



# POLYTECHNIC ALUMNI LEADERS & PROBLEM SOLVERS

# The Polytechnic Community

Polytechnic alumni are a powerful and diverse community – now more than 2.4 million strong – of successful innovators, creators and leaders. From improving healthcare to addressing climate change, they are confronting some of the biggest challenges across Canada and around the globe.

**Polytechnic graduates aren't just dreamers, they're doers. Their endeavours reflect the spirit of the polytechnic institutions from which they've graduated – innovative, collaborative, resilient – and this spirit is driving the Canada of tomorrow.**

What makes polytechnic alumni so great? They have the skills and motivation to drive the future. They've received hands-on training on the latest technology in their fields, ensuring they have both the competence and confidence to hit the workforce at full speed. They established employer networks and gained relevant experience during their studies, propelling them to take the labour market by storm.

This applied, industry-driven approach to education – the polytechnic approach – gives alumni the support they need to push the boundaries and make their mark in countless sectors that will benefit Canadians and people around the world.

In the following pages, we highlight just a few inspiring examples of polytechnic graduates who are tackling some of the greatest challenges of our time, including how they are:

- Building a healthier Canada
- Contributing to a net-zero future
- Growing the skilled trades workforce
- Showcasing international citizenship
- Strengthening Canada's healthcare system
- Creating a more inclusive society

# CREATING A HEALTHIER CANADA

Promoting health and preventing chronic disease, disability and injury is an important part of helping all Canadians live longer, healthier lives. Governments, the private sector and Indigenous organizations must work in tandem to improve health outcomes and reduce disparities among Canadians.

Polytechnic alumni are experts in areas such as healthy aging and preventing chronic disease. Their hands-on training and strong community connections set them up for success as they pursue efforts to create a healthier, more resilient future.



Image provided by Saskatchewan Polytechnic



## Cooking for cancer care

### Amy Symington

Culinary Management – Nutrition 2010

In 2009, Amy Symington was working on her Culinary Management – Nutrition diploma at George Brown when she began volunteering at Gilda's Club Toronto, an organization that supports individuals and their families impacted by cancer, by conducting culinary nutrition workshops. While recommendations on specific foods to help with cancer care and mitigate side effects existed, Amy and her colleagues noticed a lack of coordinated guidance about how to incorporate them into a practical diet.

In 2016, her team received an NSERC College and Community Social Innovation Fund grant to formalize the research with the aim of researching, testing and producing a comprehensive, informative and accessible handbook on cancer nutrition. The project produced three resources: a guide on what to consume for cancer prevention, during cancer treatment and to prevent recurrence; a book detailing how to cook for the side effects of cancer; and a recipe book with plant-based meals for optimal health.

Amy was the principal investigator for the project, as well as a nutrition professor, chef and researcher at George Brown.



## Offering mobile dental care for those in need

### Amanda Friesen

Dental Hygiene 2000

As Canada pursues its national ambitions for transformative public dental care, Amanda Friesen is giving Canadians a way to ensure their oral health is a priority. Amanda is the founder of The Dental Connection, a mobile dental hygiene clinic. She travels to long-term care facilities, senior residences and remote locations throughout Saskatchewan to assist those who don't have easy access to dental care.

Dental professionals in Saskatchewan are governed by the Dental Disciplines Act. The Act was amended in 2021 to allow dental hygienists, dental therapists and dental assistants to practice independently within their scope of training. While this is what Amanda is doing with The Dental Connection, she also collaborates with local dentists to ensure her patients receive additional treatment where required.

In recent years, Amanda has begun studying orofacial myofunctional therapy (OMT) to help those who suffer from migraines and temporomandibular disorders. She currently has provider status in OMT and is working toward international certification. She credits her formative experience at Saskatchewan Polytechnic with helping her develop the skills and attitude needed to continue expanding her career through lifelong learning.

# CONTRIBUTING TO A NET-ZERO FUTURE

The transition to a cleaner, more prosperous economy needs to be both an immediate priority and a sustained effort over the years ahead. The Government of Canada is committed to achieving net-zero emissions by 2050. This goal will require support and engagement from all parts of society, including provinces and territories, cities, Indigenous Peoples, youth, businesses and post-secondary institutions. Polytechnic graduates are innovating alongside industry to develop the products, processes and technologies needed to address climate change, promote sustainable practices and expedite Canada's path to net-zero.



## Reducing the trucking industry's carbon footprint

**Joshua Keller** and **Chris Atkinson**

Business Administration – Marketing 2011

The idea to build FleetOps, a freight matching platform explicitly built for brokerages, came to Joshua Keller and Chris Atkinson when they identified an industry pain point: truck drivers delivering freight from point A to B are returning without cargo from point B to A. This means that drivers are not only facing net loss, but they are also producing unnecessarily high volumes of greenhouse gas emissions.

FleetOps addresses this problem by matching drivers with shipments based on their location, schedule, preferences and truck capabilities. By facilitating these connections, the platform reduces the amount of time trucks are driven without cargo. This significantly improves efficiency levels while decreasing the industry's carbon footprint. Their platform connects brokers to 227,000 drivers, supporting thousands of transactions per day.

Joshua and Chris met in Seneca's Business Administration – Marketing program. Since then, they've become long-term business partners. Prior to co-founding FleetOps, they started a company in 2014 that built technology on behalf of savvy entrepreneurs looking to create their own start-ups.

## Building energy-efficient homes through AI

**Arman Mottaghi**

Applied Science in Building Engineering 2018

Arman Mottaghi is the founder and CEO of Properate, a software suite that helps property owners assess energy use and plan retrofits using publicly available energy ratings and individual questionnaires. His vision was to provide an easy-to-use website to help home- and property owners estimate energy efficiency and develop a roadmap to address identified issues. The roadmap enables owners to consider available options and related costs when making energy efficiency upgrades.

In a climate like Canada's, building retrofits will be a critical part of efforts to increase energy efficiency and achieve net-zero carbon emissions. So far, Arman has established partnerships with five B.C. cities and helped more than 200 builders develop more energy-efficient homes.

Arman credits the hands-on experience and work-integrated learning opportunities at BCIT for his early success. Working for an engineering firm during his studies gave him insight into the challenges and opportunities in his field. Now, as a Director on the Board of the B.C. Sustainable Energy Association – a not-for-profit organization focused on the use and production of energy – he is able to contribute to a broader vision for a 100% sustainably powered province.



## Building local remediation systems to clean and restore ecosystems

### Chris McCue

Environmental Protection Technology 1994

Chris McCue is the founder and president of McCue Engineering Contractors, an award-winning, full-service water treatment and brownfields remediation engineering and construction company. After graduation, Chris worked for an environmental consulting firm cleaning contaminated sites where he noticed a gap — no one was building remediation systems locally. So, he started his own company to fill that market need.

McCue Engineering Contractors provides water treatment services in Canada and the United States for a variety of industrial sites including mines, oil terminals, chemical manufacturing sites and landfills. For more than 20 years, the company has played a vital role in ensuring that the land left behind after a project is clean and available for future generations.

Chris remains connected to KPU as a member of the Environmental Protection Technology program's advisory committee — the very program he graduated from in 1994. He continues to mentor future leaders in environmental protection and has since established a scholarship for students in KPU's Environmental Protection Technology program.



Chris McCue, KPU alumnus

## Leading the solar revolution

### Gursh Bal and Kai Fahrion

Electrician 2016 | Electrician 2014

As electricians and long-time friends, Gursh Bal and Kai Fahrion started Zeno Renewables with a mission to install solar panels on one million homes by 2040. Less than a decade after graduating from SAIT, they are well on their way.

Zeno Renewables is a residential solar provider for homeowners who want to make long-lasting sustainable choices. Zeno guides its customers to high-quality solutions that mitigate household energy use and lower carbon emissions. As Canada pursues its national ambitions for a net-zero future, Zeno is giving individual Canadians a path to ensuring their homes are part of the climate solution.

Yet, the co-CEOs aren't just content helping others meet their carbon neutrality goals. They encourage community initiatives focused on sustainability, striving to reduce emissions from internal business operations and choose to work with like-minded partners. This mission- and values-driven approach attracts both clients and staff who share these goals. In March 2023, the pair committed to planting 15 trees for every solar project they undertake.



Gursh Bal and Kai Fahrion, SAIT alumni

# GROWING THE SKILLED TRADES WORKFORCE

Canada's skilled tradespeople are essential to building, operating and maintaining much of our critical infrastructure – everything from construction and engineering to energy and transportation. Over the next five years, more than 256,000 new journeypersons are needed to meet current demand.

Growing Canada's skilled trades workforce is essential to achieving the country's infrastructure ambitions. Polytechnic graduates are a key source to filling the labour gap with highly qualified, resilient and innovative workers and business owners across all skilled trades occupations. During their training, students are exposed to the latest tools, technologies and processes and are taught by industry leaders. Alumni are well-positioned to make immediate contributions to their respective fields.



Image provided by RRC Polytechnic



## Building opportunities alongside brick-and-mortar projects

### Jared Akman

Engineering and Construction Technology 2008

In his leadership role at Akman Construction, Jared Akman is not only building projects but also the skilled workforce of tomorrow. As the manager of the Exchange District construction project, Jared partnered with RRC Polytech to mandate a minimum of 20 per cent representation of Indigenous peoples on the construction team. This goal has been far surpassed, with approximately 45 per cent Indigenous participation on the build. Akman Construction offers training, support and mentorship for workers to help them find a trade about which they are passionate and complete their training.

Crediting his education at RRC Polytech with setting his career path in motion, Jared continues to give back to the polytechnic by hiring and mentoring RRC Polytech graduates.

Jared is also a founding board member and past vice-chair of Young Construction Leaders of Manitoba, where he has assisted young and emerging skilled trades workers with professional development, networking and site tours.



## Inspiring the next generation of women in the skilled trades

### Brandi Ferenc

Women in Skilled Trades 2005

As a licensed 313a refrigeration mechanic/gas fitter 1 Journeyperson, Brandi Ferenc is one of less than 50 women in the trade – but she's on a mission to change that.

From early in her career, Brandi made it her mission to educate women on the variety of trades available to them and inspire more women to get involved. Her advocacy became a part of her career when she became an educator, teaching part-time in the Gas Technician, and Heating, Refrigeration and Air-conditioning programs at Georgian College. Since she started, Brandi has seen the number of women in the programs grow.

Over the past 17 years, Brandi has also volunteered her time to share her expertise with countless women at skilled trades events, including Conestoga's Jill of All Trades, an event that helps girls in high school better understand non-traditional trades occupations.

As Canada seeks to replace the hundreds of thousands of retiring tradespeople in the next few years, mentors like Brandi are critical for encouraging Canadians, particularly those facing barriers, to explore and prepare for careers in the skilled trades.

In 2022, Brandi was recognized as one of the winners of Canada's Most Powerful Women: Top 100 award.



Brandi Ferenc, Conestoga College alumna



Brandi Ferenc, Conestoga College alumna

# SHOWCASING INTERNATIONAL CITIZENSHIP

As a much sought-after destination for immigrants from around the world, Canadians have a rich diversity of people with a keen understanding of global challenges. It doesn't hurt that 62 per cent of international students who attend Canada's colleges study at one of Polytechnics Canada's 13 member institutions.

Those graduates are changing the world, reaching well beyond Canada's borders to identify and address widespread and fundamental human needs. Today, polytechnic alumni are proving adept at addressing challenges from humanitarian relief to reducing barriers to immigration.



## Helping newcomers immigrate to Canada

### Rosa Diaz

Business Marketing Analysis 2006

Rosa Diaz is committed to improving the lives of newcomers. Rosa is a Regulated Canadian Immigration Consultant and owner of Road Map to Canada Immigration Consulting Inc. As an immigrant and past international student herself, she wanted to start a company where she could see the impact of her work.

Road Map to Canada Immigration Consulting Inc. provides clients with expert immigration advice and representation, helping government reach mounting immigration targets. They manage the immigration processes for a variety of programs, including permanent residency, sponsoring a family member and helping businesses access temporary foreign workers. Their services eliminate the anxiety from and complexity of an overwhelming number of processes, forms, documentation and information new immigrants must navigate, often while simultaneously coping with leaving family behind, learning a new culture and managing the financial burden of starting a new life.

Rosa stays connected to George Brown by helping immigrants at the institution's career centre. She is also a recipient of the Immigrant Entrepreneur honour from the County of Simcoe.



## Making international shipping accessible

### Shelvie Fernan

Marketing 2016 | Bachelor of Business Administration 2018

With global citizenship and immigration to Canada on the rise, Shelvie Fernan and her company are leveraging Canada's global interconnectedness for more affordable and sustainable shipping solutions. Shelvie co-founded Fly and Fetch, a company inspired by her experience as an immigrant and the challenges of finding an efficient and affordable way to send packages back to her family. Fly and Fetch connects package senders to travelers, allowing parcels to be transported through travelers instead of through traditional couriers, creating a cheaper and more efficient substitute for international shipping.

The business was launched in 2019 and it has already delivered more than 840 packages, has a database of 11,000 travelers who have agreed to facilitate deliveries and has offset more than 135,000 kilograms of CO<sub>2</sub>.





## Innovating international humanitarian aid and disaster relief

### Rahul Singh

Paramedic 1993

Rahul Singh is the founder of GlobalMedic, a frontline medical agency that provides cost-effective disaster relief around the world in the aftermath of a catastrophe. GlobalMedic's innovative methodology is designed to empower domestic communities and ensure that aid workers and supplies reach those in need. Since its inception, the organization has donated more than \$10 million worth of relief items worldwide and completed more than 50 missions in over 30 countries.

In response to the war in Ukraine, GlobalMedic partnered with Humber College to teach first aid techniques to impacted Ukrainian civilians. Paramedic students used their newly learned skills to create short "how-to" first-aid videos while film and media students employed their talents to shoot, edit and post the videos. Community members volunteered to provide translations to the local languages.

GlobalMedic exemplifies Canada's leadership in the international humanitarian aid field. For his work, in 2006, Rahul was awarded the Indo-Canadian Chamber of Commerce's Humanitarian of the Year Award. In 2009, he was named one of TIME magazine's 100 most influential people in the world.



Rahul Singh, Humber College alumnus



## Streamlining the international student experience

### Meti and Massi Basiri

Business Marketing 2014 | Fitness & Health Promotion 2014

As former international students, Meti and Massi Basiri experienced firsthand the challenges facing individuals who leave their home countries to study abroad. They drew upon their experience to create ApplyBoard, a platform designed to streamline the international student application process.

Today, ApplyBoard is one of the fastest-growing technology companies in Canada. The platform has helped more than 600,000 students with their educational journeys, partnered with more than 1,750 schools and worked with over 10,000 recruitment partners to drive diversity across campuses in North America, Europe and Australia.

The platform is designed to help students connect with programs that best meet their backgrounds and interests. When they choose to apply to an institution, ApplyBoard provides comprehensive support, including reviewing their applications, ensuring all documents are submitted, communicating with institutions and assisting with the visa process. As the world's largest online platform for international student recruitment, this Canadian company has become a leader in improving the international student experience.

In 2019, Forbes named Meti and Massi to three different Top 30 Under 30 lists.



Meti and Massi Basiri, Conestoga College alumni

# STRENGTHENING CANADA'S HEALTHCARE SYSTEM

Faced with an aging population, an overburdened system and persistent staffing shortages, strengthening the delivery of and access to healthcare in Canada are of critical importance. These challenges are not exclusive to one province or region but permeate every corner of the country. Progress requires a true Team Canada effort.

The efforts of polytechnic alumni in this endeavour cannot be overstated. From frontline delivery to information management, graduates are not only supporting Canada's healthcare system but are also helping revolutionize it.



## Protecting the respiratory health of patients and clinicians

### Frank Fiorenza

Respiratory Therapy 2002

Since graduating from Algonquin, Frank Fiorenza has been committed to improving patient care. During his early career as a respiratory therapist, Frank noticed a weakness related to the management of mechanical ventilators – one that could put a patient's life at risk. He began brainstorming a tool that could make ventilation safer and, years later, it's helping thousands of patients and protecting millions of healthcare workers.

Frank is the creator of Flusso Bypass Adapter, a device that increases the safety of mechanical ventilators by keeping the patient connected to the ventilator during a circuit or filter change or during transport. This reduces risks for not only the patient but also for the clinician, protecting them from potential airborne aerosol particles. Today, hundreds of hospitals across Canada, the United States and Chile use this award-winning invention.

Frank also supports the advancement of respiratory therapy through his leadership and involvement in educating the workforce of tomorrow. He is a board member of the Canadian Society of Respiratory Therapists and part of the Respiratory Therapy Advisory council for the Algonquin College Respiratory Therapy Program.

## Preserving Indigenous health records

### Ilona Monkman

Health Information Management 2021

As one of Canada's first health information management (HIM) professionals to work in a First Nations' health centre, Ilona Monkman is playing an important role supporting Indigenous self-governance.

The maintenance of health records and data is a vital and often overlooked component of Indigenous reconciliation. Having an HIM professional at a First Nations' health centre gives the community control over their own health data and, in turn, supports the broader preservation of traditional health practices and medicines.

As the HIM Practitioner at the Sturgeon Lake Health Centre, Ilona has been described as a "lifesaver." She makes herself available to all health programs for tech support, database management and policy development. Ilona also plays an important role supporting the next generation of healthcare workers, helping to host and mentor other Saskatchewan Polytechnic students at the Centre.



## Manufacturing reusable garments

### Shelley Lamb-White

Fashion Design 1984 | Manufacturing Engineering Technician & Technology 2016

What started as a co-op placement at Lac-Mac in 1981 led to a full-time job and, 40 years later, Shelley Lamb-White is the first female president in the company's 100-year history. Lac-Mac is North America's leading manufacturer of reusable technical textile products for sectors including healthcare, industrial chemical protection and utility.

Lac-Mac creates some of the safest personal protective equipment on the market. All healthcare products can be reused 75 - 125 times. Once the product has reached the end of its useful life, it can continue to be worn in downgraded healthcare environments.

As President of Lac-Mac, Shelley is focused on improving the safety of healthcare workers in all environments. As a result of the COVID-19 pandemic, there is an increasing awareness of the need for higher levels of protection for many frontline workers. Under her leadership, the company is now focusing on the development of new sustainable garments for those working with the general public including, for example, homecare providers.

## Transforming the role of paramedics

### Shawn Knight

Emergency Medical Technology – Paramedic 1996

Shawn Knight has played an integral role making Alberta's healthcare system more efficient. As the executive director at the Health Human Resources Planning and Strategy Branch of the Government of Alberta, Shawn was tasked with transforming the role of paramedics, which had previously been limited to treating the patient at the incident scene and providing transport to the hospital. He successfully led the policy that integrates the paramedic profession into the Health Professions Act, recognizing paramedics as essential health providers like physicians and registered nurses. As a result, paramedics can treat patients at care homes and industrial worksites, conduct testing and provide medication until the patient can access a pharmacy. These changes have played a significant role in diverting patients from emergency rooms and reducing hospital bottlenecks.

Shawn continues to be a leader in the paramedic field. He taught at NAIT and continues to serve as a student mentor, program advisor and volunteer guest speaker, helping to shape the success of future professionals.



Image provided by Algonquin College



# CREATING A MORE INCLUSIVE SOCIETY

One of Canada's greatest strengths is its rich diversity. Post-secondary institutions have long recognized that the inclusion of diverse identities and ideas fosters innovative thinking and better outcomes for all.

As a result, polytechnic alumni are proud to be leaders in efforts that promote equity, diversity and inclusion across all sectors. These organizations, initiatives and measures reduce systemic barriers for under-represented and equity-deserving groups, a critical ingredient to fostering a more innovative and prosperous country.



Manpreet Dhillon, BCIT alumna



## Helping organizations embed EDI into their operations

### Manpreet Dhillon

Management Systems 2000

Inspired by her own experiences with lack of representation, Manpreet Dhillon founded Veza Global to provide authentic, human-centered consulting services and leadership training to advance equity for those of diverse ethnicities, cultures, gender identities and abilities. For more than 15 years, Veza Global has been fulfilling that mission, helping organizations create action plans to embed equity, diversity and inclusion (EDI) into their work environment.

Cultivating EDI is essential to building team resilience, improving employee retention, fostering innovation and driving profitability. The company provides equity, diversity, inclusion, accessibility and belonging assessments, which analyze the current practices of an organization and create customized roadmaps with actionable recommendations for improvement.

Manpreet ranked #15 globally on the 2020 EmPower Ethnic Minority Future Leaders list. She credits her BCIT education for setting the foundation for her entrepreneurialism and teaching her how to run a consulting business.

## Developing an app for autism

### Shauna-Kay Jones

Software Development and Network Engineering 2015

Shauna-Kay Jones doesn't shy away from a challenge. When she saw her brother, who has autism, struggling to prepare for life after high school, the 2015 alumna decided to find a solution. She wanted to ensure he continued to have access to the tools and resources he used throughout his K-12 education.

At the time, she was in her final year of the Software Development and Network Engineering program at Sheridan, looking for a capstone project to solve a real-life problem. Shauna-Kay and her team used this opportunity to create Motify, an app that helps those living with autism navigate challenges like daily schedules or job interviews through games and mock scenarios.

Motify has since expanded its offerings. As rates of mental illness and learning disabilities rise, the app has adapted its services to identify and respond to a multitude of challenges faced by at-risk students. Motify integrates with post-secondary institutions to allow them to oversee student performance, provide a structured way to manage personal, academic and professional tasks and increase the use of on-campus resources.



Image provided by Sheridan



## Bringing Indigenous voices to the energy sector

### Deanna Burgart

Chemical Engineering Technology 2000

Deanna Burgart is an Indigenous engineer (Indigeneer) passionate about creating culturally safe spaces for Indigenous perspectives in engineering. With nearly 20 years of experience in the oil, gas and pipelines industry, combined with her Indigenous perspectives, Deanna works to bridge the gaps between the two through her consultancy firm, Indigenous Engineering Inclusion Inc.

Indigenous Engineering Inclusion Inc. was created based on an approach that combines engineering principles and traditional Indigenous worldviews on sustainability and interconnectedness. The company seeks to:

- Provide industry fundamentals training for Indigenous communities, government and industry partners
- Assist industry and educators operationalize the Truth and Reconciliation Commission Calls to Action
- Help science, technology, engineering and math educators Indigenize curricula for students
- Work with teams to develop customized models and metrics for Indigenous engagement and inclusion

Deanna is also the co-founder of IndigeSTEAM, a non-profit dedicated to creating inclusive spaces for Indigenous youth and professionals in science, technology, engineering, arts and math (STEAM) fields.



## Supporting 2SLGBTQ+ representation in STEM

### Mina Sandiford Day

Civil Engineering Technology 2020

Mina Sandiford Day launched the first financial aid award at Seneca dedicated to supporting members of the 2SLGBTQ+ community. Her choice to establish this financial award was inspired by her time at the polytechnic.

Mina knew the barriers to employment she would face being queer and trans in the construction sector, so she proactively participated in two co-op placements to get her foot in the door. Throughout her experience, she came to realize that although campus pride clubs and equity-based student groups are important for supporting members of the 2SLGBTQ+ community through their post-secondary journey, the community can only get you so far. There must be structural assistance for equity-deserving students.

Mina's award is designed with these challenges in mind, helping ensure members of the 2SLGBTQ+ community receive the financial support needed to finish their post-secondary education and access fields from which they have been historically excluded.

Access to post-secondary education is not equal for everyone. Awards like Mina's help remove the systemic and economic barriers preventing students from participating in education that can change their lives, while at the same time helping make our campuses more diverse places to study and work.



## About Us

**Polytechnics Canada** is a non-profit association representing 13 leading research-intensive, publicly supported polytechnics and institutes of technology. We advocate for federal action in areas where polytechnics provide solutions for a more innovative, productive and globally competitive country.

Through their facilities and networks, our members provide meaningful solutions to industry problems and accelerate knowledge transfer. Graduates are job-ready and armed with the skills employers need across sectors.

Close ties to industry make the polytechnic talent pipeline dynamic and responsive to the challenges of developing the future workforce. Polytechnics work with industry to build programs and design curricula, to conduct applied research that helps firms scale and get products to market.

They offer students work-integrated learning opportunities and position graduates to make global impacts. Beyond the traditional student, polytechnics embrace those at mid-career who find themselves displaced from the labour market or simply in need of short-term retooling to refine and modernize their skillsets.

At Polytechnics Canada, we are proud promoters of the polytechnic education model—applied, hands-on and technical; industry-focused and industry-driven.

## Polytechnics Canada Members





Learn more at [polytechnicscanada.ca](https://polytechnicscanada.ca)