The official publication of Engineers Geoscientists Manitoba

THE KEYSTONE PROFESSIONAL

WINTER 2021

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[1] See full First-Time Applicant Offer eligibility and offer details at www.manulife.ca/newmember.
[2] Statistics Canada, "Household spending, Canada, regions and provinces," November 25, 2019.
[3] CMHC, "Mortgage and Consumer Credit Trends National Report – Q4 2019," December 2019.

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The Keystone Professional Committee would like to hear from you. Please e-mail your comments to: *Info@EngGeoMB.ca.* Practitioners are also encouraged to submit articles and photos on topics that would be of interest to the membership.

Engineers Geoscientists Manitoba recognizes that Winnipeg is on Treaty 1 territory, the territory of the Anishinaabeg, the Nehiyaw, the Oji-Cree, the Dakota, and the Dene Peoples and on the Homeland of the Métis Nation.

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FEATURES

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Allan Silk, P.Eng.

Preserving the **Self-Regulating Process**

I recently joined outgoing Association President Jason Mann at the meeting of Presidents of the Engineering Regulators. This is a meeting that takes place two or three times during the year where the presidents from each of the constituent engineering and geoscience associations get together to address topical issues among regulators. I had not attended one of these meeting since 2005 and most of the topics were new. There was one topic, however, that has remained on the agenda since 2005 – the continued involvement of provincial governments in self-regulation. This may be an item that does not involve our Association at this time due to the relationship we have with the provincial government, but it is a topic that we have dealt with in the past, and one we will encounter in the future.

When I ran for Council in 2019, I referred to professional self-regulation as an experiment. What I meant by that was that it is a work in progress. It was a bold move at the time for provincial governments to provide professional associations with the authority to regulate their professions. Over time, it appears that some governments may be reviewing the scope of authority that they initially granted to some professions.

> The need for any self-regulating organization depends on the benefits being significantly more substantial than the costs.

In 1994, the Manitoba Law Reform Commission issued the report, *Regulating Professions and Occupations*. It is an old document; the Association was known as the Association of Professional Engineers of the Province of Manitoba (APEM) at the time, and APEM made a submission to the committee as it did its work. If you read through the recommendations, you get a sense of how dated the report is. What isn't dated is the discussion of the principles of self-regulation, specifically the criteria of justifying the existence of self-regulation, and the responsibilities of a self-regulating organization.

An example of justifying this existence is in licensing. The obvious benefit of licensing is that it promotes the concept that the public can rely on competent and ethical engagement of practitioners. Licensing regimes will raise the level of competent and ethical behaviour, as practice standards focus the practitioner's attention on these attributes as a cost of maintaining their licences. However, licensing does not come without societal costs. These will include administrative costs incurred from evaluating practitioners, not only when a practitioner initially seeks a licence, but also auditing the practitioner's commitment to competent and ethical behaviour through their career. This is easy to quantify and likely viewed to be low cost. What is harder to quantify, and likely more impactive on society, is the cost of reduced competition that comes from having a smaller group of people eligible to perform the work.

A second example identified by the Law Review Commission is scope of practice. In the same way that licensure can raise costs by reducing competition, limitations on scope of practice will reduce competition, as only licensed practitioners

will be able to operate. I think all of us would recognize that when determining a scope of practice, it is difficult to be surgical in defining the range. Many times, the scope will overlap with other scopes developed by practitioners from other professions, and, in some cases, it can be overly restrictive, including work that should not require licensure.
The Law Review Commission noted that "[a]s technology changes and the level of scientific and public knowledge grows, the need of society and the activities of practitioners will also change". This requires that the practitioner's scope stays as a living document that is reviewed periodically. The Law Review Commission recommended the establishment of an independent governmental body with the responsibility for scopes of practice.

The Commission also lists some safeguards for self-governing bodies, which are based around accountability and openness. These aren't requirements of the Association, and each one would have to be tailored for each self-governing body. The safeguards include:

- Annual reports
- Access to rules, regulations, and by-laws
- Access to the register of members
- Open disciplinary hearings
- Access to information concerning past disciplinary sanctions imposed on practitioners and dissemination of information on convictions and sanctions
- Public attendance at meetings of self-governing bodies and public access to minutes of meetings of self-governing bodies
- Periodic public meetings
- Supervision and investigations

The supervision and investigations safeguards would be performed by a governmental agency. In the report, the Commission identified that the Crown Corporations Council has supervisory and investigative power over Manitoba's Crowns. They suggested a council could be set up to perform similar oversight of self-regulating bodies.

This is an older report, but should you make time to read it, I hope you would agree that our Association is voluntarily compliant with a significant amount of the recommendations directed to self-regulating organizations. Unfortunately, there are few publications, if any, that speak as directly to self-governing organizations in Manitoba. The highlight of this document is the quantification of the value of self-regulating organizations with a statement that the need for any self-regulating organization depends on the benefits being significantly more substantial than the costs. I believe that as an organization, we meet this value proposition. However, this report demonstrates that self-regulation is an experiment that can be stopped at any time. If we value it, which I think most practitioners do, we need to work at preserving it.

I am always interested in your comments about this or any other topic. Please feel free to contact me at *President@EngGeoMB.ca*. If you wish to read the report, you can find it at *http://manitobalawreform.ca/pubs/pdf/archives/84-full_report.pdf*.

Grant Koropatnick, P.Eng., FEC, CEO & Registrar, Engineers Geoscientists Manitoba
Robert Okabe, CET, FEC (Hon.), CEO & Registrar, Certified Technicians & Technologists Association of Manitoba


BETTER TOGETHER: One Regulator is Good for the Public and Professionals

In case you missed it, the following article was co-authored by Certified Technicians and Technologists Association of Manitoba (CTTAM) CEO & Registrar, Bob Okabe, CET and me. The letter was sent to all engineering and technology regulators across Canada and subsequently republished here for additional exposure within the Association.

If you have any thoughts on anything you read in the *The Keystone Professional*, please email me at *GKoropatnick@EngGeoMB.ca*.

We have been observing

the disputes in other parts of the country between engineers and technologists. Some have been going on for a long time, while others are new. As two regulatory organizations in Manitoba, we are sharing our experience with others. In this article, we offer a solution that is good for both the public and professionals.

A common path began in 1965 when the technologists and technicians of Manitoba incorporated and formed the Manitoba Society of Certified Engineering Technicians and Technologists (MANSCETT). The new organization was invited to share an office with the Association of Professional Engineers of Manitoba (APEM). This began a journey of cooperation and collaboration for the two groups that has continued ever since.

It's All Engineering

When considering the two groups, one must accept that engineering is a continuum with room for all practitioners. Both engineers and technologists work within the scope of the practice of engineering. No matter which career path is chosen, both technologist and engineer sit at the same table with a different yet complementary set of skills, useful and effective as part of a team delivering a successful project, product, or technical solution to a complex problem.

Disputes

Disputes have arisen because someone postulated that there is a distinct scope of practice called engineering technology. This is a fallacy because it's all engineering. Each group takes a different educational path and brings a different set of skills to end up working on the same team to achieve a common goal. Applied science, engineering, technology, innovation – call it whatever you want, but it's all within the same scope of practice.

Should both be mandated to hold the same scope? No. Differences in the educational paths prevent equality of scope or practice. Does this make one lesser than the other? No. It's just different. Why call it certified engineering technologist (CET) and professional engineer (P.Eng.) then? Because the public expects certainty in the services provided. Reliable power, water supply, sewage treatment, communications, data security, medical devices, food supply, and many more benefits are provided to communities through a complex system involving engineers and technologists.

Legislation is written for the benefit of society. Rules are put in place to protect the public and provide services while preventing injury, death, environmental, and economic losses.

Regulation of engineering practice has occurred in Canada for about 100 years. This is done through the provincial legislatures in the public interest. Is more regulation by more groups necessary? No. Governments do not want more regulation – they want public safety through efficient and practical regulation. It is both efficient and practical for engineers and technologists to join together in a unified model for the sake of good governance and public safety.

Taking Responsibility

Responsibility for a clearly defined scope of practice must be stated in legislation in order to avoid confusion for the public and professionals. This occurs in *The Engineering & Geoscientific Professions*

Act of Manitoba through the licensing of persons to practise either a full scope of engineering (P.Eng.) or a specified scope of engineering (Eng.L.). Both are authorized to practise engineering, authenticate and take responsibility for their work. One is available to engineers and the other is available to technologists, but both get to practise engineering according to their respective competencies. In Manitoba, both P.Eng. and Eng.L. applicants are checked for education, experience, professional development, and disciplinary history.

One Regulator

A grand solution is being explored in Manitoba. Engineers Geoscientists Manitoba and the Certified Technicians and Technologists Association of Manitoba are considering joining together as one regulator. Rather than fight over vague differences, the two groups are committed to a future of co-existence, cooperation, and collaboration via one organization. We think this can be accomplished by rewriting two pieces of legislation into one, creating *The Engineering, Geoscientific, and Applied Science Technology Professions Act*. The resultant organization would be called Engineers Geoscientists Technologists Manitoba.

We think this is a future vision for several reasons. It removes confusion for the public and establishes clarity for everyone – professionals, students, higher education institutions, employers, and governments. When a student, new graduate, or newcomer seeks to affiliate with a professional body, they only need to apply to one regulator.

Member status in one Association builds on the common elements and offers something for everyone. Licensing, certification, professional development, upgrading, competency assurance, and a common Code of Ethics are all possible through one organization. One oversight body checking competency, standards, and ethics is a strong unified model. It simplifies the process for all, bringing clarity for the public and professionals. It defines the various roles (technician, technologist, engineer) for employers. It removes costly duplication and makes it easy to collaborate on professional development and continuing education for every member regardless of status. Each learns from the other in a symbiotic relationship.

Bright Future

Finally, in a world where technical skills and problem-solving are critical for every nation, Canada must compete with other countries for engineers, technologists, technicians, scientists, researchers, and other professionals. Bringing domestic and international professionals together in one unified model is good for each province and for the overall economic well-being of Canada. Fighting over scope of practice is a foolish waste of time and resources. We call upon the engineering and technology regulators in Canada to consider what is happening in Manitoba and adopt a similar model. Let's make a bright future for everyone – the public and professionals.

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NANCY SANTOYO

Nancy Santoyo, P.Eng., is a trained mechanical engineer who has worked in engineering, design, and construction in the Philippines and Malaysia before moving to Winnipeg in the early 1990s. Her ultimate goal was to practise engineering in Canada, but it did not come easy. Even with work experience and an engineering degree, Nancy took on what she calls "survival jobs" while raising a family to adjust to life in Canada. Her journey to reaching her P.Eng. designation took 20 years, hurdling through challenges like health conditions, raising three young children, and attending university while maintaining full-time work. Her resilience, dedication, hard work, and faith helped Nancy achieve her goals. In 2013, she became an engineer-in-training (now referred to as intern). A year later, she received her P.Eng. designation. Eventually, she would earn a production engineer role at StandardAero where she has worked for the last 23 years. Becoming a professional engineer has given Nancy self-fulfilment, a rewarding job, a profession she values with continuous learning opportunities, and a chance to help others through mentorship. Nancy wholeheartedly believes in the rewarding and fulfilling benefits of mentoring, and is dedicated to helping others achieve their goals. She continues to be part of various mentorship and volunteer programs in the Association and the community such as the Filipino Members Chapter, Canadian Coalition of Women in Engineering, Science, Trades, and Women in Engineering and Mentorship Program.

DANNY D. MANN

Dr. Danny Mann, P.Eng., is a professor of biosystems engineering at the University of Manitoba, where he has also served as Head of the Department of Biosystems Engineering, Faculty of Agricultural & Food Sciences since 2009. From his roots in the family farm just north of Roblin, Danny decided to establish an innovative research program related to the design of agricultural machinery – specifically the role of human factors engineering in the development of semi-autonomous and autonomous agricultural machines. Aside from research, Danny has been heavily involved with curriculum development at the undergraduate level, especially the development of the department's innovative capstone program that spans the final three years of study. Danny has been a member of the Canadian Society for Bioengineering (CSBE) since 1998, and recently completed a two-year term as President. In 2006, Danny was the recipient of the CSBE Young Engineer of the Year Award, and in 2011, he was the recipient of the CSBE/SCGAB Glen Downing Award in recognition of outstanding work in the area of power and machinery. In 2019, Danny was named a Fellow of the Canadian Society for Bioengineering. Earlier this year, he was one of the inaugural recipients of the Biosystems Engineering Alumni of Influence Awards established to commemorate the 50th anniversary of the first bachelor's degree in Agricultural Engineering being awarded by the University of Manitoba.

PETER WHEATLEY

Peter Wheatley, P.Eng., is a proven change agent with StandardAero, having risen quickly through various roles in engineering, quality, customer programs, and sales operations. As Vice President/ General Manager of the company's Helicopters Business Unit, Peter is responsible for managing StandardAero's broad range of support offerings for the helicopter segment, which include original-equipment-manufacturer-authorized

engine maintenance repair and overhaul (MRO), airframe support, dynamic component repair, crash resistant fuel systems, and avionics installations. Following the company's acquisition of Vector Aerospace in 2017, Peter led the successful transition of StandardAero's Rolls-Royce M250 / RR300 engine lines to help establish the company's Helicopter Engine MRO Center of Excellence in Winnipeg. Peter's foundation of engineering has helped him develop a hands-on approach to leadership with an innate ability to make the complex simple. As a three-time graduate of the University of Manitoba, Peter believes in lifelong learning, and has been able to give back by serving as the Chair of the U of M Alumni Association. In 2019, Peter was honoured as one of Canada's "Top 20 under 40 in aviation" by *Wings* magazine.

RUTH EDEN

When news of the sudden passing of former Association President, Ruth Eden, P.Eng., was announced on October 4, 2021, Manitoba's engineering and geoscience communities felt the loss. After dedicating her career to public service for more than 30 years, Ruth was the definition of a trailblazer. She was one of five women to graduate from the Civil Engineering program at the University of Manitoba in 1988, and the first woman engineer to work for Manitoba Infrastructure when she joined the department's Technical Services and Operations Division in the same year. At the time of her passing, Ruth was the Assistant Deputy Minister of this very department, demonstrating her commitment to her craft, as well as her passion for public service. When Ruth began her role as President of Engineers Geoscientists Manitoba for the 2019-2020 year, she brought a breadth of knowledge and a passion for the professions. As a Council member with years of experience prior to her term as President, Ruth oversaw many of the Association's strategic Ends progress in tremendous fashion. A program she was most invested in was the 30 by 30 initiative that seeks to increase the percentage of newly licensed engineers who are women to 30% by the year 2030, as well as expanding the Association's membership diversity to increase Indigenous practitioners. Ruth leaves behind a lasting legacy in the engineering industry in Manitoba. She will be greatly missed, but fondly remembered.

Meet the People That Make Life Work Better

Angela Kennedy, P.Geo.

Member Profile

By R. Lewis

For those who have made their careers in the fields of geoscience or engineering, descriptions with the familiar phrasing of "no two days are ever alike" are usually par for the course. For Angela Kennedy, P.Geo., it's this often-underrated characteristic that has made all the difference in her 14-plus-year career as a Senior Geologist with Vale, Manitoba Operations in Thompson, Manitoba.

While it was the healthcare field that first piqued Angela's interest in higher education while she was attending Memorial University in Newfoundland, it was earth sciences that led her down the path to where she is today. Twenty years later, she has zero regrets, including her 2007 move to Thompson where life has slowed down a bit, yet still offers a rich and rewarding career in an environment brimming with possibilities, thanks to Thompson's geologically complex nickel deposit, good people, and quality of life.

How many years have you been in the field of geoscience?

Fourteen and a half, plus four years during university. I always worked during the summer in geology positions, and throughout the school year I worked in the lab. So, I guess that would be nearly 20 years!

What was the catalyst for you entering the geoscience profession?

Honestly, it was a very inspiring professor. I was returning to university to further my career within the healthcare field. One of my first-year courses was Earth Science and my professor had this genuine enthusiasm for geoscience that I latched right onto. Before I knew it, I was finishing my degree with a love for geology, and anything earth-related.

What has kept you driven to remain in this field?

Every drillhole, every area mapped underground, every outcrop adds new pieces to the puzzle. The chance to find or advance orebodies is truly exciting, and then to have the opportunity to follow through from an awesome drill intersection, to building a mine is extremely rewarding.

What resources have you found useful in excelling at your career?

People! Knowledge from those around me and learning from the experiences of others is a highly valued asset. The industry is very welcoming and there to support one another. Of course, proficiency in multiple 3D software programs is also required.

What does a typical workday look like for you?

Since COVID-19, working remotely has become an option. My workday mostly

click HERE to return to table of contents

consists of working from my home office with visits to the mine sites, the exploration office, and core logging facility. Each day can be different, which is what I enjoy the most. Some days are spent writing reports, putting together and tracking budgets, and working up mine exploration targets. Other days could be spent collecting drill core, reviewing diamond drilling results, and creating 3D geological wireframes. I prioritize my workload so that I can always enjoy some time networking with my colleagues.

What's the most rewarding part of your career?

When drilling results come back matching my interpretations, and the nickel is right where we thought it would be!

What are the three most memorable projects you've worked on?

My honours thesis, where I studied the health impacts of arsenic on rural communities in Newfoundland. Fourth-year field school, mapping a beautifully exposed peninsula at Cripple Cove in Newfoundland. The pillow basalts are truly amazing! Over the last few years, I have been the geologist working with the Thompson Mine Extension project. The goal is to add many years of mining here.

For an audience of non-geoscientists, what sums up what your work is all about?

Building futures through mineral extraction. Nickel is needed literally everywhere, especially with the world sourcing green energy products, such as the new battery-electric vehicles. As a geologist, I work with a variety of other disciplines to locate the economically valuable nickel so that it can be extracted through mining. This involves using diamond drillholes targeted at specific areas underground. The core from these holes is then logged and sent to the lab for assay. This information is then used to build a geostatistical model where engineering designs can be applied and the ore can be mined from beneath the Earth's surface.

When you're not working, you can be found…?

At our cabin! Most of my time is spent with my amazing family, my wife, and our seven-year-old son. We love fishing, swimming, and campfires. It's a wonderful way to unplug and be together in nature.

What are you doing to make life better in Manitoba/Canada?

I'm actively involved in my community, (although COVID-19 has impacted this, but will return once everything reopens). I am a mentor in Skills Manitoba, Northern Young Women in Science, the STEM program at the YWCA, and as a judge with the school's science fair competitions. I serve as a board member for a local early learning childcare centre and I coach my son's soccer team.

Ingenium 2021

Ingenium
*Where **great minds** meet to form **great ideas***

By L. Ellis

As Association events are still being held remotely, we used the 2021 year to finetune and curate a virtual Ingenium conference experience that fulfilled attendees' expectations and provided some much-needed social and wellness opportunities. Our 2021 virtual conference allowed practitioners and presenters to participate from anywhere in the world, continuing with the adapted four-day schedule that was developed in 2020. This adaptation allowed registrants to balance seminar sessions with their work commitments; attendees didn't need to choose between concurrent sessions and were able to tune in to as many of the four live keynotes, four interactive workshops, and 10 seminars with live Q&As as they wanted. The inclusion of an On-Demand Library also allowed access to additional exclusive seminar topics, which could be viewed at any time. In case attendees missed any live sessions, or wanted to revisit them, recordings of all the live seminars and their respective Q&A sessions were added to the On-Demand Library. To ensure maximum flexibility, all the on-demand content will remain available until January 2022.

With more content available than ever before in 2021, Ingenium registrants received the greatest value per dollar for their registration fee of $100 plus GST! Attendees had access to all the content offered, equating to less than $5 per session. At the start of the conference week, over 260 people had registered to attend, and that number continues to climb as others sign up to access the On-Demand Library. The conference week was kicked off with an insightful keynote presentation from Mihskakwan James Harper, EIT, titled *Wahkohtowin: The Interconnectedness of Design and Engineering*. This keynote considered where gaps exist in the standard engineering approach versus a holistic and multigenerational perspective seen in Indigenous communities.

Each of the four days had a keynote speaker, as well as an interactive session on both technical and soft-skill topics. Sessions ranged from learning to leveraging negotiation skills and becoming a more effective communicator, to small modular reactors and mass timber buildings. In addition to the professional development content, the conference program offered attendees the opportunity to participate in two Wellness Breaks featuring workout and breathing exercises from Community Gym. Attendees who were missing the usual Ingenium lunch buffet could also opt in to have a locally catered lunch delivered at a subsidized cost thanks to our lunch sponsors, Canada Life and Friends of Engineering. Those missing the social aspect of Ingenium were also offered an online networking platform, Gather, to engage with other conference attendees.

The Ingenium Task Group thanks all the presenters, sponsors, and attendees of Ingenium 2021 for their support of the new virtual format. The Group is already looking forward to planning Ingenium 2022!

2021 Keynote Topics

- *Wahkohtowin: The Interconnectedness of Design and Engineering* – Mihskakwan James Harper
- *Hey Siri, Make Me Happier* – Dr. Gillian Mandich
- *Inspiring Clean Energy Diversification, Having the Courage to Make A Difference* – Kirsten Marcia, P.Geo.
- *Employee Engagement – The Myths and The Reality* – Jane Helbrecht

Live Seminars and Interactive Workshops

- *How Will Climate Change Affect Your Future Practice?* – Mary Agnes Welch, Curt Hull, P.Eng., Jeff O'Driscoll, P.Eng., IRP, Harshan Radhakrishnan, P.Eng., Dr. Malcolm Shield, P.Eng. and Trina Semenchuk, EIT
- *How to Listen to Your Clients, Customers, and Colleagues* – Lisa Moretto
- *Carbon Capture, Utilization, and Storage Potential in Canada* – Marcia Couëslan
- *Practical Root Cause Problem Solving* – Vern Campbell, P.Eng.

- *Risk Management in Engineering: Not Just Another Failure Mode and Effects Analysis! Insights from the Biomedical Field* – Ian Maclean, P.Eng.
- *Pandemic Pivot: Manitoba Manufacturing Case Study* – Ryan Olson, EIT, Trevor Penner, EIT, and Heather Smart, P.Eng.
- *Career Change – From Field to Leader* – Tafa Gomwe Kennedy, P.Geo.
- *Unleashing Your Strengths* – Jane Helbrecht
- *Strengthening Professional Practice by Merging Common Ethical Education and Indigenous Ethics* – John Desjarlais, P.Eng.
- *Modern Methods for Estimating Climate Change Impacts on Water Supply In Manitoba* – Scott Pokorny, EIT, and Hank Venema, P.Eng.
- *Key Skills for Creating and Claiming Value in Negotiations* – Lukas Neville
- *Development of Small Modular Reactors and Pinawa's Proposed Demonstration Remote Community* – Blair Skinner
- *Mass Timber Building Case Studies* – Jack Keays, P.Eng.
- *Target Zero: Where the Two Greens Meet* – Stephanie Chow and Dave Pancoe

On-Demand Topics

- *30 By 30: Three Years In* – Lisa Stepnuk, EIT
- *Clean Microgrid Development* – Mihskakwan James Harper, EIT
- *Designing Your Documents for Readability* – Lori Marra
- *How Competency-Based Assessment Is Changing Admissions* – Chantelle Cabral and Claudia Shymko
- *Improving Building Health and Efficiency with Data Driven Solutions* – Dan Loewen, P.Eng.
- *Manitoba Hydro's Approach to Climate Change Resilience* – Michael Vieira, P.Eng.
- *The Act: Part 10 – Discipline* – Michael Gregoire, P.Eng., FEC

2021 AWARDS CEREMONY

November 5, 2021

Eight awards were presented at the Association's annual ceremony, which took place online in our virtual event space. Engineers Geoscientists Manitoba was honoured to recognize the achievements of these exemplary individuals, teams, and companies. Attendees in Winnipeg had the option to add a gourmet picnic sharing box for two from Pinky's Bakeshop, while MC Chelsey Mark hosted the awards.

2021 TEAM ACHIEVEMENT AWARD WINNER

Southwest Rapid Transitway – Stage 2 and Pembina Highway Underpass Project

The Team Achievement Award recognizes engineering or geoscience excellence in, and major contributions to, the concept, design and implementation of an engineering or geoscience project in Manitoba.

The Southwest Rapid Transitway – Stage 2 and Pembina Highway Underpass Project (SWT2) is one of the largest infrastructure projects undertaken by the City of Winnipeg to date, and addresses the need for rapid transit as outlined in the city's Transportation Master Plans. The completion of this project, which extends Stage 1 of the Southwest Transitway, will promote the increased densification of Winnipeg by facilitating the future development of several large-scale, infill, transit-oriented developments identified in Winnipeg's Complete Communities Direction Strategy. Early benefits were realized by combining the $90 million Pembina Highway Underpass project and Canadian National (CN) Railway relocation to enable economies of scale and cost sharing through a public-private partnership (P3) model. A comprehensive value-for-money assessment was also conducted and resulted in the selection of a Design-Build Finance (Operate) and Maintain project delivery model. Public art was coordinated through the Winnipeg Arts Council to provide unique Winnipeg-based themes by different artists at transit stations and bridges, instilling transit pride in Winnipeggers.

With the city's southwest population estimated to grow to 40% by 2030, the transitway is essential in realizing a mode shift for moderating traffic demand on the roadway network and to improving transportation system performance. The project will reduce Winnipeg's carbon footprint and dependency on road infrastructure, making it a more sustainable city. Short-range objectives of increased transit ridership between 5% and 15%, reducted on-street traffic congestion, travel times, and improved transit service and schedule reliability have been achieved. Long-range objectives for related development and

DILLON CONSULTING

economic impact are showing success as transit-oriented development proposals adjacent to the transitway have already been submitted to the city.

The Stage 2 infrastructure project includes 7.6 km of exclusive, bus-only transitway, nine bus stations, transit overpasses at Pembina Highway, Bishop Grandin Boulevard, and McGillivray Boulevard, the CN Letellier rail line, as well as underpasses of the CN wye tracks, CN rail bridge over Pembina Highway, two pump stations, six signalized intersections, widening of the Pembina Highway underpass, and pedestrian and bike facilities along the length of the transitway. The Pembina Highway underpass work would prove to be the longest in duration and most publicly impacted segment of the project.

Through innovative project delivery, refinement of the final design, and competitive procurement (P3) methods, the initial $587.4 million budget in 2014 was revised to $467.3 million by the start of construction in 2016. The project was completed in 2019 for $418.4 million,

a positive variance of 10% and overall savings of $169 million.

The project team also met or exceeded schedule milestones, including the Stadium Station completion for the 2017 Canada Summer Games two months ahead of schedule. The magnitude of financial savings combined with schedule achievements is a rarity for projects of this scale, complexity, and public scrutiny, and was achieved by employing the highest standard of project management practices.

The scale of the SWT2 project, both in profile and physical area, resulted in numerous project delivery and engineering challenges, including relocation of critical power transmission lines and CN mainline railway, impacts to major arterial roadways, the new transitway along the length of Manitoba Hydro right-of-way, work around environmentally sensitive lands, and major connections to the University of Manitoba and IG Field. Due to the immensity of the project, there were over 300 stakeholders with broad and diverse interests. A tiered stakeholder management approach was utilized to ensure effective communication and collaboration. Proactive engagement with stakeholders was critical in mitigating scope creep and the associated costs and schedule impacts.

2021 INNOVATION AWARD WINNER

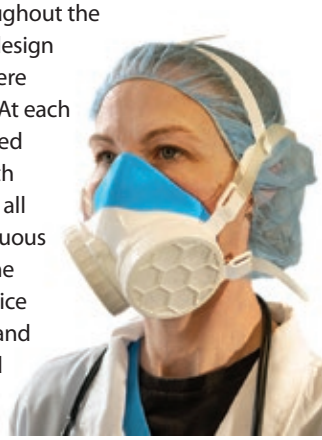
Precision ADM – AIR N95 Reusable Respirator

Precision ADM (PADM) is a Winnipeg-based advanced digital manufacturing company where core business is designed for manufacturing 3D metal additives of high-precision custom products for medical, aerospace, energy, and industrial customers.

When the COVID-19 pandemic hit Manitoba in 2020, certified medical device manufacturer PADM recognized an opportunity to support healthcare providers. In response to calls from the Government of Manitoba for locally sourced personal protective equipment, PADM initiated the development of a reusable N95 respirator for frontline healthcare workers.

The design team responded quickly and created a novel, reusable N95 PFE elastomeric, half-face respirator for use in medical applications. The first of its kind, the Precision AIRTM Reusable Respirator (or Precision AIRTM) mask encompasses an elastomeric face seal with two large replaceable filter cartridges. The mask design allows for a comfortable seal without overheating or fogging eyewear, while high acoustic performance allows for clear speech; a significant feature for frontline healthcare workers. Large filters allow greater airflow and higher breathability than other respirators and recyclable mask components reduce environmental waste compared to disposable masks. Constructed from materials and design geometry that permit a wipeable disinfection method for up to 30 uses, while adhering to strict biocompatibility and cytotoxicity requirements, the mask also features replaceable filter media, which makes the respirator more affordable than disposable N95 masks from a lifecycle-cost perspective.

The timeline and pressure under which the team developed a functional and attractive product in response to the COVID-19 pandemic is a monumental accomplishment. Throughout the project, objectives for design and implementation were dynamically changing. At each turn, the team responded to the client's and Health Canada's requirements, all while managing continuous manufacture, held to the ISO 13,485 medical device standards, and testing and certifying to NIOSH and CAN/CSA standards. Precision AIRTM was



designed to meet and exceed N95 particle filtration and breathability metrics, and has also been improved to meet blood penetration resistance specifications not previously integrated into other respirator products. Environmental impact was seriously considered during the design and material selection, resulting in a product that is over 75% recyclable.

The design of this product was initiated in May 2020. Health Canada released documentation on approval standards for half-face respirators in September 2020. The team acquired Health Canada approval for their design, manufacturing process, and disinfection procedures on November 2, 2020, and delivered an approved product to the Province of Manitoba (Shared Health) on November 14, less than six months from initial concept to product delivery.

In recognition of the engineering excellence demonstrated in the Precision AIR N95 Reusable Respirator, Engineers Geoscientists Manitoba is pleased to present the inaugural 2021 Innovation Award to Precision ADM.

2021 INTERN AWARD WINNER

Cormac Foster, EIT

Cormac Foster, EIT, graduated from the University of Manitoba in 2017 with a BSc in Biosystems Engineering, and a specialization in environmental engineering. He became an intern with Engineers Geoscientists Manitoba in November 2017.

As an undergraduate student, Cormac worked as a research assistant at the John Buhler Research Centre, conducting LDH gene suppression analytical research related to type II diabetes. He presented his findings at the 11th annual Child Health Research Day symposium. After graduating, Cormac began working as an intern with the Biosystems Engineering Research Division at the University of Manitoba. During this time, he worked as the co-lead on a prototype energy production and greenhouse facility for sustainable food production in northern communities. This work led directly into his current role as the project engineer with Vermillion Growers Ltd. In this role, he manages the design and construction of Vermillion Growers' first vegetable production greenhouse set for Dauphin, Manitoba. Due to the pioneering nature of the project, Cormac regularly engages with members of the public, providing him with the opportunity to share his passion for science and engineering.

Cormac graduated on the Dean's Honour List, and has won several scholarships, including the Horace Patterson Foundation Scholarship (in both 2012 and 2015), International Baccalaureate Scholarship, and University of Manitoba Entrance Scholarship. For his undergraduate engineering capstone project, Cormac and his team completed a year-long research and design project which resulted in the production of a paper titled "Evaluation of the Proposed Geothermal-Cold System Design for Prevention of Permafrost Thawing Beneath Structures in Northern Climates". Their report was awarded the second place Canadian Geotechnical Society Undergraduate Student Report Award (Group).

Cormac is also involved in the community, helping to foster a love of science and engineering. He has volunteered as a grade 7 to 10 science fair judge, spent summers as a volunteer camp leader, and organized and led five consecutive annual food drives in support of Winnipeg food banks. Most recently, Cormac volunteered as the keynote speaker for an after-school educational seminar workshop for high school students organized by Pembina Trails School Division and the Bioscience Association of Manitoba. He enjoys opportunities to connect with students and promote science, technology, engineering, and mathematics (STEM) skills, while sharing some of the exciting things happening in the profession of engineering in our province.

Cormac showcased his engineering abilities when he constructed a driftwood chair as a contestant on *The Amazing Race Canada*. Following this experience, he spent time as a motivational speaker to a range of audiences at schools and conferences. Cormac enjoys camping, hiking, backcountry canoeing, biking, and playing flag football and hockey. He also enjoys building with LEGO bricks using his extensive collection. He uses his own designs, which he then develops using LEGO design software, including a scale model of the actual full-size greenhouse he is currently working on.

Alongside his team at Vermillion Growers and their many industry and professional engineering partners, he hopes to develop the concept of year-round greenhouse production of vegetables in the cold Manitoba climate. He aims to have local, greenhouse-grown produce supplying a significant portion of the vegetable consumption demand in Manitoba. In collaboration with his academic work, Cormac hopes to be instrumental in developing and engaging in ongoing research into greenhouse technology to further benefit the industry.

After attaining his P.Eng. designation, Cormac hopes to have a lasting impact on society and the environment, solving major food security problems through his greenhouse technology work and finding solutions to the effects of climate change.

In recognition of his exceptional achievements while training as an engineer, Engineers Geoscientists Manitoba is pleased to present the 2021 Intern Award to Cormac Foster.

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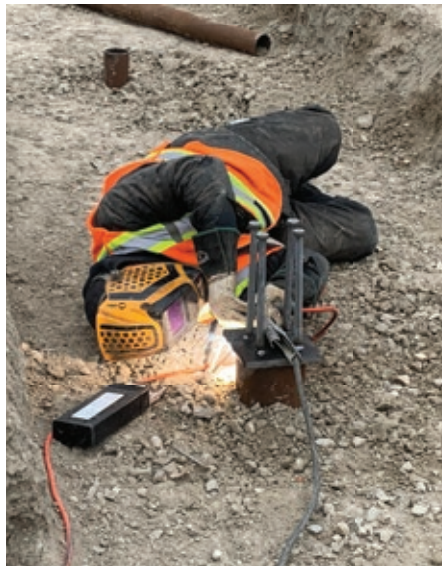

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2021 EARLY ACHIEVEMENT AWARD WINNER

Jacqueline MacLennan, P.Eng.

Jacqueline MacLennan completed her BSc in Civil Engineering from the University of Manitoba in 2014. She started working as a geotechnical intern (EIT) at KGS Group immediately after graduation, achieving her full professional engineer designation (P. Eng.) in 2018. She has since continued to work as a geotechnical engineer. While working full-time at KGS Group, Jacqueline completed her MBA at the University of Manitoba in 2021.

Jacqueline is passionate about dams, and has focused most of her career on ensuring dam safety of ageing infrastructure in seven provinces across Canada. Her work involved advanced site investigation and assessment techniques to address seepage, stability, and settlement problems. This work involved coupled seepage and slope stability modelling using GeoStudio software, natural earthquake analyses, and induced seismicity due to hydraulic fracturing. Her work extended to three dams across Manitoba, 11 dams across Saskatchewan, 11 dams across Alberta, 15 dams across Ontario, and at least one dam in each of Quebec, British Columbia, and Yukon. Some of her noteworthy projects as a design engineer include the PTH59/101 interchange design and construction, Canada Diversity Gardens at Assiniboine Park, Lake St. Martin channel design project, Cockburn and Calrossie sewer project, Qu'Appelle River Slope stability project in Lumsden, Saskatchewan, and Bruce Oak Addiction Recovery Centre foundation investigation and design.

Jacqueline has also been involved in other geotechnical projects involving foundation investigations and design, erosion protection works, geotechnical services for municipal infrastructures, and flood control and water resources projects in both Winnipeg and parts of Saskatchewan. She is an active member of the Canadian Dam Association, and presented a paper titled, "Systematic Approach to Selecting Geotechnical Instrumentation Data Management System for Dam Owners" in 2017.

Jacqueline is an active member of Engineers Geoscientists Manitoba's Women in Engineering and Geoscience Mentorship initiative, and is currently mentoring three engineering students and interns. She has volunteered at the Manitoba Robot Games annual competition, promoting engineering and robotics to students from grades 1 to 12. She is also active in community organizations like Big Brothers and Big Sisters Winnipeg and Habitat for Humanity.

In recognition of exceptional achievement at the early part of their career, Engineers Geoscientists Manitoba is pleased to present the 2021 Early Achievement Award to Jacqueline MacLennan, P.Eng.

2021 JUDITH WEISZMANN WOMEN IN ENGINEERING CHAMPION AWARD WINNER

Maria Neufeld, P.Eng.

Maria Neufeld, P.Eng., is a distinguished electrical engineer and the Director of Transmission Operations and Maintenance at Manitoba Hydro. She has long since been recognized as a leader and role model in the workplace, engineering community, and industry, both locally and internationally. As a champion for women in engineering, Maria chairs the 30 by 30 Task Force at Manitoba Hydro, leading a team in developing action plans to recruit and retain women in engineering. She also serves on the Engineers Change Lives Provincial Steering Committee, and the industry coalition to lead changes to improve the participation of women in STEM.

For years, Maria has served as a mentor for engineering students and engineering interns in the Women in Engineering and Geoscience Mentorship Program. She is also a regular volunteer and mentor at the University of Manitoba's Make Your Move event, which targets female grade 8 students, challenging them to undertake design challenges, while demystifying engineering. Maria is often asked to speak at events to promote the engineering profession. She volunteers within her community, helping the United Way achieve their mission of creating opportunities for a better life for Manitobans by bravely shaving her head, raising over $1,300 in the process!

Maria doesn't shy away from challenges, and is generous with her time and knowledge. Through her professional and volunteer work, she has greatly inspired her colleagues, other engineers, and young women to see their potential, trust themselves, dream bigger, and do better.

In recognition of her outstanding advancement and support of women in engineering, Engineers Geoscientists Manitoba is pleased to present the 2021 Judith Weiszmann Women in Engineering Champion Award to Maria Neufeld, P.Eng.

2021 OUTSTANDING SERVICE AWARD WINNER

Dr. Jay Doering, P.Eng., FEC

Dr. John (Jay) Doering obtained a first-class honours BSc in Civil Engineering from Queen's University in Kingston, Ontario in 1984. He received a prestigious Natural Sciences and Engineering Research Council of Canada Centennial scholarship to pursue research in coastal hydraulics and completed his doctorate at Dalhousie University in 1988. His postdoctoral studies were completed at Environment Canada's Centre for Inland Waters in Burlington, Ontario, before beginning his academic career in 1991 in the Department of Civil Engineering at McMaster University. In 1993, Dr. Doering joined the University of Manitoba's Department of Civil Engineering, becoming the Associate Head in 1997, then Head in 2001. In 2005, he became the Dean of the Faculty of Graduate Studies, a position he held for 11 years. Since 2016, he has been serving as the Associate Vice-President (Partnerships) in the Office of the Vice-President (Research and International), and continues to hold a tenured position as a professor of civil engineering in water resources. He founded the University of Manitoba's Acres Hydraulics Research and Testing Facility, which continues to provide state-of-the-art research and training for students pursuing careers in hydraulics engineering.

Jay has had an exemplary research career in the field of hydraulics in the areas of frazil ice in northern waterways, turbine efficiency, channel hydraulics, stepped spillway design, and most notably, in flood protection and mitigation. During this time, he has supervised 23 master's and PhD theses, and published and presented in more than 80 refereed journals and conference papers. He has also initiated and supervised more than 30 industry-supported research projects at the University of Manitoba.

Jay has been a distinguished leader providing expertise to government and other agencies on the development of major flood protection projects, including acting on the expert review panel for the Manitoba floodway expansion, and serving on several advisory boards for the Floodway Expansion Authority. In the process, he has prepared more than 20 technical papers and reports for various government bodies and flood control agencies. He is also a recognized commentator on television and radio programs, providing insights on major floods in Manitoba and throughout Canada.

Jay has been volunteering with the Association since 1999 with unique and exemplary contributions. He was a member of the Awards Committee from 1999 to 2003, and the Investigation Committee from 2005 to 2019. He served on the Association's Council for four years and two terms, from 2002 to 2004 and more recently from 2016 to 2018. During the latter period, he was part of the Ownership Linkage and Audit Committees.

In recognition of his commitment to the Association, the profession, and the public, Engineers Geoscientists Manitoba is pleased to present the 2021 Outstanding Service Award to Dr. Jay Doering, P.Eng., FEC.

2021 LEADERSHIP AWARD WINNER

Dr. Digvir Jayas, P.Eng., FEC, FGC(Hon)

Dr. Digvir S. Jayas is a Distinguished Professor at the University of Manitoba and a former Tier-1 Canada Research Chair in stored grain ecosystems. He holds a BTech from G.B. Pant University in India, an MSc from the University of Manitoba, and a PhD and DSc from the University of Saskatchewan, and serves as the Vice-President (Research and International) at the University of Manitoba.

Dr. Jayas has had a profound impact on the engineering profession through his involvement with Engineers Canada as former president and eight-time committee chair. He has also spent thousands of hours volunteering with Engineers Geoscientists Manitoba as former Association president and chair of multiple committees. As interim president of the Natural Sciences and Engineering Research Council (NSERC), he oversaw enhanced focus on equity, diversity, and inclusion, interdisciplinary research, and a significant overhaul of NSERC's University-Industry Partnership Program. He pioneered the University of Manitoba's Transformational Partnership Program, which has greatly increased university-industry interaction in engineering and other faculties. He also created the annual Science, Engineering, and Technology Day, which exposes hundreds of Manitoba high school students to the STEM fields. As interim director of TRIUMF, Canada's particle accelerator centre, he helped enhance

research opportunities for Manitoba researchers who use TRIUMF facilities.

In addition to his impact on the engineering profession, Dr. Jayas' research has also had a profound impact on agricultural engineering in Manitoba and internationally. It is estimated that his grain storage research has saved at least 2% of annual crop yields, resulting in yearly savings of over $40 million for the province, and over $300 million for Canada as a whole. In the last 30 years, he has directly helped more than 600 Manitoba farmers and indirectly helped almost all Manitoba farmers incorporate best grain storage practices and reduce crop losses. His research and knowledge mobilization activities have resulted in increased availability of grain to feed the ever-growing world population, saving millions of lives in the process, and improving the overall health of individuals through the consumption of high-quality foods. Dr. Jayas provided scientific direction and contributed significantly to the design of the Richardson Centre for Functional Foods and Nutraceuticals in his role as its interim director. He led the development of the Canadian Wheat Board Centre for Grain Storage Research, and played a significant role in the development of many facilities at the University of Manitoba, such as Manitoba Institute of Materials, Stanley Pauley Centre, Churchill Marine Observatory, and the Smartpark Innovation Hub. These facilities support the research of many engineers and geoscientists.

Dr. Jayas has been inducted as a Fellow by 13 Canadian and international technical and professional organizations, including Engineers Canada, the Engineering Institute of Canada, the Canadian Academy of Engineering, and the Royal Society of Canada. He has received over 60 national and international awards in recognition of his service to the profession, community, and research excellence, including selection for induction into the Manitoba Agricultural Hall of Fame, the Sir John William Dawson Medal from Royal Society of Canada, two John Ogilvie Research Innovation Awards from the Canadian Society for Bioengineering, K.Y. Lo Medal from Engineering Institute of Canada, Sukup Global Food Security Award, Honorary Life Member and Outstanding Service Award from Engineers Geoscientists Manitoba, Meritorious Service Award for Professional Service from Engineers Canada, NSERC Brockhouse Canada Prize, and appointment to the Order of Canada (Officer).

Dr. Jayas is the author and co-author of more than 975 technical articles, 10 books and monographs, and three patents. To transfer research results to the user community, he is frequently called upon to present his research to government and industry personnel at meetings, including Manitoba AgriForum, the Canadian Prairie Chapter of the Grain Elevator and Processing Society, and to many exporters and users of Canadian grains and oilseeds across the globe. A true engineering leader, Dr. Jayas has demonstrated a steady, thorough, and ethical practice of the engineering profession at both the academic and professional levels, and has brought honour and distinction to Manitoba and its engineering community.

In recognition of his outstanding leadership, commitment to the profession, and service to the community at large, Engineers Geoscientists Manitoba is pleased to present the 2021 Leadership Award to Dr. Digvir S. Jayas, P.Eng., FEC.

2021 TECHNICAL EXCELLENCE AWARD WINNER

Dr. Ahmed Ghazy, P.Eng.

Dr. Ahmed Ghazy is the Research and Standards Engineer in Asset Pavement Management with the City of Winnipeg Public Works. In this role, he ensures that the City of Winnipeg Standard Construction Specifications are consistent with the latest international standards, and are up to date with new practices, technologies, and products. Dr. Ghazy collaborates with the Department of Civil Engineering at the University of Manitoba as an adjunct professor. He initiates, leads, and undertakes research projects on state-of-the-art technologies related to roadway construction and pavement design.

Ahmed has many technical accomplishments in the areas of pavement design, road construction materials, and construction practices and specifications. His achievements include creating an updated set of granular-base and sub-base specifications, new specifications for the use of geosynthetics in unbound pavement layers, research into soil improvement using cement modification and nanoparticles, and the development of energy-efficient strategies to alleviate the impact of low temperature on concrete. Ahmed created updated asphalt specifications to include new technologies, such as warm-mix asphalt and fibre additives, introducing the Superpave mix design method for asphalt mixes, publishing a pavement design guideline, initiating a project to calibrate base materials used in concrete and asphalt pavements, evaluating the performance of fibre-reinforced concrete for bridges, developing innovative nano-modified concrete mix for rehabilitating concrete pavements, and introducing the new Portland-Limestone Cement with 15% limestone for concrete pavement. The success of such smart and sustainable

materials can introduce new mixtures for pavements with projected extended service life and less lifecycle costs.

Ahmed's work in updating construction specifications and pavement design represents significant improvements to the City of Winnipeg's specifications, leading to longer-lasting, quality pavements that contribute to traffic safety, efficient roads, and the well-being of the travelling public.

In addition to preparing written construction specifications, details, guidelines, and technical reports, Ahmed has published the findings of his extensive research in 35 journal and conference publications, and has received many awards, recognitions, grants, and fellowships. In September 2020, he was awarded the 2020 Allan Widger Consulting Corporation Grant for Young Geotechnical Engineers in Transportation by the Transportation Association of Canada. Two of his published technical papers were also shortlisted for the Giatec Award for Best Paper.

Ahmed is a director of the Manitoba Chapter of the American Concrete Institute, which is dedicated to disseminating knowledge, technical information, and best practices of concrete supply and placement to the concrete community of Manitoba. As University of Manitoba adjunct professor, he sits on a number of PhD advisory committees, and is an active participant in multiple professional associations and committees.

In recognition of engineering research excellence and commitment to improving the standards for road and pavement construction, Engineers Geoscientists Manitoba is pleased to award the 2021 Technical Excellence Award to Dr. Ahmed Ghazy, P.Eng.

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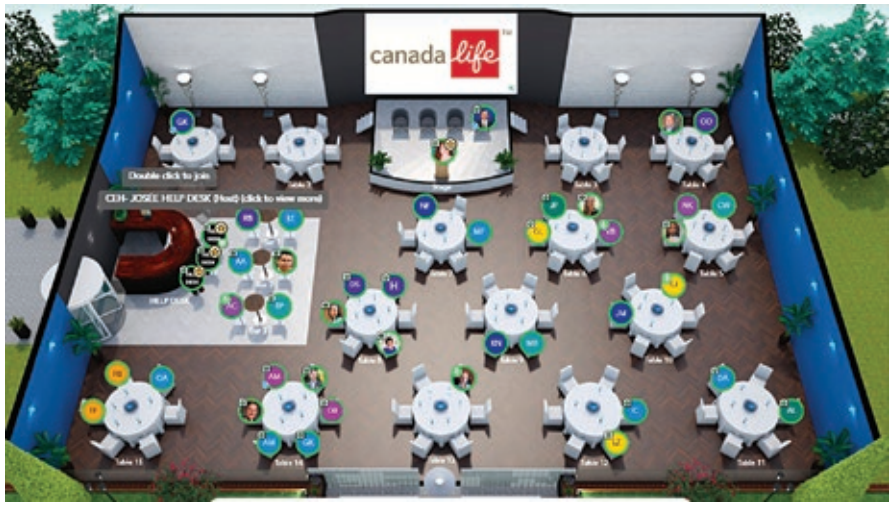

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To get access to the Ingenium On-Demand Library featuring recordings of all the live sessions and exclusive on-demand content, visit *www.EngGeoMB.ca/Ingenium* before January 14, 2022.

2021 INGENIUM CONFERENCE
Awards

Every year at Ingenium, the Association holds a Recognition Wine and Cheese Reception to honour Association Past Presidents, Life Members, Honorary Life Members, and those receiving their Fellowships of Engineers Canada (FEC) and Geoscientists Canada Fellowship (FGC). As we were unable to honour these members in-person this year, gift baskets were delivered to the 2021 recipients to allow them to celebrate their accomplishments at home.

2021 HONORARY LIFE MEMBERSHIP

Dr. Hilmi Turanli, P.Eng., FEC

Dr. Hilmi M. Turanli received his BSc. and MSc. degrees in electrical engineering from the Middle East Technical University, Ankara, Turkey in 1976 and 1980, respectively. He received his PhD from the University of Manitoba in 1984 while completing a special research project on the application of forced commutation for high-voltage direct current (HVDC) power transmission for Manitoba Hydro. He later taught at the University of New Orleans and consulted for Louisiana Power and Light Company.

Hilmi began working for Manitoba Hydro in 1986, and was involved in the planning of major transmission projects throughout his career, which included a number of generation connections, Bipole III, and many interconnection projects to neighbouring provinces and the United States. He retired as the Senior Interconnections Planning Engineer in the System Planning Department in 2018. His research interests include the digital simulation of power electronic circuits and HVDC transmission. Hilmi has presented and co-authored several conference papers and refereed journal publications, primarily on electrical transmission, throughout his career.

Hilmi was invaluable in organizing international conferences such as the Canadian Conference on Electrical Computer Engineering (CCECE 2002), CIGRÉ Canada Conference on Power Systems in 2008, and the Electrical Power and Energy Conference (EPEC 2011), all held in Winnipeg.

Dr. Turanli is a Senior Member of the Institute of Electrical and Electronics Engineers and has been actively involved with the organization by volunteering in many executive positions and serving on numerous boards, societies, and committees since joining in 1981. He is currently the Associate Editor of the *Canadian Journal of Electrical and Computer Engineering,* and was designated a Fellow of the Engineering Institute of Canada and Fellow of Engineers Canada in 2001 and 2010 respectively.

Hilmi has served as an adjunct professor in the Department of Electrical & Computer Engineering at the University of Manitoba, advising undergraduate and graduate students on their research projects and final thesis examinations. He was also involved as a member of the Electrical Engineering Technology Advisory Board at Red River College, providing industry input to their Electrical Engineering Technology Department.

Dr. Turanli has served on numerous Association committees, including 19 years on the Professional Development Committee, with three years as a committee chair, eight years on the Nominating Committee, eight years on the Academic Review Committee, and nine years on the Awards Committee, as well as making other contributions, such as organizing various

Association professional development and engineering and geoscience management seminars.

Dr. Turanli was also actively involved in the parent councils of his children's schools, the Winnipeg Children's Festival and Folk Festival, Jimmy & Rosalynn Carter work projects for Habitat for Humanity in 1993 and 2017, and the Manitoba Marathon. He keeps active in his retirement with cross-country skiing, woodworking, canoeing, kayaking, cycling, and gardening. He enjoys travelling and spending time with his two grandsons.

In recognition of his meritorious service to the profession and the Association, Engineers Geoscientists Manitoba is pleased to bestow Honorary Life Membership on Hilmi Turanli, P.Eng., FEC.

ENGINEERS CANADA FELLOWSHIPS

The fellowships honour individuals who have given noteworthy service to the engineering profession through their work with either Engineers Canada, or its provincial and territorial engineering regulators. This year, six Association members were presented with their Engineers Canada Fellowships, three of which submitted their bios below.

Jim Watling, P.Eng., FEC

Jim graduated with a degree in geomatics engineering from the University of New Brunswick in 1977 before coming to Manitoba that same year. He was employed at the Surveys and Mapping Branch of the Provincial Conservation Department until 1994, and occupied various positions from Field Surveyor, Computations Specialist, and Head of the Field Surveys Unit, where he pioneered the use of the Global Positioning System. Jim received his P.Eng. designation in 1988 and, in 1994, joined the firm of Pollock and Wright Land Surveyors as a Satellite Positioning Expert where he still works to this day. Jim has served on the Association of Manitoba Land Surveyors (AMLS) and Engineers Geoscientists Manitoba Joint Committee and served as President of the AMLS in 2014. He has represented Manitoba on the Canadian Board of Examiners for Land in addition to being the Chairman on the AMLS Board of Examiners, Complaints Committee. He has also served on the By-Law Review Committee and as registrar for the AMLS.

Jim is a certified Level 2 Curling Coach for an elite women's curling team, and serves as a dedicated volunteer with Curl Manitoba's Competition Committee.

Nicholas Douville, P.Eng., FEC

Nicholas is the Director of CyberSecurity & Governance at the Western Canada Lottery Corporation (WCLC); a role he took on in 2020 after spending more than 20 years gaining experience in a multitude of engineering disciplines and positions.

Early in his career, Nicholas' focus was on software engineering, which included developing software to test engines at StandardAero, acting as lead software designer for medical devices with Intelligent Hospital Systems, and working on chemotherapy software at Varian Medical Systems. As his career progressed, Nicholas oversaw the restructuring of WCLC's infrastructure and operations domain as they matured their services. More recently, he has taken on directorship of developing and maturing WCLC's Cybersecurity Program. Over the course of his career, Nicholas has had the opportunity to work for small start-ups to Fortune 500 companies and is grateful for the lessons and experiences he's gained from all of them.

Nicholas enjoys giving back to the profession and views his volunteering as a member of Engineers Geoscientists Manitoba Experience Review Committee as a highlight. He actively volunteered with the committee since 2011, as well as the Software Engineering Task Force in 2016. He's grateful for the opportunity to support engineers in training as they develop in the profession, and looks forward to more opportunities to do so.

Neil Klassen CET, FEC (Hon.)

Neil is the Manager of Program Management with AECOM Canada Ltd. He graduated with a diploma in Engineering Technology (Structural) in 1983 from Red River College and since then has been employed in consulting engineering throughout his career. In his role, Neil manages engineering technologists, engineers, and scientists in delivering large multi-year engineering projects for private and government clients.

Neil served as President of Certified Technicians and Technologists Association of Manitoba (CTTAM) for two years from 2014-2015 and as board member for six years. His volunteer work with CTTAM also includes participation in numerous committees, including the CTTAM-EngGeoMB Joint Committee. Neil currently sits as a board member on the Association of Consulting Engineering Companies-Manitoba and has been both chair and member of the Engineering Science and Technology Committee for many years. Engineers Geoscientists Manitoba appointed Neil as a Council member in September 2016, and he will be serving his third two-year term on Council this year. As a Council member, Neil has volunteered on the By-law Review Committee, Certificate of Authorization Consultation Group, Authentication of Professional Documents Task Group, and participated on numerous Appeal Committees and a Council Appeal Hearing.

Allan Silk's Journey Comes Full Circle

as Association President

R. LEWIS

It's not often that the Association has a president who serves a term and several years later, returns to the position to do it all over again. This, however, is exactly the role in which Engineers Geoscientists Manitoba's new president, Allan D. Silk, P.Eng., finds himself. While the organization has seen a few of repeat presidents in consecutive terms, Allan Silk's return to the position comes with a 16-year gap, with his last term of service being in 2005.

No doubt, a lot has changed in 16 years – for the Association and for Allan too. For one, he has had well over a decade to reflect on his past service as president; all the things he had hoped to accomplish in his one-year term, and the wisdom he has gained from his time of service, to facing the sobering reality that one year simply isn't enough to do it all. With this new perspective, he is ready to face another term as the Association's president with the lessons he has learned, not only from his past experience in the role, but also in his 33-year career as an engineer.

Allan's journey to the presidency began in 1994 when he started volunteering with the Association on the then-Experience Review Board. At that time, the Association's offices were on St. Mary Avenue.

"When I started my volunteer career at the Association, we were changing from a two-year, non-audited experience model where the basic requirement was getting three professional engineers to attest to the candidate's readiness to practice, to having to make a written submission every six months," said Allan. "There were lots of growing pains in trying to apply new requirements in real time, but I think that the process now works very well, and members should be proud of our admissions process."

Since those initial growing pains, the organization has indeed grown by leaps and bounds and Allan has grown right along with it, working his way through the ranks of the Experience Review Committee as a member, to vice chair, to chair, then as past chair, until his elevation to the role of Council president. Allan recalls some of challenges he faced during his time leading Council, including a lawsuit that resulted in amendments to *The Engineering and Geoscientific Professions Act and the Architects Act*, which brought sweeping changes within a four-month period of his term.

Of course, change is to be expected in any organization as it grows, learns and adapts – something with which Allan is all too familiar.

"A lot of things have changed since my first term as president, which is good. Even with the changes that I have seen since coming back to Council, I feel a lot more comfortable with my role as president now than I did in October of 2004. I did learn in my first term that the year is short. There will be enough distractions throughout the year, so to be successful, I need to pick one thing and do it well," he said.

And Allan is definitely honed in on what that "one thing" will be – governance. While Council determined what its focus would be for 2022, governance is a subject matter with which Allan is not only knowledgeable, but also deeply passionate about.

"I consider myself to be a student of governance. I am well versed in the Carver system of Policy Governance®, which is the system that we use today. I certainly know its benefits and shortcomings," he said. "I hope by the end of my term that Council will make progress in improving its governance."

While governance may be a passion for Allan, his dive into the world of engineering didn't quite start with concepts so lofty. Rather, his beginnings were in the field of telecommunications as a technician in Edmonton and The Pas for CNCP Telecommunications, now known as Allstream. Allan later returned to Red River College (now known as Red River College Polytechnic) where he completed studies in computer technology, and from there, began his studies in engineering, graduating in 1985 from the University of Manitoba Price Faculty of Engineering with a BSc in Computer Engineering. Since then, Allan has not looked back.

After being offered a job in 1986 at the now-defunct Applied Applications of Microelectronics Centre, Allan worked on several projects for the company. It was his introduction to work on high-voltage power lines that sparked not only his interest, but came to be a defining factor in the future of his career and his later move to Manitoba Hydro in 1988. Since then, he has been working on high-voltage transmission studies and currently leads a group which determines how much power can be moved around the province and imported or exported to Ontario, Saskatchewan, and the USA. His career has taken him to places like Saudi Arabia and Tajikistan. All of these experiences have brought Allan full circle to where he is today – about to serve his second term as president, and ready to tackle the Association's challenges.

"The main challenge that the Association faces is the same challenge that it had when I was first on Council – that is keeping ahead of the changing needs of the public," he said. "The topics may be different today than they were 15 years ago, but Council's solutions are the same."

And those solutions, Allan firmly believes, lie in governance.

"Council must have the best governance it can in providing the high-level direction for the staff and volunteers, and be able to monitor the outcomes to make sure those goals are achieved," he said.

While Allan may be winding down his professional career with his children now grown and the ability to work flexible hours, he shows no signs of slowing down.

"I will likely retire shortly after leaving Council. I have made a commitment to the APEGM Foundation, Inc. to help with fundraising," he said. "Fundraising is something that I have studied, being involved with many stewardship projects."

Allan also hopes to volunteer at Seven Oaks or Maples MET School and continue in his role as a mentor to students, which he has done for the past five years, where students work with him on Tuesdays and Thursdays during the school year.

All in all, Allan has reaped the rewards of a long and productive career, that he, no doubt, would not change for the world. It's something that he admits that he can't take all the credit for, however.

"I get great satisfaction when my team is able to provide support to the control centre during storms and to provide them the operating information that they need to minimize outages when transmission lines are on the ground, or a piece of equipment has failed and we have to develop risk-tolerance strategies in real time to try and make sure that everyone has power. It is an awesome responsibility and one that my team makes me look pretty good doing," he said.

2021 Annual General Meeting

ENGINEERS GEOSCIENTISTS MANITOBA

On October 14, 2021, Engineers Geoscientists Manitoba hosted its second virtual Annual General Meeting. Attendees from across the province participated from their offices, homes, or wherever they chose.

Here's a behind-the-scenes view of the 2021 AGM.

Congratulations

to the following members on their election to Council:

Kathryn Atamanchuk, P.Eng., FEC

Mike Houvardas, P.Eng.

Eric (Xueming) Yang, P.Geo.

Céline Rivard, EIT

MEET THE NEW MEMBERS OF COUNCIL

Kathryn Atamanchuk, P.Eng., FEC

Elected Councillor (2021-2023)

Degree(s) and Discipline: MSc Biosystems Engineering, MBA, BSc Mechanical Engineering

Years of Experience: 22

Area of Practice/Sector of Work: Aerospace and academia

Employer: University of Manitoba

Why I choose to serve on Council: I enjoy the learning and opportunity that comes from service work. There is a real sense of accomplishment that comes from seeing organizations evolve through the work of supportive and innovative volunteer teams. I also value the privilege of self-regulation of our professions and want to do my part to ensure that we govern to the best of our abilities.

My biggest asset: I'm not afraid of a challenge. I value hard work and enjoy questioning the status quo.

Mike Houvardas, P.Eng.

Elected Councillor (2021-2023)

Degree(s) and Discipline: BSc Mechanical Engineering

Years of Experience: 36

Area of Practice/Sector of Work: Consulting engineering

Employer: Tower Engineering Group

Why I choose to serve on Council: It's easy to take for granted the work that takes place at the administrative level. I felt that it was important for me to learn more about the process and to hopefully contribute to it based on my experiences, both professional and personal, over the years.

My biggest asset: In addition to my experience in the consulting industry and business ownership, I have served on other boards, including American Council of Engineering Companies, and volunteered in many community construction projects working with diverse groups of people.

Eric (Xueming) Yang, P.Geo.

Elected Councillor (2021-2023)

Degree(s) and Discipline: PhD Economic Geology

Years of Experience: 35

Area of Practice/Sector of Work: Public sector geosciences

Employer: Manitoba Geological Survey, Department of Agriculture and Resource Development, Government of Manitoba

Why I choose to serve on Council: I have over 30 years of experience in geosciences, academia, mining industries, and public sectors. I understand the challenges the geoscience profession faces in this rapidly changing world. I think the Association requires reform to attract more members and a new generation of young professionals. I was drawn to serving on Council to contribute more to the Association, society, and the promotion of the profession.

My biggest asset: I have a strong academic background, a broad range of experience, and a deep understanding of the geoscience profession, and work well with others.

Céline Rivard, EIT

Elected Councillor (2021-2023)

Degree(s) and Discipline: BSc Civil Engineering

Years of Experience: 4

Area of Practice/Sector of Work: Structural/hydro-structural engineering

Employer: KGS Group

Why I choose to serve on Council: I've had great experiences on various councils during my high school and university years and enjoy volunteering my time to make a positive impact on the future of engineering in Manitoba.

My biggest asset: I have a strong work ethic and enjoy communicating and collaborating.

SCRUTINEERS REPORT

The ballots on the voting for the by-law changes were counted in accordance with the Association's By-law 16.6.10 on Friday, October 8, 2021.

BY-LAW PROPOSALS	PASS/FAIL	FOR	AGAINST	ABSTAINED
By-law 4 and 16: Length of Voting Periods	PASS	983	51	73
By-law 6.5: Public Interest Review Committee	PASS	879	123	105
By-law 13 and 16: By-law Proposals and Member Engagement	PASS	915	94	98
By-law 15.2.2: Communications and the Registrar	PASS	930	71	106
By-law 15.3.5: Directions and Practice Notes	PASS	942	75	90
By-law 15.3.6: Formal Caution becomes Charge	PASS	865	119	123
By-law 15.6: Appeals of Discipline Decisions	PASS	878	121	108
By-law 15. 7.6: Records, Confidentiality and Release of Information	PASS	857	135	115

Filipino Members Chapter Celebrates 10 years

Ten years ago, a handful of professional engineers and interns felt the need to help those in the Filipino community achieve their dreams of being recognized as professional engineers in Canada. It was out of this necessity that the Filipino Members Chapter was founded, through the guidance of the Association. The Filipino Members Chapter is focused on the needs of current and would-be members, and is the conduit for information for aspiring and internationally educated Filipino engineers and geoscientists. On August 11, 2021, the Chapter celebrated its 10th anniversary.

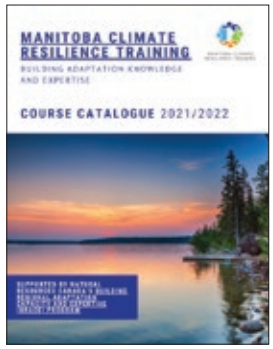
Initially, the Chapter had planned to celebrate this milestone with some flair, but due to continued COVID-19 restrictions, the Chapter chose to commemorate its anniversary by reviewing, voting, and adopting changes to its by-laws, creating additional content for the Chapter's website (*www.fmc-egm.ca*), and promoting EngGeoMB's 30 by 30 initiative, which highlights women engineers and geoscientists within its ranks, organizing 10 professional development seminars throughout the year, and participating in the Manitoba Filipino Street Festival in order to provide information on pursuing professional licensure. While all these initiatives provided value for the Chapter's members, the most rewarding among them was the efforts to recognize frontline healthcare workers. Members, accompanied by their families and friends, created cards, signs, and gift packages for the healthcare workers at St. Boniface Hospital. These items were hand-delivered and distributed as a token of appreciation for their hard work and sacrifice.

The Chapter has grown to 183 members, including interns, professional engineers, and professional geoscientists. There are an additional 83 student members, which the Chapter relies on for resourcing volunteers who help with organizing and executing programs and projects. Chapter ambassadors who communicate with clients in face-to-face settings to provide guidance found their efforts limited by the pandemic. Unphased, the Chapter resorted to virtual meeting platforms, telephone calls, email, and social media chat. The Chapter encourages more Filipinos, especially those who plan to and/or have recently relocated to Manitoba, to pursue their dreams of being recognized as professional engineers or geoscientists.

Gerard Batara, P.Eng., MBA, who helms the Chapter, had, at its inception, provided the Executive Committee with a list of ambitious goals it had planned to undertake. Currently, the Chapter is on track and will soon launch the Bridging Seminar and 2021 Scholarship. It has remained diligent, delivering on its commitments above and beyond. Committee members include Kresta Zumel, P.Eng., as Vice-Chair, Maria Karla Pascual, EIT, as Secretary, Melissa Pasahol, EIT, as Treasurer, Ramon Anthony de Guzman, EIT, and Reynaldo Ramos, EIT, as members, and Norman Padilla, EIT, as an ex-officio member.

"I saw potential in this team after our first meeting. I felt their commitment to raising the bar for the Chapter," said Gerard. "We are so thankful that the Association has supported us in our endeavours."

BRACE/Manitoba Climate Resilience Training Suite of **18 Courses Announced**



Building Regional Adaptation Capacity and Expertise (BRACE) is a five-year (2017-2022), $18 million Natural Resources Canada initiative, delivered in Manitoba by Manitoba Conservation and Climate. In 2020, the Association was the successful proponent for a project developing and delivering sectoral training for engineers and other infrastructure professionals and decision-makers by March 31, 2022.

The BRACE Project Team is pleased to announce that a Foundational and Infrastructure path of nine recommended courses will be offered to all practitioners and decision-makers at no charge in early in 2022. These courses were developed following several engagement sessions and a survey of Engineers Geoscientists Manitoba practitioners, which identified training priorities. Each course is 60 to 90 minutes long, and will be offered through Zoom meetings. In total, 18 courses are being offered through the Manitoba Climate Resilience Training (MCRT) project's integrator, the International Council for Local Environmental Initiatives, and its four sectors. These sectors include Infrastructure, Northern Business (led by Dillon Consulting), Indigenous, and Planning. Association practitioners are free to take any of the 18 courses. The Foundational and Infrastructure path of courses is laid out in the schedule below.

These three infrastructure courses are being developed and delivered directly by the Association's BRACE Project Team:

Infrastructure Climate Risk Assessment – Featuring the PIEVC Process

January 26, 2022, 12:00-1:30 p.m.

Designing or building infrastructure to last? Using Manitoba-themed example projects and case studies, this course will provide Public Infrastructure Engineering Vulnerability Committee (PIEVC) tools to conduct climate risk assessment on infrastructure systems. Facilitated breakout sessions will guide attendees in conducting a sample assessment.

An Introduction to Climate Change through Codes, Standards, and Regulations

February 9, 2022, 12:00-1:30 p.m.

Learn how codes, standards, and regulations are changing to ensure that our new infrastructure is best prepared for climate changes. This introductory session is presented in collaboration with Red River College Polytechnic and codes, standards, and regulations experts.

These infrastructure types will be addressed through the course and in breakout sessions:

- Buildings:
  - Examples for energy codes, flood risk, snow loads
- Transportation
  - Infrastructure (asphalt codes, winter roads)
  - Vehicles and fuels (charging, biofuels)
- Water and wastewater management
  - Examples for natural flood mitigation, dikes and water diversion, drainage
- Utilities – Electrical and Natural Gas
  - Examples for flood and drought

Nature-based Infrastructure Solutions to Enhance Resilience

February 9, 2022, 12:00-1:30 p.m.

Using local Manitoba- and Canadian-themed project examples and case studies of natural infrastructure, this course will provide a basic understanding of the use of sustainable, natural infrastructure and development of innovative solutions to build resilience to climate change.

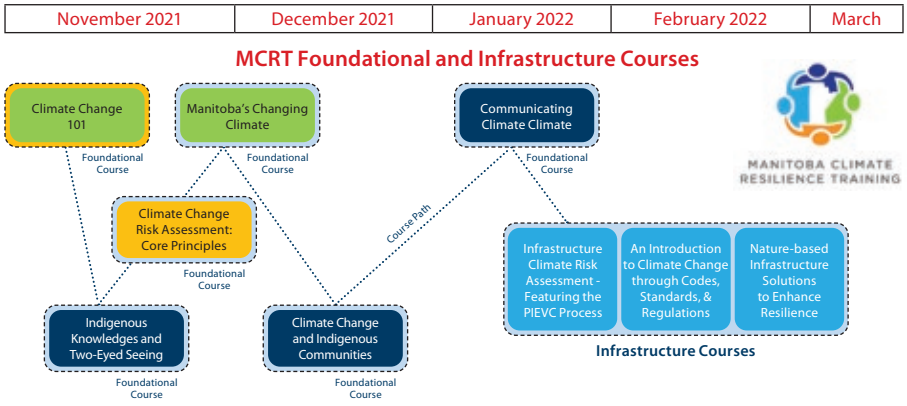
The course will also introduce and describe measures businesses can consider for potential implementation for climate impact reduction to property, assets, and operations. This course is being delivered in collaboration with the International Institute for Sustainable Development (IISD).

The Association's BRACE Project Team will also be offering a Climate Change Primer Session to answers any questions raised after the recommended prerequisite courses, which are Climate 101, Indigenous Knowledges and Two-Eyed Seeing, Climate Change Risk Assessment Core Principles, and Manitoba's Changing Climate – Monday, January 24, 2022, 12:00-12:45 p.m.

Registration is open on the MCRT website (*www.mcrtproject.ca/courses*), along with the full catalogue of courses.

Should you have questions or recommendations about BRACE/MCRT, send your inquiries to *GR@EngGeoMB.ca* to be forwarded to any of the project team members:

- Curt Hull, P.Eng., Project Manager
- Jeff O'Driscoll, P.Eng., Technical Advisor
- Scott Sarna, Director of Government Relations, Engineers Geoscientists Manitoba



Back on the Green for the 17th Annual Making Links Engineering Classic

While we were unable to host our tournament in 2020 due to pandemic restrictions, we were happy to welcome participants back to Quarry Oaks on August 19, 2021, for the 17th annual Making Links Engineering Classic (MLEC) golf day. There were 176 golfers on the links for a day of golf, prizes, and an opportunity to network with fellow professionals.

It was a beautiful day in Steinbach without a cloud in the sky, creating ideal conditions for putting, chipping, and hole-in-one contests.

This year, we raised over $18,000 in support of the Price Faculty of Engineering at the University of Manitoba. As always, the event would not be possible without the generous support of our sponsors. Congratulations to the winning team from WD Industrial Group!

The Making Links Engineering Classic organizing committee would like to thank all players and sponsors for their generous contribution to the 2021 MLEC golf day, and for the support of the Faculty of Engineering.

Thank you to our sponsors!

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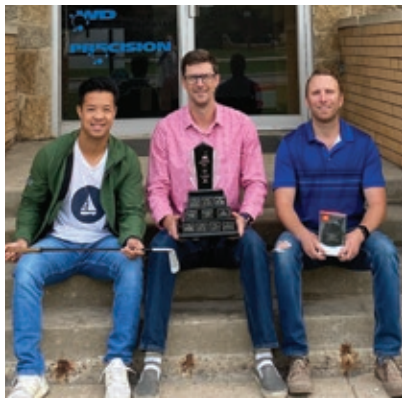

WD Industrial Group was the winner of this year's MLEC event.

Friends of Engineering
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KidSport
Lafarge
Little Pizza Heaven
MLT Aikens, LLP
PCL Construction Canada, Inc.
Proforma TouchStone
Standard Insurance Brokers
The Personal Insurance Company
Wanless Geo-Point Solutions, Inc.
WD Industrial Group

Welcome New Members

K. Abbasnezhadi
L. Abousaeidi
J.B. Acri
E.A. Adejumo
A.U. Afuberoh
D.J. Antoniuk
T.G.J. Arnal
K.D. Beach
C.J. Beaudette
T.T. Beck
P. Beiraghdar
A.V. Bharadwaj
T.M. Bianchini
K.G. Blackwell
B.L. Blight
R. Bonici
S.H. Bootimar
C.R. Bradley
D.G. Brule
P.A. Bucknor
C.C. Chan
W.Y.D. Chan
A.K. Chatterjee
X. Chen
K.C. Cheston
B.G. Clifford
M.R. Coates
B.C.J. Cornelsen
S.E. d'Auteuil
P.A. Daigle
M.R. de Regt
D.S. Demski
J.R. Doka
L. Dorion
J.D.W. Dunn
S. Faraz
G.J. Forbes
W.R. Franklin
J.T. Friggstad
W.D. Gagnon
S. Gerami
C.F. Gravelle
C.M. Gugins
B. Halabieh
L.J. Hamilton
M. Heggadadevanapura
Thammaiah
T. Hoffmann
R.J. Hogervorst
S. Hosseinzadeh
M.W.K. Howard
O. Hryntsiv
P. Jabari Barjesteh
Z. Javed
A. Kavoosi
M. Kia
K. Kodihally
Nanjundeshaiah
P.R. Lagasse
H. Lam
M.S. Langan
A.O. Lasisi
B.W.C. Leung
K.N. Levesque
P.C. Lightfoot
J.R.S. Lim
J.D. Lind
M. Locatelli
D.B. Loomer
J.B. Mackinnon
M.R. Mahboob
S.L. Mahmood
A.A. Mark
B.J.P. Maryniuk
K.T.G. May
K.T. Meese
I.T. Menzies
J.A. Messer
J.S. Milne
M.S. Mirzaeian Tafti
D.T. Morikawa
C.D.C. Murray
D.T. Mutombo
P.D. Nardini
V.V. Nataly
R. Nawaz
M.T. Newman
J.B.Z. Ng
E.A. Ntep Ngue
K.B. Orpen
G.A. Ortiz Sarkis
R.E. Peters
S.D. Petrus
A. Pinkos
B.A. Poirier
S.D. Portier
J. Ratelle
C.F. Redoblado
C.R.M. Ridd
J.J. Riese
P.C. Rusch
F. Saadatmand
A.J. Sanchez Verdugo
D.J. Sandison
T. Sassine
S. Shahabi
L.R. Sharkey
M.L. Shield
J.A. Simoes
S.L. Smith
J.L. Stepan
S.D. Symons
W. Taha
H.S. Tang
R. Thakur
M.S. Toulabi
L. Unruh
H. Van Hove
J.G. Vanderwees
J.A. Vasquez Ojeda
M. Venegas Montanez
M.E. Walters
J.G. Wang
Z. Wang
G.A. Ward
C.G. Watson
P.V. Williams
M.A. Wright
H. Wu
D. Yan
J. Yaworski
V. Yeung
P. Zou
T. Zure

Interns

I.J. Abbott
M.M.S. Abdelrahman
T. Ahmed
A.O. Akingba
M. Ashiri
K.M.J. Atwood
B.B. Ayumu
Z. Bachari
L.K. Bal
R.P.S. Bamrah
J.A. Bergen
T.C.L. Boschman
B.J. Boswick
L.M. Bridgeman
C.K.H. Chan
X. Chen
Z. Cheng
B.A.A. Dahroug
P.S. Deol
R.M. Doucet
A.A. Freiling
M.R.C. Gamallo
B.C. Ganetsky
J.A.L. Ganter
B.A.R. Gates
S.A.R.P. Geary
B.J. Gilmour
P.T. Goernert
J. Gonzalez Suarez
C.F. Gray
E.M. Guillermo
W.K.S. Heard
G.C. Henderson
W.J. Hydrochuk
O. Igbinosun
B.J. Illchuk
M.J.D.G. Ines
K.B. Isaak
M.J.A. Isfjord
D. Jin
G.P. Johnson
M.R. Johnson
J.K.I. Kaskiw
S. Kazembakhshi
A.J.A. Keena
J. Kim
H.F. Koksel Ustundag
R.W. Kozakewich
J.J. Krizak
G. Kucukaytac
G. Li
M.G.L. Linares
L. Lobato Ribeiro
C.D. Lytwyn
R.A.A. Malik
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C.I. Neustaedter
M.C.C. Nirza
O.A. Okedairo
M.G. Oladokun
S.B. Olson
P.O. Onakpoya
D.V. Ouma
M.A. Palomera
J.B. Parekh
G.C. Patriarca
M. Peters
S.D.A. Pigeau
R.D. Piper
A.B. Prajapati
P.H.Y.S.H. Premarathna
T.W. Proteau
D.K.L. Purificacion
Z.I. Qassim
B.R. Rajapaksha Thusewnambi
K.M. Ramos de Sena
S.B. Rempel
J.E. Robertson
R.J.V. Robillos
D.E. Ruchkall
K.M. Sachvie
S. Sahraei
S.P. Scammell
M.B. Sebane
T.M. Semenchuk
D.M. Shah
N.M.D. Skorpad
H.K. Smagh
A.A. Smith
D.M. Steen
J. Tayactac
O. Tenggara
H. Thaker
M.K. Thimmaiah
R.E. Toews
R. Tripathi
P. Trokajlo
B.N. Twilley
M.A. Uehara
E.T. Upgang
J.J. Verana
J.D. Vielfaure
A. Wang
W. Wang
B.C. Whyte
R.A. Wrublowsky
X. Wu
Z. Zhu

Licensees

I.N.I. Alshawi
J.R. Church
S.W. Hester

In Memoriam

Monte Barrett Raber
Kenneth J. Puckall
Stanley Henry Nowak
Ruth Johanna Eden
Pei Wang
Zachary John Wolff

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Freedom of Speech

Can a professional regulator discipline a member simply for something they say? What if the statement is unrelated to their practice? The answers to these questions are not straightforward, but some of the decisions that have been made in Canada on this issue may surprise a lot of engineers and geoscientists.

Like most regulators, our efforts for ensuring professionalism focus considerably on the Code of Ethics.

Unskilled practice or professional misconduct – 46(1)
Conduct of an investigated person that in the opinion of the panel
(a) is detrimental to the public interest;
(b) is conduct unbecoming a professional engineer or professional geoscientist;
(c) is misconduct in the practice of professional engineering or professional geoscience;
(d) contravenes this Act or the by-laws or the code of ethics adopted under section 11;
(e) displays a lack of knowledge of or lack of skill or judgment in the practice of professional engineering or professional geoscience; or
(f) demonstrates incapacity or unfitness to practise professional engineering or professional geoscience or demonstrates that the person is suffering from an ailment that might, if the person is allowed to continue to practise professional engineering or professional geoscience, constitute a danger to the public;
constitutes either unskilled practice of professional engineering or professional geoscience or professional misconduct, or both, as the panel finds.

This foundational piece of our legislation is, indeed, important. As such, the majority of our disciplinary decisions cite an infraction from the Code.

Astute practitioners will note that the Code of Ethics is restricted to actions undertaken while practising professional engineering or professional geoscience. As such, it can't apply to statements made publicly outside of work. However, the definition of professional misconduct or unskilled practice in our Act is broader than (lack of) adherence to the Code.

The application of the Code to a disciplinary review is in Section (d) of the definition of professional misconduct. The rest of the definition does not rely on the Code. Section (b) in particular speaks to the issue of "conduct unbecoming", which, in turn, can include elements or actions that:

- call into question the character of the individual, or
- negatively impact the reputation of the professions.

Of course, when the issue at hand is statements made publicly, many will point to the *Canadian Charter of Rights and Freedoms* protection of freedom of expression. Unfortunately, some think that this charter right is absolute. It is not, and there is direction of instances where freedom of expression is not granted. These include expressions of violence and expression by public servants. (Charterpedia - Section 2(b) – Freedom of expression (justice.gc.ca)

Those restrictions apply to all citizens in Canada. For professionals, the bar is higher.

In a case just this year, the courts in Ontario reviewed a disciplinary decision made against a Justice of the Peace for an editorial letter they wrote (*https://canlii.ca/t/jj90l*). In the original decision, the professional was disciplined for calling the bailing into question, stating that inappropriate methods and inappropriate language were used. The Justice of the Peace appealed to the courts citing that their charter right to freedom of expression. The courts dismissed the appeal.

This does not mean that a professional regulator can limit public statements in all instances. By contrast, in the Strom case from Saskatchewan (*https://canlii.ca/t/j9z2w*), the nursing regulator also disciplined its member for publicly criticizing the long-term care experienced by a family member. In that matter, the courts set aside the disciplinary decision.

The common theme in these cases is recognition of the fact that professionals still retain their charter right to freedom of expression, but that this freedom must be balanced against the need to:

- ensure that individuals are of good character, and
- maintain public confidence in the profession, as well as public institutions and systems.

A fantastic summary on this issue can be found in the Strom case noted above. Even though the Court of Appeal set aside the original disciplinary decision, they noted that:

"Becoming a member of a regulated profession comes with benefits but at a cost. Those who sign up as doctors, nurses, lawyers, engineers, or any other of the regulated professions that crowd the statute books choose to subject themselves to the requirements, rules and processes imposed by legislation, to applicable codes of conduct and professional standards, and to the authority of the regulator. It is entirely legitimate for a professional regulator to impose requirements relating to civility, respectful communication, confidentiality, advertising, and other matters that impact freedom of expression. Failing to abide by such rules can be found to constitute professional misconduct."

As always, I appreciate comments and discussion about standards issues. If you'd like to talk about the above topic or any other area of concern, please do not hesitate to contact me at: *MGregoire@EngGeoMB.ca.*

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