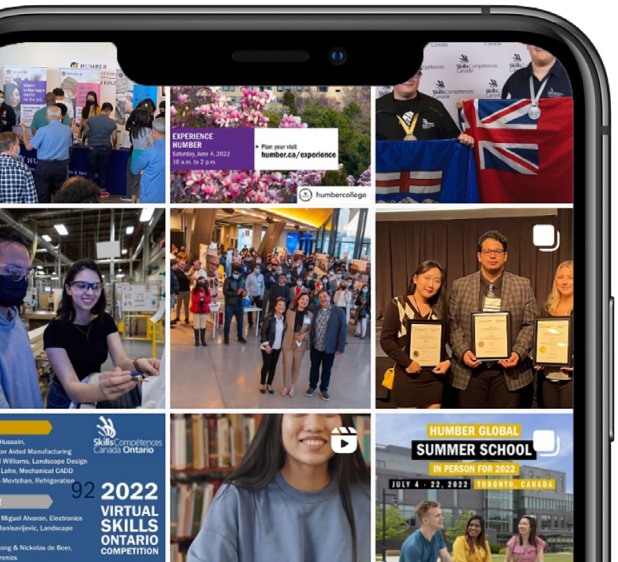
Storytelling is at the heart of our approach to compelling communication – the bridge to creating a connection with our audiences and building authentic engagement and social interactions in support of Humber FAST's mission, vision and values.

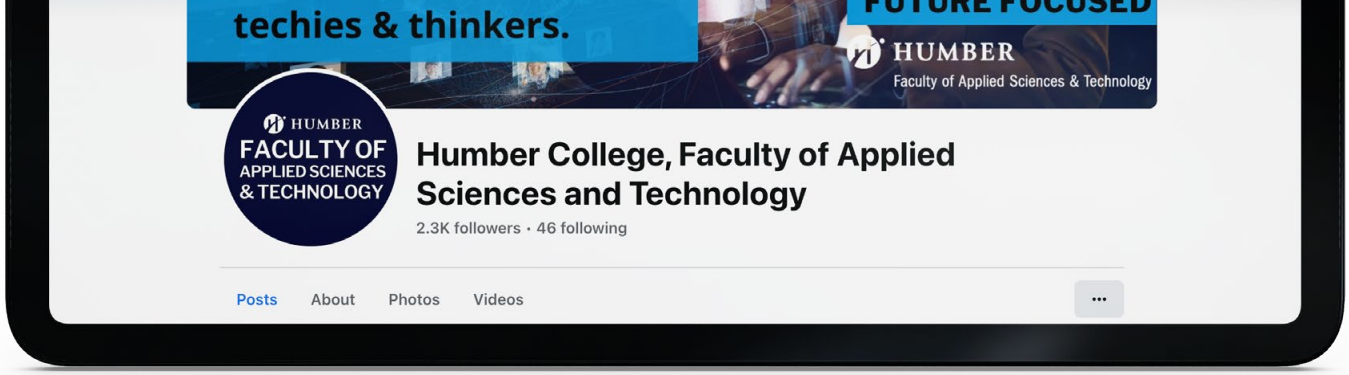
Our brand storytelling helps our audiences feel more connected to our community with a deeper understanding of who we are and how our multidisciplinary faculty empowers the creators, engineers, designers, techies & thinkers setting a course for tomorrow.

Over the past five years, we have built strong momentum in our marketing & communications initiatives, working closely with the Humber Marketing & Communications team. Our messaging focuses on the differentiation between Humber FAST and other post-secondary education institutions and answers the question "Why Humber FAST?"

We have amplified our efforts and invested in traditional and digital advertising; industry conferences; speaking engagements; FAST leadership and faculty networking at industry events; earned media coverage; sponsorships; and engaging with industry associations.

Social media is an undeniable force in today's world. It provides the opportunity for us to not only engage with our audiences, but to also inform these followers with strong content that helps them make sound decisions.





Our social feeds – Twitter, Instagram, Facebook and LinkedIn – are continuously populated with positive, inspiring, informative content to build authentic engagement and social interaction with both internal and external audiences including faculty, staff, students, industry and government.

Our vivid, down-to-earth and forward-thinking approach to storytelling is memorable and relevant, supported by necessary facts and proof points.

From everyday life on campus, news & events, to celebrating industry awards, government grants, and shining a spotlight on our faculty & students, we are engaging in new conversations to build trust and awareness with our audiences.

We are more than a logo. We are a community filled with stories and we hope you will join the conversation and engage with us!

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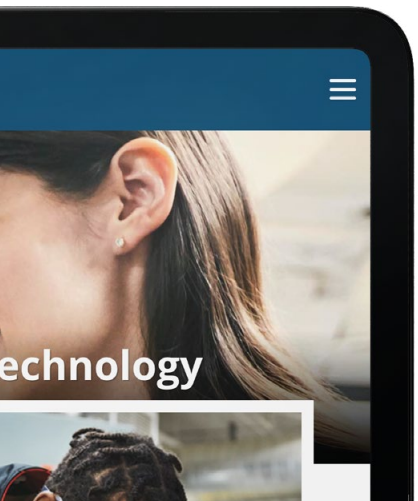

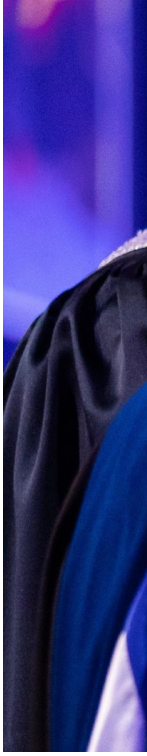

LOOKING BACK WITH GRATITUDE. LOOKING FORWARD WITH EXCITEMENT.

As I reflect on the past five years and this humbling moment with gratitude, there is a hint of excitement in the air.

While we have accomplished so much together during my five-year tenure as senior dean, we are just getting warmed-up.

We will continue our collective efforts to support an unforgettable student experience both inside and outside of the classroom that services to enrich and inform; launch new programs to ensure our students graduate career-ready for an ever-changing world; invest in skilled trades to build a strong future skilled workforce; foster strategic industry partners; help transform education on a global stage; and never stop building a community where diversity is expected, self-expression is honoured, and all are welcomed.

We have so much to look forward to. We welcome Dr. Ann Marie Vaughan, our new president and CEO, who is the first woman to hold the position and the fifth president and CEO in Humber's history. Our Academic Leadership Council is developing Humber's Academic Plan that will guide our FAST initiatives for the next five years with a continued focus on programs and pathways for lifelong learning; personalizing the learning journey; and, empowering teaching and learning with a polytechnic education in mind.

Our mandate is to stay focused and on course with the confidence and commitment to develop global, career-ready citizens with the knowledge and skills to lead and innovate.

As we build upon the past five years and embark on this continuous journey together, I welcome your feedback. Whether it's a phone call, email or walking meeting through the Humber Arboretum, your input matters and will contribute to our growth and advancement. In addition, my associate deans and I will be meeting with the program teams during the 2022-2023 academic year to gain valuable insights into the learner's experience.

It has been an absolute pleasure and privilege serving the FAST community at Humber College and I look forward to continuing this journey with all of you. The future is bright and we are just getting started.

The best is yet to come!

With gratitude,

Dr. Farzad Rayegani, P.Eng, FEC.
Senior Dean

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ENVIRONMENTAL SAVINGS
As part of Humber's commitment to sustainability, this document has been produced in an electronic format. Please consider sharing instead of printing.

ACKNOWLEDGEMENT
Every effort has been made to ensure we acknowledge and pay tribute to faculty, staff, students and predecessors who have celebrated achievements and contributed to the growth and success of FAST. Please accept our sincere apologies for any omissions.