MOMENTUM

MOHAWK COLLEGE COMMUNITY MAGAZINE

FALL 2019

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ABOUT: Mohawk College educates and serves more than 32,500 full-time, part-time, apprenticeship and international students at three main campuses in Hamilton, Ontario and at learning hubs across Hamilton through City School by Mohawk, and at the college's Aerospace Training Hub at Hamilton International Airport. Mohawk is among the leading colleges in Canada for applied research. It has been named one of Canada's greenest employers for six years in a row, holds a GOLD STARS rating from AASHE for sustainability achievements and is home to the country's largest net zero energy institutional building, The Joyce Centre for Partnership & Innovation. More than 125,000 people have graduated from Mohawk since it was founded.
COVER: Ardaela Gjoka and Melissa Melanson, Civil Engineering Technology students, and Richard Borger, Professor, Building and Construction Sciences.
LOCATION: Mohawk College, The Joyce Centre for Partnership & Innovation, Fennell Campus.

FROM THE PRESIDENT

Innovation and Leadership

Our Momentum cover story illustrates how Mohawk College is consistently demonstrating its leading expertise in the high-flying and cutting-edge world of drones. Faculty and students are partnering with a growing roster to find innovative uses for drones, including emergency first response, and the inspection, surveying and mapping of buildings, forests and farms.

Drones are faster, safer and more economical than traditional methods to gather information using cameras, laser scanners and thermal sensors. Mohawk provides the technical knowledge and research capabilities that industry partners rely on to determine the equipment, protocols and best practices for their needs.

Mohawk students in a range of relevant programs are working with drones for class projects and applied research partnerships. That makes them future ready and creates the talent needed to drive innovation and exploration. Make no mistake, Mohawk will continue to grow its drone capabilities on a number of exciting fronts that will secure our position at the forefront of this rapidly emerging field.

The college is also finding innovative ways to address a desperate need for personal support workers (PSW), who are critical to the compassionate and effective care of vulnerable people. Our health care partners depend on access to our state-of-the-art facilities, our committed and talented students, and the unrivalled knowledge of our faculty.

The School of Health has partnered with healthcare management company Thrive Group to create and deliver customized professional development training for PSWs. The innovative Living Classroom PSW program, a collaboration with healthcare provider Schlegel Villages, provides transformative experiential learning.

These models illustrate our ability to develop flexible educational pathways to meet employer needs.

This issue of Momentum also showcases our leadership in skilled trades championing and training, and features just some of the ways Mohawk is bringing the future to life for our students and industry partners.

Regards,
Ron J. McKerlie

SKY'S THE LIMIT

Drone research at Mohawk shows "endless" possibilities

Mohawk College is flying at the head of the pack when it comes to exploring innovative uses of drones with a range of industry partners.

"As far as we know, we are leading the way on drones among Ontario colleges. We get that feedback from our partners," said Richard Borger, a professor in Building and Construction Sciences. "We are definitely not the only ones out there and we don't want to be exclusionary. We are hoping to partner with other institutions that have complementary programs, expertise and resources."

A drone is a platform to get a sensor in the air to gather data, whether that's a camera or a laser scanner or a thermal unit, says Matt Shelley, a technologist with the Building and Construction Sciences program.

"The drone provides a bird's eye view, a different vantage point that can't be found on the ground."

Mohawk faculty and students have taken part in a number of drone research projects, including building inspections, forestry, mine and agriculture surveys, and first-response activities.

"The applications for drones are pretty endless," said Borger but the central question in any research application is whether a drone can perform a specific task better than existing technology, says Borger.

"No technology solves every problem."

Borger's first drone project in 2017 was at a quarry in Vineland where he and his team mapped and measured how much aggregate was stockpiled and how much remained in the quarry.

"In a 20-minute flight, we gathered all the information we needed of a 25-hectare site."

Using traditional ground survey measurement techniques would take two to three hours for each pile, says Borger.

Ardaela Gjoka, Civil Engineering Technology student, and Richard Borger, Professor, Building and Construction Sciences

The imagery captured from the drone allows for calculations of a quarry's life-cycle, along with how much soil has to be stripped to get at the useful limestone and shale underneath.

"That project was huge for us in demonstrating how practical and useful this technology is," said Borger.

Another project involved students in Architectural Design who were creating a theoretical 20,000-square-foot cidery building on an eight-hectare parcel of land in Beamsville. Drone mapping allowed for a detailed topography so that students could design their buildings around the exact layout of the land.

> "Mohawk graduates will push technologies such as drones, and help lead the industry."

Mohawk has completed several projects with Edison Engineering, including using high-resolution drone imagery to inspect hundreds of windows in a Toronto condo building and using thermal imaging to inspect the building envelope and its integrity.

Drones allow for much faster and safer inspections of building exteriors. Traditional methods require inspectors to be lowered down buildings on swing stages.

It also allows for decisions made with vastly more information, says Borger. In one Toronto project, drones were used to inspect energy efficiency panels that were failing on condo buildings. Every single panel was examined, leading to a decision to replace them all at once.

Traditional inspection would have required a decision to be made based on an up-close inspection of just 10 to 15 per cent of the panels.

Mohawk also worked with long-time partner Walters Group to take weekly drone images of its new plant as it was under construction to assess progress compared to timelines and to track building material inventory. The process stitches together 150 photos into one large high-resolution photo with such clarity that it's possible to zoom in and read spray paint on steel beams on the ground, says Borger. The same system was used to track progress on an Ontario Power Generation dam in the province's north.

Greg Matzke, a professor in the Chemical, Environmental and Biotechnology department, uses multispectral cameras attached to drones to survey the growth conditions of plants on farms and wineries. Images collected with infrared cameras were stitched together to produce reflectance maps that are analyzed by faculty and students to detect disease in the plants that isn't visible otherwise.

Matzke says the power of drones is evident in the early detection of disease and insects in precision agriculture.

There are tremendous opportunities for Mohawk, says Borger, including training students to pilot drones, offering post-graduate education, and potentially, establishing a research centre of excellence.

He is applying for funding to work on beyond visual line-of-sight trials with SkyX. It's illegal now to fly a drone beyond the operator's line of sight without explicit authorization from Transport Canada, but that is expected to eventually change and will have widespread applications, including deliveries and long-distance inspections of power lines in an ice storm.

"That really is the next big step in industry. It opens great possibilities," said Borger.

There is great industry demand to explore all that drones can offer, and Shelley and Borger are going over multitudes of potential projects.

"That's why it's so exciting. There are so many opportunities," said Shelley. "Every time we turn a corner, there are new ideas. There really are limitless possibilities. From our understanding, we are one of the leaders in Canada in this."

Projects are chosen based on alignment with student learning outcomes, the chance to explore a new drone application, and the opportunity to provide synergies with the work of an industry or community partner, says Shelley.

"Mohawk College brings two things to partnerships: First, we own a number of drones and test how well they fly and the sensors that can be attached. We can help partners see what equipment works and what doesn't before they make a capital investment."

Matthew Shelley and Richard Borger, Building and Construction Sciences faculty and students Ardaela Gjoka, and Melissa Melanson, Civil Engineering Technology

The second major thing Mohawk provides is a stream of talent who are trained to work with drones and related software. That will be critical as adoption of the technology only gathers steam.

"A drone is only as good as the operator. You need the talent to roll this out and to collect and process the data that drones provide. Otherwise, a drone is just a paperweight."

Students aren't currently piloting the drones, but they work on gear maintenance and repair, systems installations, software support, data input and analysis, scene management, and crowd control.

"As Mohawk teams up with more industry partners they are surpassing what people thought drones could ever be used for, and finding more efficient ways to complete tasks," said Katelyn Barich, a second-year Architectural Technology student. "After working with this technology I am excited to see where it will go from here and how I can try to implement it into my career path."

Ardaela Gjoka, a Civil Engineering Technology student in her last semester, says working on applied research projects "has been a challenging and rewarding experience. I have had the opportunity to work with innovative technology and learn advanced software. As I prepare for my career, being engaged in all the special projects has not only enriched my portfolio but most importantly, it made me more passionate about my career choice."

Third-year Architectural Technology student Tyler Sowden has worked with a number of cutting-edge technologies during his time at Mohawk.

"Drone technology has a large potential to shape the future of the careers that many of us are studying for," he said. "Mohawk graduates will push technologies such as drones, and help lead the industry."

MEASURING UP

Mohawk researchers are pioneers in exploring uses for drone-mounted LiDAR

Mohawk is pioneering the use of sophisticated drone-mounted laser scanners to precisely map buildings and landscapes.

Called light detection and ranging or LiDAR, it builds 3D surveys by illuminating a target with laser and measuring what's reflected.

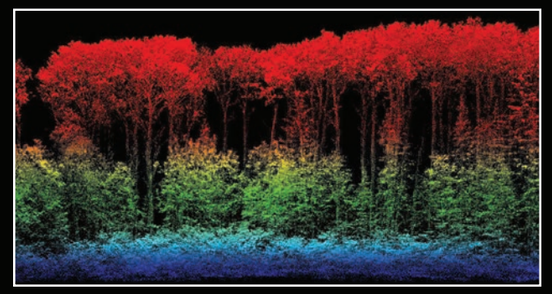
"This is the latest and greatest in drone use and we are one of the few institutions to have it in Canada," said Richard Borger, a professor in Building and Construction Sciences employing drones in a growing number of research projects.

LiDAR isn't economically feasible for many companies until its usefulness is proven, says Borger. That's where Mohawk's ground-breaking work on proof of concept and best practices proves invaluable.

Combining drones with LiDAR means entire buildings can be surveyed in minutes. There are also widespread applications for utility companies, including tracking hydro lines to capture line sag.

This year, Mohawk began work with forestry company Rayonier Advanced Materials to use drone-mounted LiDAR to evaluate tracts of forest in Timmins and Kapuskasing.

"There are sections that aren't walkable because they are remote and very dense," said Borger. "LiDAR makes it possible to penetrate the dense tree canopy to see to the ground level."

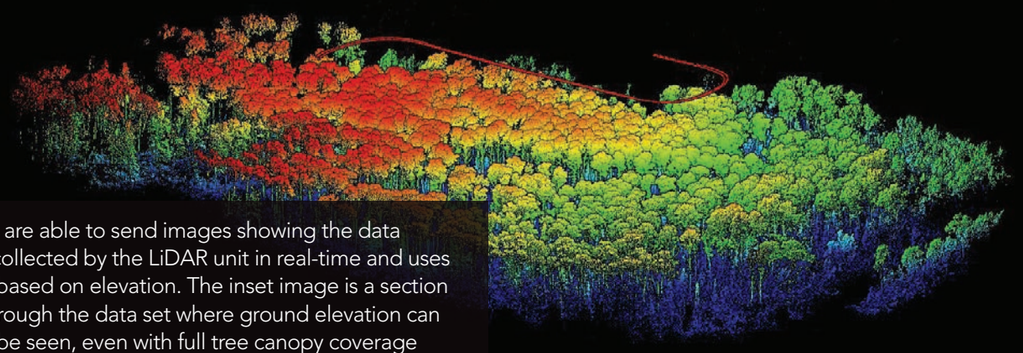


Rayonier uses LiDAR mounted to planes and helicopters, but drones are more economical and safer for the regular reports of forest inventory required by government, says Grant McCartney, Forest Information Systems Coordinator.

"The partnership with Mohawk has allowed us to explore more platforms for LiDAR. This allows us to explore smaller-scale projects and evaluate the effectiveness and value for us."

Tembec, a Canadian paper company acquired by Rayonier, lost two foresters and a pilot in a helicopter crash in 2011.

"We successfully showed the company that drone technology would not only help them to save time and money, but also help save lives as well," said Tyler Sowden, a third-year Architectural Technology student.



Drones are able to send images showing the data being collected by the LiDAR unit in real-time and uses colour based on elevation. The inset image is a section view through the data set where ground elevation can clearly be seen, even with full tree canopy coverage above, thanks to the dual return LiDAR unit.

Students Tyler Sowden and Ardaela Gjoka, Civil Engineering Technology, and Jeff Inch, an instructor with Elements 3 Robotics who delivers drone training.

EYES IN THE SKY

First responders partnering with Mohawk to explore use of drones

First responders are working with Mohawk College to incorporate drones into their work at fires, collisions, bomb threats, search and rescues, terrorist attacks, natural disasters and open-air events.

"There are so many applications for drones in law enforcement and emergency response," said Richard Borger, a professor in Building and Construction Sciences who has helped various agencies explore uses, technology and best practices.

The college hosted a first-of-its-kind emergency response symposium in June where drones were deployed to give a big-picture view of a simulated chemical attack.

"Mohawk brings so many resources and expertise to the table and so much experience in applied research and developing training programs," said Andy Olesen, a retired Halton police officer who now consults with policing agencies on the use of technology.

Olesen says work is underway to develop uniform provincial standards, education, and protocols for drones in policing and that will require Mohawk's capabilities. Plans are already in motion to hold another symposium next year.

Mohawk was part of a test case with Hamilton police in which drones were used to quickly map a collision scene and Borger and his team are also on call with local volunteer fire departments.

Another high-profile example of Mohawk's partnerships was the 2019 RBC Canadian Open at the Hamilton Golf and Country Club. The college worked with Hamilton police and Dedrone, a San Francisco-based drone security company, to install and operate a drone detection system.

Malicious and non-authorized drones are a concern at sporting events, outdoor concerts, tourist attractions, airports, prisons, military bases, utilities and data centres, to name a few.

Dedrone looks forward to more projects with Mohawk, says Dedrone spokesperson Susan Friedberg.

"Students at Mohawk College understand the emerging technology. We see great enthusiasm and knowledge that allowed us to deploy our technology in a really meaningful way."

Leif Peng, Professor, Graphic Design, and Ben Jackson, both graduates of the inaugural VR Innovation Certificate Program

THE VIRTUAL IS REAL

Mohawk's AVR partnership with EON Reality shows what's possible

Mohawk College's ambitious and one-of-a-kind augmented and virtual reality (AVR) partnership with EON Reality Inc. is now in full swing with the launch of a local certificate and post-graduate certificate programs, the opening of a state-of-the-art development lab and the completion of a first industry project.

The inaugural cohort of the local certificate completed the first program that ran from January to August 2019. Post-grad students began work in the VR Innovation Academy in September and they will be immersed in the new EON AVR Development Lab where they will work with industry partners on applied projects. The next local certificate program will run in Spring 2020 with registration opening January 2020.

The Lab features a range of AVR environments, from an immersive cube that users navigate with a handheld controller, to a holographic display, to an omni-directional treadmill allows a user to safely walk around a virtual environment.

"The EON AVR Development Lab really is a cutting-edge showcase that shows students and industry partners the range of the applications for the content they are producing," says Marilyn Powers, a professor and coordinator of Immersive Technologies at Mohawk.

She says the post-grad students in the program currently underway come from a variety of backgrounds, including photography, film production and graphic arts, and many are seeking to apply AVR to develop a product or start up a company. The Spring 2020 local certificate program will teach students coming from high school and those re-entering the workforce or changing careers as to how to create AR/VR content.

The academy's first cohort of Mohawk students, staff and faculty graduated from an eight-month program in August, wrapping up with a project to create AVR marketing content for Hamilton manufacturer Jervis B. Webb.

The result exceeded any expectations, says Chris Maxwell, maintenance manager at Jervis B. Webb, which designs and manufactures material handling systems, including conveyors and driverless carts, for airports, industry and warehouses.

"The students and faculty were very professional. They asked questions, they came up with ideas we wouldn't have thought of, and they were always on top of things. It was like working with a professional firm," he said.

"The work they got done in seven weeks is incredible."

Going to trade shows with a brochure can't capture the scale of the company's products, what the components do, or how complex the systems can be, says Maxwell.

It was the students who suggested that the AVR presentation should begin with a plant tour. From there, it showcases three Jervis B. Webb product lines.

"It shows potential customers what is possible. They can see our products functioning."

Mohawk Graphic Design professor Leif Peng says he has already incorporated the project management methodology he learned in the academy into a capstone project for third-year students.

"My hope is that they gain as much insight into the importance of using a well-planned, structured-yet-flexible method of managing their project workflow as I did during the AVR training program. It really was, for me, a game changer."

As any technology emerges, there are frictions associated with adoption, including intimidation, cost, and the time and effort of the learning curve, says Tracy Dallaire, Senior Director of Technology Integration Academic at Mohawk.

"The approach with EON is to reduce the friction and make AVR accessible to not-for-profits and small and medium businesses."

EON's cloud-based platform, which is licensed by users, is user friendly and works on any AVR hardware or on smartphones or tablets.

"This technology is evolving so quickly that people hesitate to invest in it. Many users may never need a Cadillac version. This allows entry in a low-risk, low-cost way," said Dallaire.

EON has partnered with dozens of academic institutions around the world and chose Mohawk as its first in Canada. The company brings in expert instructors to teach each of the five modules. The plan is for Mohawk faculty to take over instruction in the VR Academy within a year.

Project-based learning is a powerful model that builds both the technical and soft skills employers are calling out for, says EON instructor Jamie Justice.

"It's quite impressive what students can produce after just a few weeks. This is a highly intense, highly demanding program. By the time they are finished, they are working at an amazingly sophisticated level."

Sandy Thomson, Mohawk's Program Advisory Committee Chair – Aviation

HIGH-FLYING INNOVATION

Sandy Thomson wins global engineering award

George (Sandy) Thomson, a long-time and tireless supporter of Mohawk College's Aviation program, will soon receive a prestigious global transportation engineering award for his invention of a new bearing that is now an industry standard.

Thomson, founder of Thordon Bearings, founder and chairman of Marsh Bros Aviation, and chair of Mohawk's Aviation program advisory committee, will receive the Elmer A Sperry Award, named after the inventor of the gyroscope and the first electric automobile.

Thomson is being recognized for his pioneering work in seawater-lubricated polymer bearings and seals for marine vessels and is just the second Canadian to receive the recognition. He says he was shocked to learn of his win and gives full credit to the team at Thordon Bearings where he holds the title of innovator.

Thomson will be presented the award at a maritime convention in Tacoma, Washington in October.

Thordon bearings don't need oil or grease, which prevents leaks that pollute waterways. They are also lighter and more durable, lasting for decades in cruise ships, container vessels, and navy and coast guard fleets.

The bearings are now used in a range of transportation and industrial applications and Thomson is working on other polymer-based products for the aviation industry through Marsh Bros Aviation, a sister company he founded in 1991.

Thomson has been a part of Mohawk's Aviation program since the very beginning. He gives credit for the idea of an aviation school at Mohawk to former Hamilton International Airport CEO Richard Koroscil.

But it was Thomson, an airline transport rated pilot himself, who pitched the idea to Mohawk executives. In about a decade, it has grown into a comprehensive program, covering all the disciplines of aviation maintenance, and Thomson has served as chair of the program advisory committee since it launched.

"In the early years, people wondered if the aviation program would be sustainable and now there is a new opportunity to have it all focused at the Hamilton airport. That's where it should be. It's an incredibly good program."

KF Aerospace is building a large new hangar at the airport, which will include state-of-the-art shops, and classroom and hangar space for Mohawk's students. That will take the program to a whole new level, says Thomson.

"There are all kinds of opportunities for graduates. There is almost no limit because there is such growth in the industry," he said.

"He has shown such great leadership and drive in getting the program started and to grow it. He is a man of action," said George Miltenburg, Associate Dean of Engineering Technology. "He encouraged the college to make the investment in a hangar and to start the new avionics program. He has led the charge to get donations of aircraft, equipment and components to the college for student learning."

Thomson-Gordon Group, made up of five companies including Thordon Bearings and Marsh Brothers Aviation, dates back to the work of Thomson's grandfather in 1911.

Thomson, a mechanical engineer and a pilot, joined the company as a sales manager in 1965. He developed Thordon bearings and began exporting in 1967, travelling the world to set up a distribution network.

In 2005, Thomson passed Thomson-Gordon to his daughter Anna Galoni, who left her career as an epidemiologist to become the fourth generation in her family at the helm.

But at 80, Thomson is involved daily. He is an airline transport rated pilot and still flies 150–200 hours a year.

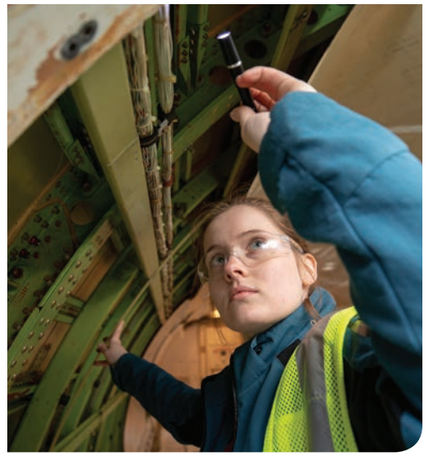
He's had a varied career, including training as a pilot in the Royal Canadian Air Force, and a stint as a ship captain. He's also a long-time musician and operates a film production company.

"I think my artistic side has allowed me to dream and think in a way outside of engineering. Today's world requires imagination and thinking about things that aren't conventional."

CROSS-CANADA JOINT COMMITMENT

Mohawk College and Okanagan College in B.C.'s Southern Interior have signed an MoU that outlines a new joint commitment that could see cross-Canada opportunities for training, internships and cooperative education, as well as collaborative applied research and potential new programs.

Okanagan College offers Aircraft Maintenance Structures Technician and Aircraft Maintenance Engineering (AME) programs out of its Kelowna Aerospace Campus at the Kelowna Airport, as well as AME Maintenance training out of its Vernon Aerospace Campus. Mohawk similarly trains students in Aircraft Technician Maintenance, Aircraft Technician Structures and Avionics Technician programs. Notably, both colleges also have strong multi-faceted partnerships with KF Aerospace, a leading provider of aircraft maintenance and modifications in Canada. KF Aerospace has operations in Kelowna and Hamilton and scores of graduates from both colleges have gone on to work for the company as technicians and engineers.



Aviation Technician – Aircraft Maintenance student Rebecca Hutchinson

LEARNING BROUGHT TO LIFE

Living Classroom immerses PSW students in patient care

Sandra Mejia De Lemus

Mohawk College is responding to a critical shortage of personal support workers (PSW) with flexible paths to educating caregivers.

"PSWs are so critical to the care and quality of life of patients and their families," said Wendy Lawson, Dean of the School of Health.

"But locally, regionally and provincially, there is a great shortage, which creates challenges with access to care for vulnerable populations, particularly for the elderly and ill in their own homes or long-term care facilities."

Mohawk has increased its PSW intake, partnered with community agencies to attract more people to the profession, and focused on experiential learning.

One result is the Living Classroom at Schlegel Villages' Village of Wentworth Heights, where all theory, training and clinical placements are done at the residence.

"The students are on the floor every day, working with the health-care teams, patients and their families," said Lawson. "It's an innovative model in that it is fully community-based learning."

The basement of Wentworth Heights has been converted to classrooms, labs and a room that replicates a resident's unit.

Living Classroom graduate Sandra Mejia De Lemus is now working at Wentworth Heights. The 52-year-old mother of three, who is originally from El Salvador and dreamed of studying medicine, says PSWs are the eyes and ears of doctors and nurses.

"It's a really personal relationship with patients. We are more often with them than their family. It goes right into my heart. Here, it's about life."

The PSW program is also offered at Mohawk's Institute for Applied Health Sciences, where simulation labs are set up exactly as a patient's home or a hospital room. Simulators can be programmed to bleed, have difficulty breathing, give birth and emit odours.

Faculty manipulate scenarios based on a student's actions, and they are filmed for learning review.

"There is a big investment here in student success," said Maria Riva, Academic Coordinator of nursing at Mohawk. "They are so well prepared when they go into the field."

Dolores Guinto – City School student, Julie Farnard – Mohawk College Professor, Shari-Lee Srigley – Director of Development, Thrive Group, Lucy Sheehan – Executive Director, Community Services, Susan Hastings – Administrator, Idlewyld Manor, and Idlewyld Manor residents

A THRIVE-ING PARTNERSHIP

Mohawk delivers customized teaching to health care workers

Mohawk College is delivering customized curriculum to personal support workers (PSW) through an innovative partnership with a local healthcare management company.

Thrive Group is a non-profit, charitable organization incorporated in 2013 and governed by a volunteer Board of Directors. Through a network of distinct but integrated organizations, including St. Peter's Residence at Chedoke, AbleLiving Services, Capability Support Services and Idlewyld Manor, they provide a range of health care services, maximize resources, minimize duplication and create efficiencies. Their programs are located in Dunnville, Hamilton, Burlington and Mississauga.

Thrive serves 2,900 clients with close to 1,200 employees, but is challenged with some staffing shortages and an ongoing need for professional development, says Shari-Lee Srigley, Director of Development. Establishing Mohawk as an education partner has been an ideal solution.

"Mohawk has been so innovative and very open to hearing about our needs."

The college creates and delivers customized programs to Thrive PSWs, focused on lifts and transfers, administration of medication, risk assessment for falls, and skin and wound care. It combines online modules with hands-on, powerful training in Mohawk's Centre of Health Care Simulation, all led by experienced faculty.

"Mohawk is totally solutions focused. They have been a tremendous support in helping us solve our challenges so that we can help people," Lucy Sheehan, Executive Director of AbleLiving Services and Capability Support Services.

PSWs play a critical role in patient care, says Wendy Lawson, Dean of the School of Health.

"It's somewhat unusual for a college to exercise this amount of flexibility, but confronting this shortage requires us to be agile, responsive and accessible. These partnerships are empowering us to provide that."

The PSWs practice their skills on fidelity manikins and actors in scripted simulations, says Tiffany Iles, one of three Mohawk faculty who led Thrive training.

"Professional development in health care is really needed because things change so rapidly. This training allows PSWs to increase their skills, which leads to better safety for them and their clients."

Many community organizations are seeking out the resources of Mohawk, says Beth Morris, Associate Dean of Nursing.

"A partnership with us, where we deliver high-quality education to workers in the field, helps relieve the burden for the agency."

Left to right: Cat Maracle, Community Engagement and Research Liaison, Mohawk College, Holly Stoodley, Program Coordinator, and Erika Corbiere, Case Worker, Indigenous Homeward Bound Hamilton, Hamilton Regional Indian Centre

FINDING A HOME AT MOHAWK

Indigenous Homeward Bound program helps single mothers forge new path

Mohawk College is a partner on Indigenous Homeward Bound, a four-year education and employment program for mothers provided by the Hamilton Regional Indian Centre (HRIC) that allows them to change their prospects, restart their lives and find employment at a family-sustaining wage.

Homeward Bound provides holistic support and resources for housing, childcare, counselling, finishing high school, pursuing a two-year college education, and finding a career. To qualify, the women can be single mothers or the main income providers for their families.

The first participants out of a group of five began their studies at Mohawk in September.

There is a need for a long-term approach because these women face multiple barriers to advanced education, including a lack of confidence, housing instability, and poverty, states Holly Stoodley, Program Coordinator, Indigenous Homeward Bound, HRIC.

"Mohawk has been a terrific educational partner," said Stoodley. "Their values line up with ours in wanting to support Indigenous mothers as they get an education and a career."

Mohawk's City School provides College 101, a preparatory credit course to get the participants ready to tackle post-secondary studies. During two-hour sessions twice a week over 12 weeks at HRIC, the women learn time management, organization, computer literacy, and career research and planning. They hear from guest speakers, learn Mohawk's e-learning platform, and take tours of the campus.

They also connect with staff at Indigenous Student Services, which hosts a range of social and learning events and provides a connection to the traditions and teachings of Indigenous culture.

"For many, education hasn't been a good experience. Here, they are embracing the challenge and they don't feel alone," said Cat Maracle, Community Engagement and Research Liaison at Mohawk.

City School is powerful because it can be leveraged and adapted to serve various communities, says Emily Ecker, Associate Dean of Community Partnerships and Learning.

"This is a collaboration between experts on the Indigenous community and Mohawk, which is an expert on education."

Homeward Bound participants work on personal growth, healthy relationships and self-care during their first year. They get mentorship, resume-writing and interviewing training, and help as they transition off social services and find a career.

"The participants told us they never would have made it to Mohawk without this program. For many of them, this seemed unreachable," said Stoodley.

The second cohort of the Homeward Bound Program has been selected and started this fall.

There are eight friendship centres in Ontario partnering with WoodGreen Community Services to adapt this program for local communities. The Ontario Federation of Indigenous Friendship Centres (OFIFC) has been the primary support in development and delivery of this program at the Friendship Centre sites.

Anita Cassidy, Executive Director, Burlington Economic Development Corporation

TEAMING UP

Burlington and Mohawk are forging ties together

Mohawk College continues to find new ways to demonstrate its value to Burlington companies.

"We've been developing a fantastic relationship with Mohawk," said Anita Cassidy, Executive Director of the Burlington Economic Development Corporation.

That partnership is alive on several fronts, including Burlington Day, TechPlace and Career Crawl.

Burlington Day offers exclusive campus tours and networking opportunities with faculty and students to Burlington employers.

"It really showcases what Mohawk offers to help companies grow."

TechPlace, Burlington's innovation hub, hosts Mohawk Days to allow local companies to meet one-on-one with college representatives to explore opportunities.

"It makes it much easier for employers because they may not know where to go or who to talk to," said Cassidy.

As well, a Career Crawl regularly connects Burlington companies in hiring mode with international students.

Steve Sherrer, CEO, Thrive Group, Jim Vanderveken, Dean of the Centre for Community Partnerships and Experiential Learning, and Tim Verhey, Vice President, Engineering & Operations, Walters Inc.

GOING PREMIUM

Mohawk launches new partnership with employers

The Future Ready Premium Program demonstrates Mohawk College's leadership in partnering with employers to graduate job-ready students, says Jim Vanderveken, Dean of the Centre for Community Partnerships and Experiential Learning.

"I'm not aware of another institution in Ontario, whether college or university, that is taking this kind of employer partnership strategy to the level that we are. The Future Ready Premium Program has the potential to be transformative and place the college in a singular leadership role within Ontario's postsecondary system in driving the competitive workforce agenda."

The program elevates the college's partnership with select employers to create a hallmark, exclusive and intimate relationship, said Vanderveken. Employers share common needs and motivation to ensure they have access to the right talent to be competitive in today's market.

These are employers that are engaged in every aspect of the college, says Vanderveken, including experiential learning, applied research, curriculum development, and philanthropy.

"These employers have very much woven themselves into the fabric of this institution. They are so generous with us because they share in our vision to support student success and they see that they have an important role to play."

Select employers—10 in the first round—were invited by President Ron McKerlie to enter a memorandum of understanding to codify the partnership and set targets moving forward. Thrive Group and Walters Inc. are two of the first high-performance organizations to sign on, demonstrating that the need for exceptional talent cuts across all sectors of the economy.

"This creates a unique talent blueprint so we can understand their needs and determine how we intend to meet them," said Vanderveken.

"It's about creating a sense of confidence that employers will have access to talented students in a reliable way, and that students have a clear career path ahead of them and the prospect of future opportunities with employers of choice."

Premium employers will be offered concierge service through a single point of contact at Mohawk, along with access through an exclusive web portal, and an ambitious co-branding strategy. They will have specialized supports to ensure Mohawk graduates have all the jobs skills needed to hit the ground running. There are also plans for a high-performance career hub.

Richard Dupp, Professor, Marshall School of Skilled Trades and Apprenticeship

CHAMPIONING THE TRADES

Professor Richard Dupp is a veteran skills volunteer

Richard Dupp has dedicated himself to tirelessly promoting his trade and championing the development of skills in his students and well beyond.

A professor in Mohawk College's Industrial/Mechanical Maintenance program in the Marshall School of Skilled Trades and Apprenticeship, Dupp is also a coordinator of the Industrial Mechanic Millwright program.

"I'm really passionate about my trade. We are often called the 'doctors of industry' because we deal with all kinds of mechanical systems in all kinds of industries. We weld, we machine, we do hydraulics. We are like a general practitioner compared to a specialist," said Dupp, who has taught his trade as a full-time faculty member since 2000.

He took a semester's leave about five years ago to explore the state of the millwright profession and the needs and expectations of employers. Dupp has also served as an evaluator of the Ontario College of Trades' Red Seal exam for industrial mechanic millwrights.

Since 2002, Dupp has volunteered as a trainer, judge, site safety officer, workshop manager and assistant technical chair of skills competitions at the provincial, national and now international levels. He has also served as a recruiter, organizer, trainer and registrar for all Mohawk participants in the Skills Ontario competitions.

"The Skills Competitions are a wonderful way for me to volunteer and apply my 40 plus years of experience in the trade. It is truly rewarding to be able to assist young apprentices who are at the starting point of their careers."

Dupp travelled to Kazan, Russia in August to accompany a Canadian competitor in the 45th annual World Skills event, a four-day Olympic-like spectacle of competitions in 56 categories. That includes everything from cooking to bricklaying, cybersecurity to autobody repair, and freight forwarding to aircraft maintenance.

The competitions test the skills of 1,350 competitors under age 22 from 63 countries around the world.

Dupp also volunteered at the World Skills event in Abu Dhabi in 2017, arriving at the competition two weeks early to help set up the competition site.

"The scope, scale and size of it is mind blowing," Dupp said. "It really is just like the Olympics. There are people from so many countries, and they train years for this."

Richard was one of three Mohawk staff to receive this year's Mohawk Award of Excellence for his commitment to skills training and our college community.

Stacie Maskell, Human Resources and Drew Steeves, Operations Supervisor, AND07 Consulting Ltd. operating local McDonald's restaurant in the Hamilton area

RINGING UP STUDENT SUCCESS

Local McDonald's restaurants support Mohawk students

Glen Steeves, Chair of the Board of the Mohawk Foundation, is partnering with Mohawk to raise money for a bursary to support students.

Steeves, a long-time executive of McDonald's, now owns 11 locations in Hamilton. These restaurants are selling coupon books to raise money for the Mohawk bursary, along with supporting Ronald McDonald House and local charities.

The coupon books began a few years ago as a fundraiser for McHappy Day. Steeves' group of restaurants sells them a few times throughout the year, raising $78,000 last year.

The goal is to raise more than $100,000 this year with 50% of the current campaign going to the Mohawk bursary, says Drew Steeves, Glen's son and an operations supervisor in the restaurant group.

With the bursary, the hope is to support young people who are struggling to make ends meet while pursuing education, says Drew.

"We are excited to be helping with a Mohawk College bursary. We have a lot of young employees and their education is important."

The $3 books feature six coupons for drinks, fries, ice cream, coffees and pastries.

Glen Steeves started working at McDonald's as a 15-year-old in high school, working his way up to manager, supervisor and executive positions. In 1996, he was charged with overseeing the launch and expansion of McDonald's Russia. He spent 12 years in Russia, eventually becoming Chief Operating Officer of McDonald's Europe for six years in London, England.

He retired in 2007 and purchased his first restaurant. The group now employs about 800 people.

Steeves has been a board member at Mohawk Foundation since 2016 and a past member of the Mohawk Board of Governors. He is also an executive in residence of the DeGroote School of Business.

Angelo Cosco, Associate Dean, Construction and Building Systems, and Brian Elliott, VP Field Operations, Delta Elevator Co. Ltd.

ASCENDING NEW HEIGHTS

Mohawk launches Elevating Devices Mechanic apprenticeship program to meet industry demand

A much needed, in-demand program to train elevator installation and repair mechanics is now off the ground at Mohawk College's Marshall School of Skilled Trades & Apprenticeship.

Mohawk is one of only two approved, non-union training delivery agents for this apprenticeship program in Canada.

The first cohort of 28 apprentices began the program at Mohawk in August 2019, with an additional cohort of 20 starting this October. "There is a desperate need for this training. Our industry partners are very excited to see this begin," said Angelo Cosco, Associate Dean, Construction and Building Systems.

A recent taskforce report determined there is a great shortage of elevating devices mechanics, leading to poor maintenance and long elevator outages. In addition, 40 per cent of the 3,300 elevator mechanics currently working in Ontario possess no formal in-class training and are not journey persons or apprentices.

Only one out of five elevators in the province met all safety requirements. In 2016, firefighters in Ontario received 4,461 calls to extricate people from elevators. This is double the amount of calls received in 2001. Provincial legislation enacted last year requires that elevators return to service within 14 days, with a shorter turnaround of seven days for elevators located in long-term care facilities and seniors' residences.

The labour shortage will only grow more acute, with anticipated demand growing by 140 per cent over the next five years.

"If I put a job posting up tomorrow, I wouldn't get one application," said Brian Elliott, Vice President of Field Operations for Delta Elevator.

When Mohawk put the call out for industry support, the boardroom was filled to capacity with all the big players in the industry, says Cosco. The Ministry of Training, Colleges and Universities moved quickly on approving the program.

"There is so much need out there. There is a sense of urgency."

Mohawk is upgrading its infrastructure at the Stoney Creek Campus to make way for the new program. Upgrades include 6,000-square-feet of collaboration space, and two working elevators donated by industry partners Delta Elevator and Brock Elevator.

SECOND SET OF WHEELS

City School by Mohawk adds another mobile classroom

City School by Mohawk will soon take delivery of a second mobile unit that will travel the city and the region delivering education and training to people who don't traditionally access postsecondary school.

"It's exciting to get the second vehicle on the road. It's huge for what we can do," said Emily Ecker, Associate Dean of Community Partnerships and Learning.

Since City School's first mobile classroom hit the road in 2017, it has been difficult to keep up with community requests, says Ecker.

"This new unit allows us to cover more territory, grow the outreach of Mohawk, and expand our partnerships."

The first unit focuses on skilled trades but the second will feature an open, flexible classroom design that will allow for broader programming.

MOHAWK HAPPENINGS

HIGHLIGHTS

1. Mohawk receives Spirit Award from United Way of Halton & Hamilton. **2.** Skills Ontario acknowledges partnership with Mohawk. **3.** Mohawk Student Leadership Academy class of 2019. **4.** Mohawk and EON Reality open new AVR lab. **5.** Mohawk hosts 8th Special Olympics at Fennell Campus. **6.** Congratulations to the graduates of 2019. **7.** Mural by local artist celebrates international students. **8.** Climate Action Fund supports increased community engagement through Centre for Climate Change Management at Mohawk. **9.** Mohawk welcomes Burlington Mayor to Fennell Campus. **10.** The Garage gives automotive apprentices a chance to hone their skills. **11.** 101.5 The Hawk receives award from Crime Stoppers International. **12.** Mohawk College receives STARS Gold rating for sustainability achievements. **13.** Mohawk students work with The Hamilton Spectator to produce Hamilton Unstoppable.

To learn more about the happenings at Mohawk, visit **mohawknewsdesk.ca**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Plan for success with Mohawk College

Working with employers and partners, we've launched a new website dedicated to helping regional businesses attract and retain skilled employees.

The employer and industry site is a one-stop-shop for information and resources to:

- Hire students and graduates
- Connect with students and projects on campus
- Collaborate on research and strategic initiative opportunities

Find out how your business can get involved!
mohawkcollege.ca/employers

Future Ready. Together.

mohawk COLLEGE