THE KEYSTONE PROFESSIONAL

THE OFFICIAL PUBLICATION OF **ENGINEERS GEOSCIENTISTS MANITOBA**

WINTER 2022

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THIS ISSUE

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ENGINEERS GEOSCIENTISTS MANITOBA

WINTER 2022
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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 original lands of the Anishinaabe, the Nehiyaw, the Oji-Cree, the Dakota, and the Dene Peoples and on the homeland of the Métis Nation.

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ENGINEERS GEOSCIENTISTS MANITOBA

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FEATURES

DEPARTMENTS AND COLUMNS

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The Keystone Professional,
Engineers Geoscientists Manitoba,
870 Pembina Highway, Winnipeg, MB, R3M 2M7
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PRESIDENT'S MESSAGE

IAN SMALLWOOD, P.ENG.

CHARACTER IN LEADERSHIP

With the recent passing of Her Majesty, Queen Elizabeth II, the general consensus is that she will be remembered as a 'good' leader, even among those who have issues with the monarchy itself as an institution. The length of her reign was notable but, in remembering her, people inevitably describe her character rather than her accomplishments.

I never met the Queen personally, but hearing from people who did have first-hand interactions with her got me thinking about her character and why people are remembering her fondly. While her leadership was largely ceremonial rather than practical, it got me thinking about what makes up the character of a good leader generally.

There is a saying that a person is defined by their actions. While this is true, I believe the character of a leader comes through by how those actions occur. A leader may accomplish a great thing for their own glory, but if many people are negatively impacted in the process, what does that say about said leader's character?

Upon reviewing past leaders who have generally been regarded as having good character in leadership, there a few things I've noted that stand out:

A leader, above all else, should truly care about every single person they serve. This means all people, even those who they find themselves in conflict with. A leader must not only like those who like them back, but must seek ways to understand and reconcile with those who do not. A leader who does not truly care about all the people entrusted to them will likely start making decisions based on favorability rather than what's the greater good for the whole.

A leader will inevitably have to deal with conflict. Every leader will have to externally mediate conflict between two or more parties only, and internally mediate conflict between a party and the leader himself/herself. In either case, the leader must show overwhelming sympathy and grace to all sides because that party's position is valuable to them regardless of whether the leader personally agrees with it or not. I believe the worst way to mediate a conflict is to be dismissive to one or more parties without being sympathetic to their feelings.

A leader must seek wisdom in any decision-making process. I believe wisdom is made up of two key components: knowledge and experience. Any leader tasked with decision-making will be lacking somewhat in one or both of these components, therefore, it is a requirement of any great leader to seek the wisdom of knowledgeable and experienced people before a decision is rendered.

A leader ought to be humble. There is truth in the proverb, "Pride goes before destruction, and a haughty spirit before a fall." (Proverbs 16:18)

A leader must be genuine, not altering positions just to satisfy what a particular audience wants to hear.

A leader must be the 'one' responsible. Period. This means that after doing everything mentioned above, the leader must be willing to decide and be responsible for it, knowing it is impossible for all to be pleased. In actuality, the load of responsibility is shared, but the mindset of a leader should be one of sole responsibility. No leader should blame anyone else for a decision, but rather, accept all consequences personally.

It's obviously impossible to expand upon what makes up good character in leadership in a brief article such as this, but as professional engineers and geoscientists inevitably take on leadership roles within society, it's good for each of us to self-evaluate and ponder the things that have made previous leaders be looked upon favorably as having good character.

Feel free to communicate with myself or Council by sending an email regarding this, or any other topic, to **President@EngGeoMB.ca**. Member feedback is always welcomed and appreciated.

CEO'S MESSAGE

G. KOROPATNICK, P.ENG., FEC, CEO & REGISTRAR

I GOT THE COVID

Did you get infected with the coronavirus? Which one? Alpha B117, Delta, Omicron?[1] Perhaps you've had it more than once and experienced symptoms of different variants since it all began in 2020. Is it possible to catch the same bug twice? I'm not an epidemiologist, but I am asking a lot of questions after contracting the virus for the first time about six weeks ago.

It's a bit ironic that after more than two years of isolating and working at home, not travelling, getting all the vaccines, and following the protocols, the virus finally infiltrated my household. I thought we were in the clear. We had successfully avoided it all this time, despite many family members and friends near to us getting it once (and some twice).

ORIGIN

Where did it come from? I recall three possible scenarios from a period of ten days:

1. I sat with a person at an event and they tested positive a few days later,
2. My partner returned home from a first business trip to the United States and tested positive about two days later, and
3. I went to a reception and shook hands and gave a few hugs and about three days later, I tested positive.

IT WAS ROUGH

When I tested positive, the symptoms were consistent with those of my partner: headache, fever, muscle aches, and cough.

This virus was extremely tiring, like no other flu or cold virus I had previously experienced. Most days I had to stay in bed. It took about one week to feel relatively healthy again. However, the symptoms were numerous and varied. In addition to the flu-like symptoms, I experienced dizziness, sneezing fits, indigestion, and joint pain.

For one day, I experienced a bizarre symptom - loose knee joints. As long as I stayed sitting down, I was fine. But when standing, my knee joints felt like they were about to subluxate – aka dislocate. I tore the ACL in my left knee when I was 19 and I haven't felt that feeling since. Weird to feel it again in both knees. I almost wrapped my knees with athletic tape out of an abundance of caution. I didn't want to risk a re-tear, because of some "loose joint" virus-induced symptom.

VACCINES

I wonder how my body would've coped without the vaccines. Although we had to carefully manage the symptoms, never did I worry about hospitalization or dying. We never worried about our elderly parents, children, or grandchildren because we were all vaccinated with the latest doses.

I suppose it could've been very different without the vaccines.

In the early weeks and months before the vaccines were rolled out, many people were hospitalized and died. Even today, there are still people who are dying because of the coronavirus. I offer a BIG THANK YOU out to the epidemiologists, research scientists, lab technicians, and biomedical engineers – everyone in the supply chain who got us the vaccines so quickly.

In the early days of the pandemic, everyone thought that it would be over in a couple of weeks. Then the sentiment became – okay, it'll be over in a couple of months. Some were taking it with humour.

Did you see Mark Critch[2] of the popular CBC comedy show "This Hour Has 22 Minutes"[3] do the sketch of PEI Premier Dennis King giving the Covid update report? It was pretty funny.

CONDOLENCES

I realize that my experience personally and our extended family's experience, did not include anyone dying from COVID.

To those out there who suffered the loss of a loved one, friend, or colleague – our heartfelt condolences go out to you. Like World War II, there are stories of loved ones who are gone because of the pandemic and the terrible impact this worldwide event has had on people everywhere.

Stay safe and love to all.

FAREWELL

After 17 years as CEO & Registrar, I'm stepping down. It's been a great run, but it's time for someone else to lead the organization. I'm thankful to the Council for the opportunity of serving this historic, honourable profession. It has been a highlight of my career.

There have been many successes and accomplishments over the years and as one professional member said, "Grant brought the Association into the modern era". President Ian Smallwood accepted my notice of resignation with "sincere thanks for the years of faithful service". My last day in the office will be Friday, January 6, 2023. I am thankful and grateful to all the presidents, councillors, volunteers, and staff whom I've had the pleasure of serving with. I especially want to give a big "shout out" to the chapters. It has been wonderful to see you flourish. A special thank you to the Filipino Members Chapter who got it all started.

Once more, it has been a great run, thanks and love to all.

Your feedback is invited and welcomed. If you have any thoughts on anything you read in the KP please email me at **GKoropatnick@EngGeoMB.ca**.

Have a great day!

1 Source: https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-classifications.html
2 Source: https://www.cbc.ca/22minutes/cast/mark-critch
3 Source: https://gem.cbc.ca/media/this-hour-has-22-minutes/s28

NEW MANITOBA CLIMATE RESILIENCE TRAINING PROGRAM (MCRT 2.0)

BEING DEVELOPED AND DELIVERED IN 2022 - 2023

Engineers Geoscientists Manitoba is very pleased that it was successful in its application for grant funding from the Manitoba Government and has been awarded funding through the Conservation and Climate Fund for 2022-2023. This funding enables the Association to offer updated and new climate change training courses in the 2022-2023 Provincial fiscal year.

The new MCRT project builds upon the successful training of more than 430 engineers, geoscientists, and other infrastructure professionals in 2021-2022 through the BRACE 1.0/MCRT Project. That training focused on understanding the climate change basics, "Climate Change 101", as well as on climate change adaptation techniques and tools for use in infrastructure projects.

The aim of the 2022-2023 MCRT project is to provide engineers, geoscientists, and other infrastructure professionals and stakeholders with advanced knowledge and skills in climate change mitigation, which will integrate climate change solutions in infrastructure design. Engineers, geoscientists, and others will have increased capacity to use current and future climate information and data in their analysis, planning, and decision making. This increased capacity will result in infrastructure designs that protect the public from extreme weather and reduce carbon emissions.

Another anticipated outcome of the project is increased collaboration between stakeholders in Manitoba and across Canada, fostering a strong community of practice, knowledge, and expertise.

The Association is committed to updating and redelivering the three courses that were previously offered in 2021-2022:

- Infrastructure Climate Risk Assessment (PIEVC Process),
- Climate Change as it Impacts Codes, Standards, and Regulations, and
- Nature-based Infrastructure Solutions that Enhance Resilience.

In addition, new courses will be developed and delivered.

The following subjects are under consideration for course development, subject to confirmation through engagement activities, to confirm that these subjects are currently the most critical for practitioners and stakeholders and in consultation with the project's Indigenous Advisor:

- Climate Change Mitigation Solutions,
- Green and Natural Infrastructure Innovative knowledge,
- Flood and Drought Mitigation,
- Clean Technology and Green Economy,
- Climate Information Interpretation,
- Energy Modelling.

THE ROAD AHEAD

The team executing this project consists of:

- C. Scott Sarna, Director of Government Relations
- Suling Dong, Administrative Assistant, Government Relations
- Curt Hull, P.Eng., Project Manager, MCRT Project
- Soffia Baragar, Research and Policy Analyst, MCRT Project
- Monika Franz-Lien, Project and Communications Coordinator, MCRT Project

A project working group of Association practitioners and other infrastructure professionals was established to guide content development and course delivery, participate in marketing of the program to their professions and contacts, and advocate for the project. This group was built upon the membership of the previous BRACE Infrastructure Project Working Group and the previous Sustainable Development Task Group, and was supplemented through an advertisement on the Association's website for new volunteers.

An Indigenous Advisor was engaged to provide insights into Indigenous perspectives towards climate change, in particular mitigation, and input into the content and delivery mechanisms for the courses.

Probe Research was engaged to develop a pre-training survey of our practitioners and stakeholders. The survey results and subsequent engagement discussions will inform the priority subjects for course development.

Research was conducted into current training available and identified training gaps.

It is anticipated that the three updated courses will be developed and piloted in January and delivered in February and March, and that one or more new courses will be piloted in March and delivered in April or May of 2023.

Should you have questions about MCRT or any recommendations for further Climate Change training, please send your enquiries or recommendations to **GR@EngGeoMB.ca**.

COMMITEE AND CHAPTER SPOTLIGHT

CHINESE MEMBERS CHAPTER

In 2013, an engineer in Winnipeg decided that they wanted to help engineers and geoscientists who are trained abroad, that is, engineers and geoscientists who start their new lives in Canada who deserve help to transition to this country as smoothly as possible.

The other goal that was established was to help young engineering and geoscience students develop their career paths through various group activities, functions, and networking opportunities, and thus, the Chinese Members Chapter was born with the intention of serving as such a platform, with several volunteers that were eager to make it happen.

"We want the members to feel that they can count on us when they are in need of help such as career development, networking, registration process, and so on," says Jovian Yang, EIT, Vice Chair of the Chinese Members Chapter.

Over the years, the chapter has slowly, but steadily, grown. As of November 2022, there were 188 members of the Chinese Members Chapter. Though the 2020 pandemic affected most meetings the chapter held, and, to this day, most of the members are still reluctant to attend in-person events, connection, compassion, and community are still very important factors that are at the centre of the chapter as a whole, and it's always been like that since the beginning.

"We've seen less gathering or offline events since COVID; it's hard to attract more participants via virtual meetings. We are starting to have more off-line events this year, and we can see people are coming back," says Yang.

"Our goal is to continue to inspire more women to become engineers," he adds. "And we are hoping to organize more events, both on and offline, to help those in need".

Currently, the chapter has been working to organize an event for its female members. This particular event is designed for members who are women to share and inspire each other with their stories and experiences on their ways to becoming engineers, in the hopes of inspiring other women to pursue the path of engineering and STEM.

"Another event we are going to roll out soon is called 'Little Engineers', where kids and their parents can design future transportation tools that only use recycled materials. The purpose is to bring their awareness to environmental protection while, at the same time, building and constructing educational engineering projects," notes Yang.

While short-term plans involve future meetings, professional development opportunities, and more, the original reason that the Chinese Members Chapter was founded in 2013 still rings true to this day:

"We are hoping to inspire more and more members to help people in need with their problem-solving skill sets," says Yang.

"But we also want to help those newcomers be successful in Canada so that they can, in turn, help those who come to Canada after them".

Chinese Members Chapter trail hiking event

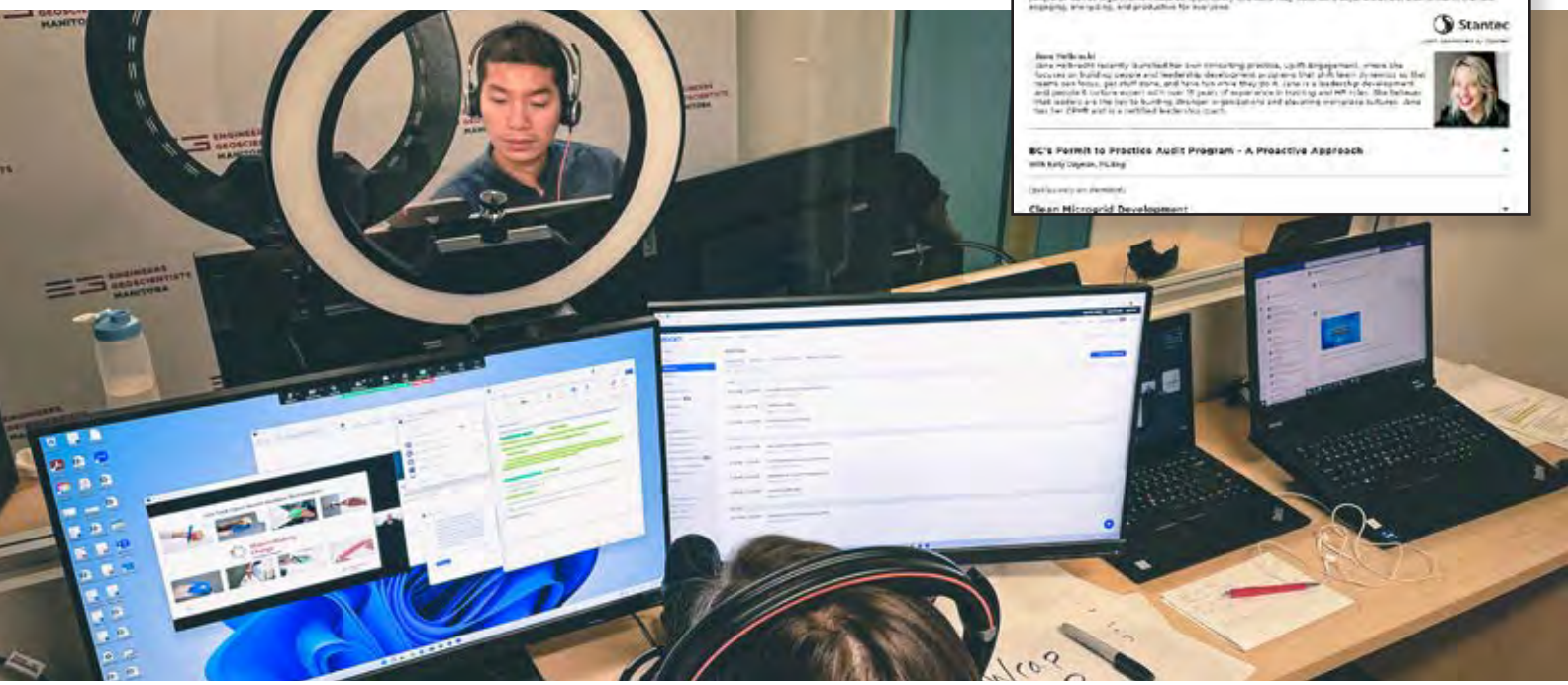
INGENIUM 2022 RECAP

From Tuesday, October 25, 2022, to Friday, October 28, 2022, the Ingenium virtual professional development sessions ran daily between 9:00 a.m. and 4:00 p.m. Even though the conference is now over, over 1,500 minutes (26 hours) of content is still available on the Ingenium Hub! Exclusive on-demand and live session recordings are available for all Ingenium registrants to revisit until January 27, 2023. Registration is still available for access to the Ingenium Hub.

Our 2022 virtual conference yet again allowed practitioners and presenters to participate from anywhere in the world via their computer, continuing with the adapted four-day schedule that was developed two years ago. This adaptation allowed registrants to balance seminar sessions with their work commitments. Attendees were able to tune in to as many of the keynotes, wellness sessions, and seminars with live question and answer periods as they wanted.

Attendees who were missing the in-person lunch buffet of years past could also choose a locally catered lunch delivered at a subsidized cost thanks to our lunch sponsors, Stantec and Friends of Engineering.

We would like to formally thank our generous sponsors for their contribution to this year's Ingenium sessions. The Ingenium Task Group would also like to thank all the presenters and attendees of Ingenium 2022 for their support. The group is looking forward to planning Ingenium 2023: see you there!



Ingenium Task Group member Cee Nguyen, EIT, moderating a live session with EngGeoMB Events Coordinator Gemma Keatch running Ingenium from the Association office studios.

2022 AWARDS CEREMONY

On Friday, October 14, 2022, nine awards were presented to outstanding individuals at the Association's Annual Awards Ceremony. Masters of Ceremonies was Anders Boulanger, and music and entertainment was provided by the Big City All Star Band.

This year, a new award was also given out:, The Student Achievement Award. The Association would like to extend its congratulations once again to all of this year's award recipients!

For next year's Awards Ceremony, the Association is asking for members to submit nominations for the Team Achievement Award, the Innovation Award, the Diversity Employer Award, the Student Achievement Award, the Intern Award, the Early Achievement Award, the Judith Weiszmann Women in Engineering Champion Award, the Outstanding Service Award, the Leadership Award, and the Technical Excellence Award.

Your help supports the ongoing success of the awards program, and to ensure that Manitoba's most worthy engineers and geoscientists are recognized for their contributions to our professions and society.

The nomination deadline for next year's awards is February 17, 2023. The Student Achievement Award nomination deadline is May 8, 2023.

Look at the following pages to see all the award winners from 2022!

Association Awards Committee Members

L-R: G. Keatch, H. Turanli, P.Eng.(SM), FEC, J. O'Driscoll, P.Eng., V. Banthia, P.Eng., A. Aftanas, P.Eng., FEC, G. Lodha, P.Geo. (SM), FGC.

Missing: N. Chandler, P.Eng.(SM), FEC, N. Dhruve, EIT, K. Fritz, P.Eng., Q. Yuan, P.Eng.

2022 TEAM ACHIEVEMENT AWARD WINNER
MacDon FD2 Flexdraper

The FD2 Flexdraper® was conceptualized, designed, and ultimately manufactured at MacDon Industries Ltd. in Winnipeg, Manitoba. The FD2 combine header is a farm implement used to harvest a wide variety of crops in many countries around the world. The FD2 was developed to deliver increased harvesting productivity in response to a major shift in canola genetics in 2015 which allowed farmers to harvest their canola standing, rather than having to swath it.

Several patents were issued as part of the development of the FD2 Flexdraper®. The new ClearCut high speed cutting system with its patented geometry, 25% more cutting area and new knife drive system deliver up to 30% faster ground speeds. The new header frame accommodates industry leading 50 inch deep side drapers to ensure smooth crop flow increasing combine capacity up to 20%, especially beneficial in bulky crop conditions. The new header frame design allows for an increased flex range by up to 70%, which improves the ground following ability both on and off the ground for a more consistent stubble height and better crop gathering. This increase in flex range paired well with the ContourMax contour wheel system which provides the ability to hydraulically set cut height, in flex mode, anywhere from one inch to 18 inches off the ground. This can now all be done from the cab, on the go, making it easy and seamless for operators to maintain consistent stubble height. The team also developed a self-contained EasyMove Transport system, which requires less effort, and converts more quickly from field to transport.

The design of the FD2 was a joint effort between three separate MacDon design teams: Header, Float Module, and Transport Systems. Structural engineering analysis was conducted on the header frame to optimize strength while minimizing unnecessary weight. To keep weight to a minimum, aluminum materials were utilized, pushing the experience of the design team to provide adequate strength and appropriate wear properties. The knife drive was optimized utilizing MATLAB software to create cutting performance simulations. With the simulations, the team was able to determine the cutting geometry and minimize inertial loading to allow for higher speed cutting.

The designs were prototyped and tested; both in the lab as well as in the field by visiting hundreds of farms at various locations in Canada, United States, Europe, New Zealand, Australia, Brazil, and Uruguay. A MacDon test technician, who was generally an engineering student or recent graduate, travelled with the machine to report on any performance issues.

The impact of the FD2 is significant. In response to climate change and drought frequency, the FD2 maintains consistent stubble height to retain moisture in the soil for seed germination the following spring. The improvements in efficiency and performance results in lower fuel consumption, reducing greenhouse emissions and improving the bottom line for the farmer.

This product alone has challenged and elevated the experience of the MacDon engineering team, developing the skills needed to become world leaders in agricultural equipment design.

In recognition of the engineering excellence demonstrated in their innovative design and production of the FD2 Flexdraper, EngGeoMB is pleased to present the 2022 Team Achievement Award to MacDon.

2022 INNOVATION AWARD WINNER
GrainViz

The GrainViz project represents the evolution of electromagnetic imaging technology that generates a 3D moisture map of the contents of the grain stored in steel-walled container bins. This electromagnetic imaging concept was originally studied under the guidance of Professor Joe LoVetri by Ph.D. research students Colin Gilmore and Ian Jeffrey to detect breast cancer in a medical environment. At the suggestion of Professor Jitendra Paliwal, this concept was investigated and adapted to the grain imaging application.

Initial encouraging test results of the technology on the University of Manitoba grain storage research container motivated the group to seek commercialization and gave birth to the name GrainViz in 2017. The continuous research that spanned more than ten years involved two University of Manitoba labs, Electromagnetic Imaging and Grain Storage Research, working in collaboration with the start-up 151 Research Inc.

All aspects of the system, including the design and manufacture of custom hardware, development of novel algorithms, and imaging software were made possible by the unique collaboration between the two University of Manitoba labs with 151 Research, and ultimate partnership with multi-national agricultural conglomerate AGCO Corp since 2020. This has brought tens of millions of dollars to the Manitoba economy, has trained about 20 graduate students and several post-doctoral fellows and research associates, leading to a dozen academic publications and six patents.

By using the GrainViz system, managers can detect and prevent spoilage, as well as maximize the crop value by appropriately timing sales. This is estimated to have the potential to benefit Canada economically by hundreds of millions of dollars annually and has already generated 47 full-time equivalent jobs in Manitoba with a heavy emphasis on engineering and technical staff.

In recognition of the innovation, collaboration, and engineering excellence demonstrated in the GrainViz system, the Association is pleased to present the 2022 Innovation Award to Joe LoVetri, Ian Jeffrey, P.Eng., Jitendra Paliwal, P.Eng., FEC, Colin Gilmore, P.Eng., Mohammad Asefi, EIT, Braden Pierce, P.Eng., and Paul Card.

2022 DIVERSITY EMPLOYER AWARD WINNER
Dillon Consulting Limited

By prioritizing inclusiveness and diversity in the operation of their business, Dillon Consulting Limited has empowered their people by identifying and removing barriers to growth and development, attracting diverse talent, and encouraging new ideas and innovation, which has helped them stay competitive in their industry.

In 2020, Dillon created a three-year Inclusiveness & Diversity (I&D) Plan that focused on many areas of the business, including hiring and retention, career opportunities and development, training on several I&D topics, and corporate policies and procedures.

Dillon regularly supports educational institutions in their communities and the engineering and geoscience industry. They are a proud member of the Engineers Geoscientists Manitoba Engineering Changes Lives Provincial Steering Committee. Recognizing the lack of representation of women in engineering, this committee aims to increase the percentage of newly licensed engineers who are women towards the Engineers Canada goal of 30 percent by 2030.

To further this initiative of encouraging women in the field of engineering, Dillon has developed a partnership with BGC Winnipeg to provide annual workshops for teenage girls who might be interested in pursuing an engineering career.

Last year, Dillon launched SOAR Professional Services, an Indigenous-employee-owned planning, engineering, environmental science, and management consulting firm dedicated to supporting First Nations, Inuit, and Métis communities and organizations across Canada. The partnership between SOAR and Dillon provides a unique approach to Indigenous community development projects and allows SOAR to provide integrated solutions with the full contingent of staff between the two organizations.

Dillon is committed to furthering their understanding of what inclusiveness and diversity means to their business and to their staff, along with improving practices and procedures to achieve employment equity, diversity, and inclusiveness. Through this work, they hope to ensure that their workplace better represents and serves their clients and communities they work in.

In recognition of their commitment to advancing diversity within their organization, Engineers Geoscientists Manitoba is pleased to present the 2022 Diversity Employer Award to Dillon Consulting Limited.

2022 STUDENT ACHIEVEMENT AWARD WINNER

Crokibot 9900: The Design and Implementation of an Automated Crokinole-Playing Robot

The Crokibot is an innovative crokinole-playing robot that was created as a capstone design project by Skylar Greenslade, Kennedy Krakolovich, Ben Martin, and Jadon Peters, all in their fifth year of engineering at the University of Manitoba.

The Crokibot is a complex project consisting of three main modules: Crokinole board evaluation, shot planning, and shot execution.

For evaluating the Crokinole board, the team used a camera system and image processing tools to detect and locate crokinole stones on the board. Next, the shot planning module used heuristics and an appropriately tuned/modified physics simulator to evaluate shot outcomes. Finally, the shot executing module consisted of a custom 3D printed shot delivery and motor system for positioning the board and taking the desired shot. All three work together to create a complex system which puts up excellent competition.

The team kept the project within the given budget, even when the initial scope and feasibility of success was not clear. The team used all aspects of engineering from requirements gathering, designing, building, and finally validating the end design.

The future goal of Team G05 is to expand the Crokibot and turn it into an educational tool to teach STEM concepts to K-12 students. The team hopes students can use this tool to gain first-hand experience in physics, programming, artificial intelligence, and electro-mechanical systems.

In recognition of their innovative undergradute group project, Crokibot 9900, Engineers Geoscientists Manitoba is pleased to present the inaugural 2022 Student Achievement Award to Skylar Greenslade, Kennedy Krakalovich, EIT, Ben Martin, and Jadon Peters, EIT.

2022 INTERN AWARD WINNER

Katie Moist, EIT

Katie Moist, EIT, is a resident inspector and designer at KGS Group. Some of the projects that Katie has had an opportunity to be involved in are Wellington Crescent's extensive riverbank stabilization along the Assiniboine River, including a 1.2km long full corridor renewal with roadway and active transportation pathways, and the Eagle Creek Drainage System, which involved dredging a cherished pond system within the RM of East St. Paul adjacent to numerous homes and properties, managing sensitive public relations.

Katie is the founding chair of the Young Friends of Engineering, a networking group for emerging engineering professionals to give back to the Price Faculty of Engineering at the University of Manitoba. Additionally, Katie serves on the Engineering Changes Lives Provincial Steering Committee though Engineers Geoscientists Manitoba, reviewing and providing feedback on initiatives geared towards increasing the participation of women in engineering. Expanding on her work with the Engineering Changes Lives Provincial Steering Committee, Katie represents KGS Group on the 2030 Coalition Committee though Engineers Geoscientists Manitoba, sharing her experiences, implementing industry changes, and assisting in the support and retention of female engineering staff at KGS Group.

Outside of the engineering community, Katie is an active member of Athena Leadership, a registered non-profit with a vision to be Manitoba's most prominent leadership group that provides women with personal and professional development though connection, mentorship, and networking. Katie is an active leader and mentors multiple young engineers, providing them with guidance and advice on how to navigate the challenges in their budding careers and helping them navigate their road to success. Katie is also on the planning committee for the United Way Golf Tournament.

In recognition of her exceptional achievements while training as an engineer, Engineers Geoscientists Manitoba is pleased to present the 2022 Intern Award to Katie Moist.

2022 EARLY ACHIEVEMENT AWARD WINNER

David Amorim, P.Eng.

David Amorim, P.Eng., received his B.Sc. (Co-op Option with Distinction) and M.Sc. in Civil Engineering from the University of Manitoba in 2013 and 2016 respectively. David subsequently completed a Certificate in Project Management (Honours) from Red River College in 2019 and is a Project Management Institute certified Project Management Professional (PMP).

While completing his M.Sc. in the behaviour of ultra-high performance concrete bridge deck joints, David led student teams to back-to-back podiums in the international PCI Big Beam Competition and captained consecutive teams in the ASCE Student Steel Bridge Competition – both of which were the first entries from the University of Manitoba in many years. Today, David's initial six-student team that competed in the ASCE Student Steel Bridge Competition has grown into one of the largest student groups in the Department of Civil Engineering.

David has been employed with Dillon Consulting Limited since starting as a student in 2010. David is currently an Associate and Structural Engineer working on transportation projects across Canada, and is a licensed professional engineer in Manitoba, Ontario, Newfoundland and Labrador, Nova Scotia, Northwest Territories, Nunavut, and previously New Brunswick. David's career project highlights to date have been his roles as Project Manager and Engineer-of-Record for the Kingsclear First Nation Pedestrian Underpass – a structure designed and constructed in under 10 weeks in response to a fatal pedestrian-vehicular strike; Engineer-of-Record and Structural Contract Administration Lead for the Fermor Avenue over the Seine River Bridge Rehabilitation and Associated Works – a rehabilitation of a unique mixed steel and concrete girder structure; and the Structural Contract Administration Lead for the Waverley Underpass – one of Winnipeg's largest capital projects. In addition to his technical and project management roles, David has held several additional roles at Dillon, including Operating Team Manager for Dillon's Structures (West) operating team (2020-2021), and currently Operations Lead for Dillon's national Transportation Business Unit.

While growing his career at Dillon, David has been a Sessional Instructor in the Department of Civil Engineering at the University of Manitoba since 2016, having delivered Structural Analysis, Design Project (Capstone), and Introduction to Statics courses over the years. Beyond his professional roles, David is an active volunteer in the community, having previously been on the American Concrete Institute Manitoba Chapter Board of Directors serving as Secretary and Vice-President. Currently, David is a Board Member and Treasurer for Career Trek Inc., a not-for-profit organization and registered charity providing career-oriented programming in educational settings across Manitoba.

Furthermore, David has volunteered with Engineering and Geoscience Week activities, has delivered bridge engineering presentations to local schools, has volunteered at Siloam Mission, Winnipeg Harvest, and with Habitat for Humanity on countless occasions, regularly organizes hampers and donations for Christmas Cheer Board and Tags for Tots, and, as an avid cyclist, has fundraised thousands of dollars for worthy causes through various cycling fundraisers.

In recognition of exceptional achievement at the start of his career, Engineers Geoscientists Manitoba is pleased to present the 2022 Early Achievement Award to David Amorim.

2022 CHAMPION OF ENGINEERING EDUCATION AWARD

Dr. Donald Petkau, P.Eng.

Donald Petkau graduated from the Department of Agricultural Engineering at the University of Manitoba in 1985 before working as an Agricultural Manager with Roger's Sugar industries in Manitoba. He then moved to Agricultural Research and Development with the Prairie Agricultural Machinery Institute (PAMI) in Portage la Prairie where he managed a staff of engineers and technicians designing agricultural machines and completing engineering projects for three years. In this role, he also collaborated with researchers at the University of Manitoba and University of Saskatchewan to develop mechanical harvesting equipment for sea buckthorn berries. Don subsequently moved to MESH Technologies as Manager of Engineering, where he was responsible for the design and construction of a multimillion-dollar flax straw production plant for two years.

Don began teaching courses at the University of Manitoba in 2001 as a sessional instructor. In 2009, Don was hired into a full-time position in the Department of Biosystems Engineering at the rank of Instructor II. He successfully completed a PhD in engineering education in 2014 and was promoted to the rank of Senior Instructor. Since 2006, Don's primary teaching responsibility has been ENG 1430 Design in Engineering. Don is the coordinator for this core first-year course taught to approximately 400 undergraduate students every year. His expertise gained from this course was vital to the development of a new course on reverse engineering, which is now part of the package of the four compulsory

course “design spine” in the Department of Biosystems Engineering. Don had agreed to teach the final two courses of the design spine (i.e., the Biosystems capstone courses) virtually during COVID.

Don has regularly provided mentorship to engineering students belonging to the University of Manitoba’s Scale Tractor Team (UMATT). His advisory approach has contributed to the success and stability of this student-run team over the past decade. Under Don’s mentorship, UMATT has become a well-established, inter-disciplinary team annually representing the University of Manitoba with integrity and professionalism. The UMATT team has had a number of excellent showings at the annual competition, culminating in first place overall in the 2021 competition. Don also contributed to the supervision of SAE teams when the regular advisor was not available.

Don is involved in the promotion of a safety culture within the Price Faculty of Engineering and, during the summers of 2016 and 2017, he supervised co-op students to meet with the faculty to develop safe work procedures for undergraduate teaching laboratories and the research laboratories. Don continues to represent the safety culture which benefits all students graduating from the Price Faculty of Engineering.

In 2016, Don was the recipient of the Excellence in Engineering Education Award sponsored by the Faculty of Engineering and he received the CSBE/SCGAB Glenn Downing Award in 2017 in recognition of his outstanding work in industry and teaching in the area of power and machinery.

In recognition of Donald’s continued support, mentoring, and commitment to engineering students, the Association, together with the Price Faculty of Engineering at the University of Manitoba, are pleased to present the 2022 Champion of Engineering Education Award to Dr. Donald Petkau.

2022 JUDITH WEISZMANN WOMEN IN ENGINEERING CHAMPION AWARD WINNER

Kiera Young, P.Eng.

Kiera Young is the Senior Vice President, Customers, Products, and Services for MacDon Industries and is the first female Vice President in MacDon’s history. Kiera holds a B.Sc. in Mechanical Engineering from the University of Manitoba and has completed the Program for Leadership Development from Harvard Business School. Prior to joining MacDon in 2015, Kiera worked at StandardAero for 17 years as a Production Engineer, Engineering Manager, and multiple leadership positions including Director of Operations.

Kiera is a featured role model on the See it, Be it, STEM it website, which aims to increase the visibility of women in science, technology, engineering, and math (STEM). Through participation in the Committee for Increasing the Participation of Women in Engineering, she has also mentored young women who have chosen careers in STEM.

Kiera’s leadership principle is to lead by example. She believes that putting in the time and effort brings out the best in her, as well as the best in others. Kiera places importance on treating people with respect, and espouses listening before acting, bringing trust, honesty, and transparency to the problems at hand. Being outnumbered in gender has never influenced her decisions in a professional setting, and she is willing to take business risks and allow for a certain degree of failure. Kiera is effective both in managing the present and shaping the future, pushing the organization forward with long-term vision while executing tactically on short term goals.

Some of Kiera’s achievements at MacDon include being part of a core negotiation team signing a ten-year original equipment manufacturer partnership for MacDon, achieving fifty million dollars of new business wins in 2021, leading the development of the MacDon Growth Strategy, achieving year-over-year low double digit growth, managing a patent portfolio of over 450 global patents, established an Engineering Entry Leadership position to build technical leaders for the future, supporting the release of over twelve new products for MacDon since 2015, and establishing the MacDon Design Centre in Madison, Wisconsin.

Kiera has contributed to world-wide recognition of engineers from MacDon through evolvement of the company’s patent process, which has increased the visibility of the creative work shown by Manitoban engineers. Kiera was a keynote speaker at the 2018 Agricultural Manufacturers of Canada annual conference and at the 2022 Advancing Women in Agriculture conference. Kiera is a Member of Linamar (MacDon’s parent company) Diversity Council, as well as co-Chair of the MacDon Diversity Committee, and is active in the MacDon “Each 1 Teach 1” Mentorship program. She supports the University of Manitoba through speaking events and responds to all requests for advice on a future career in engineering.

Kiera is heavily involved in the Carman community, where she resides. Kiera has represented engineering within the rural community, which typically has few engineers, and serves on several professional and community-oriented boards and committees including Friends of Engineering, Vehicle Technology Centre, Agricultural Manufacturers of Canada, and Carman Skating Club.

Kiera Young has been recognized by MacDon as an exceptional leader with a strong corporate vision en route to becoming the company’s second highest ranking executive. Kiera has taken time to mentor other employees and help encourage and

support women within the engineering organization. Kiera's small-town roots and continued involvement in the family farm have given visibility to gender diversity in two industries, which in the past have been male dominated.

In recognition of a career of engineering accomplishments, being an exceptional role model for aspiring women engineers, and as a champion of the engineering profession, Engineers Geoscientists Manitoba is pleased to award the 2022 Judith Weiszmann Women in Engineering Champion Award to Kiera Young.

2022 OUTSTANDING SERVICE AWARD WINNER

Dr. Jitendra Paliwal, P.Eng., FEC

Dr. Jitendra Paliwal graduated with a bachelor's degree in Agricultural Engineering from G.B. Pant University in India in 1994 and completed his M.Sc. and Ph.D. in Biosystems Engineering from the University of Manitoba. He is now a Professor of Biosystems Engineering at the Price Faculty of Engineering and holds two Associate Dean portfolios (Graduate Programs and Academic) in the Faculty of Agricultural & Food Sciences. In addition, he is the faculty's Equity, Diversity, and Inclusion (EDI) Lead and currently serves on the university's EDI Task Force.

Jitendra initiated the development of an Imaging and Spectroscopy Laboratory in the Department of Biosystems Engineering in 2002. The laboratory uses non-destructive optical techniques to assess grain quality post-harvest. His first major project was in collaboration with Perten Instruments AB-Sweden (now Perkin Elmer), integrating visible and near-infrared (NIR) imaging modalities for the next generation of grain analyzers. Since then, Jitendra's research group has developed hardware and software solutions which are widely used by the designers of grain quality monitoring and assessment systems. His research team develops techniques to modernize and automate post-harvest handling and storage of grains, oilseeds, and pulses. These include low-cost NIR analyzers, integrated Raman-NIR instruments, grain bin monitoring systems, and techniques to detect precursors to spoilage by non-invasive electromagnetic imaging. One of his ideas to adapt a cancer imaging modality into a non-invasive grain monitoring system has been a major commercial success for Manitoba's engineering community. His engineering achievements have been documented in more than 106 peer-reviewed technical papers published in many international scientific journals. In addition, he has contributed a chapter each in six different books and presented his research results at conferences worldwide.

His research work has been funded through federal and provincial grants along with private corporations' research contracts exceeding ten million dollars. An important aspect of Jitendra's work has been to train the next generation of highly qualified engineers.; he has contributed to the successful completion of 96 student theses and has also supervised the work of 17 post-doctoral fellows and 3 research associates.

Jitendra is a researcher of international fame and holds an Honorary Visiting Professor appointment at the South China University of Technology, Guangzhou, since the year 2016. In addition, he has developed collaborative research exchange programs with Universities in the USA, Egypt, Nigeria, Ireland, Iran, China, and India. In collaboration with the University of California and the University of Tokyo, Jitendra is a lead member of the International Society for Biological Shape Analysis, an international consortium consisting of scientists, physicians, dentists, and engineers.

Jitendra became a professional engineer in 2002 and has served on several Engineers Geoscientists Manitoba committees, including eleven years with the Experience Review Committee. A co-founder and previous Vice-President of the Association's India Members Chapter, he also served on Council for Engineers Geoscientists Manitoba and was its 100th President during the 2020 centennial year. He is also a member of the Canadian Society for Bioengineering (CSBE), the American Society of Agricultural and Biological Engineers, and the Canadian Agricultural Safety Association, and was an Associate Editor of CSBE's journal Canadian Biosystems Engineering. In addition, he served as an expert advisor to review Bill 48 and Bill 49 of the Manitoba Government in 2020. Likewise, he is a member of an expert panel of food scientists of Indian origin named VAIBHAV, to advise the Government of India on long-term strategies for food sustainability. He was inducted as a Fellow of Engineers Canada in 2017.

Jitendra has been a recipient of many prestigious honours and awards starting with best Ph.D. thesis awards from the CSBE and the Sigma-Xi Scientific Research Society in 2002. He has been the recipient of CSBE's 2012 Young Engineer Award and 2017 John Clark Award. Similarly, he has received the University of Manitoba's Merit Award in 2015 in the combined category of teaching, research, and service, and Engineers Geoscientists Manitoba's Early Achievement Award in 2008 and Technical Excellence Award in 2017.

In recognition of his significant commitment to the Association, the profession, and the public, Engineers Geoscientists Manitoba is pleased to present the 2022 Outstanding Service Award to Dr. Jitendra Paliwal, P.Eng., FEC.

2022 ANNUAL GENERAL MEETING

On Thursday, October 13, 2022, Engineers Geoscientists Manitoba welcomed Ian Smallwood, P.Eng., as the new Council President for 2022-2023 at the 2022 Annual General Meeting. The event took place at the RBC Convention Centre with voting and non-voting participants attending both in-person and online.

Ian will lead the Association's Council in regulating the practices of engineering and geoscience on behalf of the people of Manitoba. The Association also welcomed four new members to Council at the Annual General Meeting.

- Jessica Adelman, P.Geo.
- David Amorim, P.Eng.
- Alan Pollard, P.Eng.(SM), FEC
- Lisa Thomson, P.Eng.

Much thanks to Allan Silk, P.Eng., FEC, for serving as President and leading the Association Council during the 2021-2022 year.

SCRUTINEERS REPORT

The ballots on the voting for the by-law changes were counted and in accordance with the Association's By-law 16.6.10 on Friday, October 7, 2022.

BY-LAW PROPOSALS	PASS/FAIL	FOR	AGAINST	ABSTAINED
New - Self-Reorting in Another Jurisdiction (By-law 15.9)	PASS	683	75	75
Counting of Votes and Scrutineers (By-law 4.7, 16.6.10, 16.6.11.1)	PASS	739	40	54
Registration Committee Appeals (By-law 8.2)	PASS	626	101	106
Investigation Committee Cautions (By-law 15.3.6.2)	PASS	742	37	54
Voting (By-law 4.4.3)	PASS	754	27	52

MEET THE NEW MEMBERS OF COUNCIL

The Association Council acts in the name of, and on behalf of, Engineers Geoscientists Manitoba to exercise all of the powers, authority, and privileges conferred to the Association through *The Engineering and Geoscientific Professions Act*.

The Council is comprised of ten elected professional engineers and professional geoscientists, one elected engineering or geoscience intern, and from two to four appointed public representatives. Each councillor is elected for a two-year term. In the 2022 election, there were ten candidates for election to three positions in the professional engineer category. There was no election for the professional geoscientist member to the Council; the one candidate was declared elected by acclamation.

Jessica Adelman, P.Geo.

Elected Councillor
(2022-2024)

DEGREE(S) AND DISCIPLINE
B.Sc., Geographical Sciences
M.Sc., Natural Resource Sciences, M.Eng., Materials Engineering

YEARS OF EXPERIENCE
10+

AREA OF PRACTICE/SECTOR OF WORK
Area of Practice: Hydrogeology, Geochemistry, Geomorphology, Environmental Assessment, Licensing and Permitting
Sector of Work: Environmental Consulting

EMPLOYER
Core Geoscience Services

WHY I CHOOSE TO SERVE ON COUNCIL
I would like to learn more about the roles and responsibilities that the Council and committees have, and participate in the process. I want to represent geoscientists, and provide a different perspective.

MY BIGGEST ASSET
I'm curious, I enjoy learning, and I adapt by assessing, incorporating, and applying what I have learned.

WHAT IS ONE THING THAT MOST PEOPLE DON'T KNOW ABOUT YOU?
When I was completing my graduate work at McGill, I joined the Materials Engineering Department's hockey team. We were in the lowest skill level grouping, and half of us couldn't skate. Our rivals were the Physics Department -- half of their team couldn't skate either. I had the most fun!

David Amorim, P.Eng.

Elected Councillor
(2022-2024)

DEGREE(S) AND DISCIPLINE
B.Sc. Civil Engineering, Co-op Option, with Distinction - University of Manitoba
M.Sc. Civil Engineering - University of Manitoba

YEARS OF EXPERIENCE
10 years of progressive experience in consulting engineering.

AREA OF PRACTICE/SECTOR OF WORK
I am a structural engineer working in the transportation industry across Canada, primarily managing structural transportation infrastructure projects. In addition to my project work, I am also the Operations Lead for Dillon's national Transportation Business Unit.

EMPLOYER
Dillon Consulting Limited

WHY I CHOOSE TO SERVE ON COUNCIL
I've had a very personally rewarding career so far and I relish the opportunity to be able to give back to our profession by serving on Council. Furthermore, I look forward to the tremendous learning and development opportunity this experience brings with it. For example, this was the first time I've run in any sort of election; while the overall process definitely took me out of my comfort zone (having to do a video interview, the possibility of not being successful, being in the public eye, etc.), I feel that I learned and grew from the experience and I'm thankful I decided to pursue the opportunity. I am truly looking forward to playing a small role in guiding and shaping our profession in Manitoba over the next few years!

MY BIGGEST ASSET
I am a big-picture and strategic thinker with strong leadership skills. As such, I have found my past experiences on Boards highly engaging and rewarding. I love the challenge of learning all about an organization in order to be able to best guide it in meeting its mission.

WHAT IS ONE THING THAT MOST PEOPLE DON'T KNOW ABOUT YOU?
I'm pretty passionate about things, so spend a few minutes chatting with me and you'll likely hear about some of my various hobbies and passions. For example, I'm a huge foodie. To answer a popular icebreaker question, if I wasn't an engineer, I'd definitely be in the culinary world.

Alan Pollard, P.Eng.(SM), FEC

Elected Councillor
(2022-2024)

DEGREE(S) AND DISCIPLINE
BSc Electrical Engineering, University of Manitoba, 1976

YEARS OF EXPERIENCE
More than I care to count, about 47

AREA OF PRACTICE/SECTOR OF WORK
Mobile and landline telephony, electronic product development, data security, IT administration, database development and conversion, software development.

EMPLOYER
Previously at MTS and The Law Society of Manitoba

WHY I CHOOSE TO SERVE ON COUNCIL
As the Covid pandemic enters a new phase, many younger members have a lot of calls on their time restarting or re-imagining their careers while simultaneously juggling the other responsibilities in their lives. I thought that we more mature members, at least in the chronological sense of maturity, should step up and help Engineers Geoscientists Manitoba steer through the next period of change. With economic and climate pressures looming over the profession, a strong Council with diverse backgrounds will guide Engineers Geoscientists Manitoba and its members into the future.

MY BIGGEST ASSET
Working as a sole practitioner and for one of the largest technology firms in the province, plus having been a director of another professional regulator means having a wealth of experience but that is only valuable when combined with the ability to listen to other Councillors, members, and staff.

WHAT IS ONE THING THAT MOST PEOPLE DON'T KNOW ABOUT YOU?
I am one half Welsh. My mother is from Llandaff and lived literally in the shadow of Llandaff Cathedral. She and Dad met when he went overseas as a foreign news correspondent, and they got married on the Isle of Wight.

Lisa Thomson, P.Eng.

Elected Councillor
(2022-2024)

DEGREE(S) AND DISCIPLINE
Bachelor of Science in Engineering - Civil Engineering

Structural Engineer

YEARS OF EXPERIENCE
Almost 15

AREA OF PRACTICE/SECTOR OF WORK
Consulting - Structural Engineering

EMPLOYER
Tower Engineering

WHY I CHOOSE TO SERVE ON COUNCIL
While having conversations with fellow engineers the topic often comes up about how things could be done better or concerns that should be addressed. I decided that the best way to see change would be to get involved.

MY BIGGEST ASSET
My organizational skills and determination to see things through.

WHAT IS ONE THING THAT MOST PEOPLE DON'T KNOW ABOUT YOU?
I got my middle name (Hayley) because I was born the day you could see the Halley's comet. My dad just didn't know how to spell it.

ENGINEERS CANADA FELLOWSHIPS

The fellowships honour individuals who have given noteworthy servce to the engineering profession through their work with either Engineers Canada or its provincial and territorial engineering regulators.

This year, nine Association volunteers were presented with their Engineers Canada Fellowships.

Congratuations to the 2022 recipients:

- Anand Birur, P.Eng., FEC
- Tabitha Bohrn, P.Eng., FEC
- Neil Chandler, P.Eng.(SM), FEC
- Cameron Dyck, P.Eng., FEC
- Robert Janz, FEC(Hon.)
- Michael Maendel, P.Eng., FEC
- Jason Pilipow, P.Eng., FEC
- Andrea Watts, P.Eng., FEC
- Scott Whaley, P.Eng., FEC

MEET THE NEW ASSOCIATION PRESIDENT: IAN SMALLWOOD, P.ENG.

BY C. LAO ROUSSEAU

Every Association President is different:, each one with their own strengths and weaknesses, thoughts and philosophies, and ways of managing things. The Association President leads the Council of 10 elected professional engineers and professional geoscientists, one intern member representative, and at least two appointed public representatives.

Some focus on one area, while some focus on another. Some presidencies have had the time to initiate new directions, while some have had to deal with singular issues that have consumed their whole effort. It is a balancing act, and one that is incredibly challenging to do considering the weight of the position.

“I believe my presidency will be one of both,” says new Association President Ian Smallwood, P.Eng.

“Members should not expect me to be the kind of president who seeks the spotlight or is a charismatic leader,” he adds. “Rather, I’ll be somewhat the opposite.”

On October 13, 2022, Ian was sworn in as Engineers Geoscientists Manitoba’s Association President for the 2022-2023 year. Years ago, he walked across a similar stage to receive his degree from the University of Manitoba. But engineering was not always his first choice. In fact, Ian originally wanted to be a pilot.

“I attended Providence College, which had a flying program that would enable me to get a Bachelor of Arts degree as well. Then, one day, while out flying, I saw myself doing this for the next 40 years,” says Ian. “I was heading toward a goal that actually didn’t align with the person I was realizing I was. Right then I knew, I needed to consider making a major adjustment toward a different career path. I landed the plane and went home to carefully consider who I was as a person and the work that would align well with that as a career.”

Ian recognized that his skills and moral compass were more closely aligned to something else. He had always been someone who was willing to take responsibility for their actions, would always look to see how he could improve the world around him, and was very mechanically proficient and knowledgeable. After years of searching, Ian landed on mechanical engineering and received his degree from the University of Manitoba.

“20-plus-years after graduating, I can say it was definitely the correct decision.”

On his path to becoming Association President, Ian has experienced not only a career change-of-heart, but also one within the engineering profession directly. Being a family man, Ian welcomed his son into the world shortly after graduating and wanted to stay close to his wife's family. He began his work as a manufacturing engineer at a local window company, but things did not work out.

Despite this speedbump, Ian took this as a lesson, and recognized that it was still a good time for growth and developing the skills and competencies needed to become the professional engineer he is today. Very shortly after, Ian joined Nova 3 Engineering in order to design mechanical systems for buildings. He's been there for about 16 years and has found the work itself to suit him perfectly.

"My advice to any young person is to obtain a wide variety of experiences as you're growing up to help you figure out the person you are," says Ian in regard to finding his place in the world of engineering. "Go on a hike in the country, try a small part in community theatre, tutor a student, build a scale model of something; with each of your experiences, you'll develop an understanding of the things you like to do and the things you never want to do again."

"Having these experiences will help you decide upon a career direction when you're faced with that decision:, and the great thing about our profession is there are careers within it to match practically any type of person!"

While Ian has worked in the field of mechanical engineering for a while, it wasn't until recently that he became involved with the Association:, more specifically, in 2015, when the Association adopted the working name of Engineers Geoscientists Manitoba while retaining the legal name of The Association of Professional Engineers and Geoscientists of the Province of Manitoba, effectively removing the word 'professional' from the Association's title.

"By removing the word 'professional' from our Association, I felt we were allowing an erosion of an understanding the public has in who we are and what we do. So, I attended a member engagement session and voiced my opinion," says Ian. "Although the name change issue ended up being less important to me, I realized how little I knew about the Association and how it was run - I didn't even know the difference between a by-law and a policy".

He decided to learn more about it and after doing so, felt he had more to contribute to the Association.

"Our professional members fundamentally work for the betterment of society and do amazing things every day that rarely get noticed. When a consumer product just works, nobody appreciates all of the effort that went into the design and manufacturing processes while staying within a reasonable cost. It would be beneficial for our profession if the public were often reminded of the role our professions have in their lives," adds Ian.

With his passion for his career, his keen sense of insight, and his ability to find balance between work and family time, Ian showcases the clear qualities of leadership that the Association looks for in a Council President. He cares about his work as much as he does about people and recognizes that complex problems require all manner of solutions.

After all, he is a professional engineer.

NOTICE

Under *The Engineering and Geoscientific Professions Act* and the Association's Discipline By-law

ORDER OF THE DISCIPLINE COMMITTEE

This is notice that on September 3, 2022, Mr. Leslie E. Frovich, P.Eng., consented to the registration of a conviction and issuance on a charge of professional misconduct or unskilled practice in accordance with section 35(1)(f) of *The Engineering and Geoscientific Professions Act*.

The conviction arises out of Mr. Frovich's involvement in providing engineering services for structural renovations for a private residence in Winnipeg, Manitoba.

Specifically, Mr. Frovich sealed design drawings for an addition to the residence and sealed sketches relating to interior renovations to be undertaken. In the course of providing engineering services in relation to the project, Mr. Frovich:

1. Submitted and sealed sketches, which were insufficiently detailed and of poor quality;
2. Failed to properly document his site review(s) and inspection(s);
3. Failed to exercise due diligence during the site review(s) and inspection(s) performed;
4. Performed engineering reviews of construction and submitted the sealed verification letter for work that included structural renovations to the existing residence without a building permit and failed to verify that a permit had been issued for the renovations before or while conducting site review(s) and inspection(s); and
5. Submitted the sealed verification letter which misled stakeholders relying on his professional expertise. The verification letter overstated the scope of his engineering reviews during construction and completion, and misrepresented the amount of responsibility he accepted for the renovations to the existing structure.

Having received Mr. Frovich's consent, Engineers Geoscientists Manitoba's Investigation Committee has registered a conviction and imposed the following penalties:

- a Reprimand;
- Mr. Frovich's licence and entitlement to practice professional engineering in the Province of Manitoba be suspended for a period of 60 days commencing April 12, 2022, and expiring June 12, 2022;
- Mr. Frovich is ordered to pay costs to Engineers Geoscientists Manitoba in the amount of $5,000.00; and
- Mr. Frovich's name and the circumstances relating to the finding of professional misconduct or unskilled practice shall be published in accordance with Engineers Geoscientists Manitoba's policy on publication.

Grant Koropatnick, P.Eng., FEC
CEO & Registrar

NEWS+NOTES

NEW CHAPTER: ISRAELI MEMBERS CHAPTER

Chapter Purposes

- Act as ambassadors of Engineers Geoscientists Manitoba within our Israeli/Jewish community.
- Promote the engineering and geoscience professions to younger generations, and educate about the roles and the advantages of being an engineer or geoscientist in the future.
- Support the educational aspirations of future members by mentoring, and in the future maybe by providing some scholarships.
- Assist internationally educated engineers and geoscientists in the registration process with Engineers Geoscientists Manitoba.
- Create a professional network of engineers and geoscientists willing to support and help the engineering community in Manitoba.

How to join the chapter
Please select "Israeli Members Chapter" as your Chapter Affiliation in the preferences in your Engineers Geoscientists Manitoba online profile.

To be updated with the chapter activities please fill your contact information using the registration form on the chapter webpage.

Chapter Events
Check the Association events calendar for Israeli Members Chapter Events.

Chapter Executive
Leo Reznik, P.Eng. - Chair
Tal Sherepanov, EIT - Vice-Chair
Alexander Vladimirsky, EIT - Administrator
Alexander Vladimirsky, EIT - Treasurer

FILIPINAS IN ENGINEERING NETWORKING EVENT

The Filipino Members Chapter (FMC) held its first event to support Engineers Canada's 30 by 30 initiative, the goal of which is to increase the percentage of newly licensed engineers who are women to 30 percent by year 2030.

The event on September 23, supported by the executive members of FMC and spearheaded by Maria Karla Milla-Pascual and Jennifer Javier-Adriano, both engineering interns, brought inspiring women together.

With nine professional members, 13 interns, three student members, and four lay associates in attendance, it offered a glimpse into how the chapter membership demographics have increased over the years. In fact, a majority of the chapter's current executive committee is made up of members who are women.

FMC is providing networking opportunities, a dedicated webpage for members who are women in its website, and a new scholarship category for 30 by 30 to attract more women in its membership.

Visit www.fmc-egm.ca to learn more.

WOMEN IN ENGINEERING AND GEOSCIENCE MENTORSHIP PROGRAM

The Women in Engineering and Geoscience Mentorship Program commenced its 2022-2023 program year with a kick-off event that took place on the evening of October 12, 2022, at the Price Faculty of Engineering building on the University of Manitoba campus. With the challenges created by the COVID-19 pandemic in previous mentorship years, program registrants can attend events virtually or in person.

The first event began with a presentation delivered by the program committee to inform the students, protégées, and professionals on some expectations and tips for success in the program over an assortment of food and beverage options for in-person attendees, catered by the University. There were over 100 registrants who attended in-person, with 13 virtual participants.

MLA UZOMA ASAGWARA SPEAKS AT THE WOMEN IN ENGINEERING AND GEOSCIENCE MENTORSHIP PROGRAM SESSION ON NOVEMBER 17, 2022

BILL 233 – THE ENGINEERING AND GEOSCIENTIFIC PROFESSION AMENDMENT ACT

Bill 233, *The Engineering and Geoscientific Professions Amendment Act*, was concurred in, read for the third time, and passed at the legislative session on Tuesday, October 25, 2022.

Bill 233 was introduced to the House of the Provincial Government as a private member's bill this spring by Ian Wishart, MLA for Portage La Prairie, and was read for the first time on April 21, 2022. This was followed by a second reading on April 26, 2022. After the Bill's debate in the second reading, the Association met with members of the Legislative Assembly to discuss concerns raised about admission standards, specified scope of practise licences, and providing adequate supervision toward specific scope of practice licence holders, all of which were clarified, ensuring that admission standards are flexible while maintaining accountability for engineering and geoscience professions. Bill 233 was then referred to and presented at the Standing Committee of Social and Economic Development on Wednesday, October 12, with all 11 MLAs voting to advance the Bill to a third reading. Third reading was completed on Tuesday, October 25, 2022.

Key Changes

Simplifying Administrative Procedures and Language

The Association proposed amendments that simplify administrative procedures for registration of applicants, restructure the process for appeals, adjust language to simplify licensees and expand their rights, and make consequential by-law changes to ensure Council has adequate oversight. The proposed amendments consolidate the appeals process within a new part under *The Engineering and Geoscientific Professions Act* and permit faster processing of registration for out-of-jurisdiction applicants.

Removing Barriers to Practice

Barriers to practice are commonly experienced by practitioners traversing provincial, territorial, and international boundaries. The Association is committed to reducing these barriers by expanding the eligibility of temporary licensees and introducing a new member category for out-of-jurisdiction applicants. Temporary licences may now be granted to individuals residing within Manitoba that are professionally registered in another jurisdiction. The establishment of an out-of-jurisdiction membership adds an additional avenue for applicants outside of Manitoba to have their qualifications and competency recognized in order to begin practice in the province within a timely manner.

Increasing Transparency and Enhancing Protection of the Public

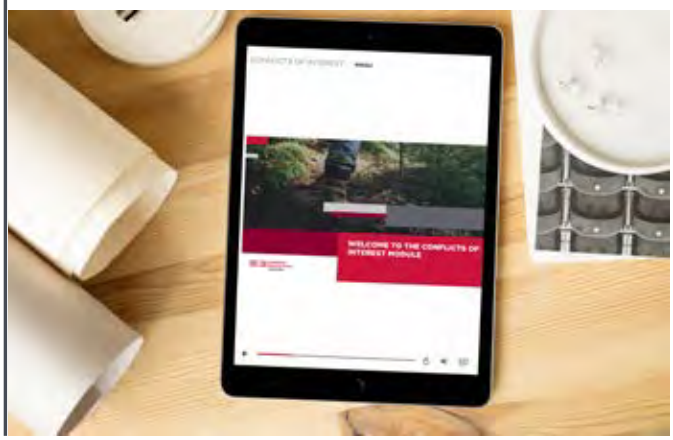
The Association put forth amendments to enhance the protection of the public through an expansion of investigation rights and to increase public transparency when a professional member is formally charged or does not comply with professional development requirements. The Association is also expanding the list of prohibited titles to include "Eng.L" and "Geo.L" for members who will practice with a specified scope of practice licence.

NEW WEBSITE LAUNCHED FOR THE NATIONAL PROFESSIONAL PRACTICE EXAM

A new stand-alone website for the National Professional Practice Exam (NPPE) is now available. Launched by the Association of Professional Engineers and Geoscientists of Alberta (APEGA), the new website is a hub for information on how to prepare for the NPPE, exam dates, and FAQs. Association members needing to write the NPPE should continue to visit our website for eligibility, pricing, and how to register for the exam.

NEW ONLINE LEARNING MODULE: CONFLICTS OF INTEREST

As professionals, engineers and geoscientists must act to maintain the trust of each client individually and of the public collectively. Conflicts of interest arise in situations where the judgments and actions of individuals or institutions could be affected by multiple or competing interests. This module will help practitioners identify, avoid, and manage conflicts of interest. This and other online learning modules are available through your online profile.



MEMBER UPDATE

AUGUST, SEPTEMBER, OCTOBER

NEW MEMBERS

B. Ahadi
M.T. Al Harash
N.R. Allgrove
R.A. Alwi
S. Ansar Panahi
A.L. Araujo Andrade
M. Athanasios
A.P.D. Augellone
N. Barbar
C.M.J. Barnabe
M.A. Barnable
A.J. Bergenwall
B.K. Borschawa
A.P.A. Brisbin
D.L. Carnegie
D. Carnes
R. Charbonneau
M.R.H. Chowdhury
J.G. Cooke
B.D. Cram
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NOTICE

Under *The Engineering and Geoscientific Professions Act* and the Association's Discipline By-law

ORDER OF THE DISCIPLINE COMMITTEE

This is Notice that on August 3, 2022, Mazen J. Habash, P.Eng., was issued a reprimand following a conviction on a charge of professional misconduct, in accordance with Section 46(1)(d) of The Engineering and Geoscientific Professions Act.

The conviction arises out of Mr. Habash's failure to comply with the Association's Continuing Professional Development program for multiple reporting periods, in contravention of Section 11.2 of the Association's by-laws, and failure to return his stamp and seal following the suspension of his registration in contravention of Sub-Section 26(2) of the Act.

In addition to the reprimand, Mr. Habash was required to pay a fine of $1,000.00, an additional fine of $500.00 if he fails to comply with all reporting requirements of the continuing professional development program within 30 days, and costs in the sum of $3,500.00.

Grant Koropatnick, P.Eng., FEC
CEO & Registrar

CLOSING NOTES

M. GREGOIRE, P.ENG., FEC

NEW BUILDING CODES FOR MANITOBA

For some time now, the construction community has been wondering when Manitobans can expect to see new building codes put into effect. The Manitoba Building Code, which is built on the National Research Council's (NRC's) National Building Code of Canada (NBCC), has not changed since the 2010 version. At the time of writing, the province announced that, well before the end of this year, engineers should expect to finally see new codes impacting the design of buildings.

Since 1960, new NBCCs have been released as a model building code by the NRC on a five-year cycle[1]. Each province then decides whether to or not to adopt this code, with or without modifications. The Manitoba Building Code has historically been an adoption of the NBCC with some modifications.

The building code is not the only document updated regularly in this manner. For example, the national energy code was first developed by NRC in 1997 (Manitoba adopted it in 2014). The fire code and the plumbing code are also developed as national model codes and adopted in Manitoba.

The Province of Manitoba has decided to adopt the 2020 version of the national model codes in 2023, by-passing the 2015 versions. (It is worth noting that this is a change from the original plan, which would have seen Manitoba adopt the 2015 codes first and then the 2020 codes less than two years afterwards.) The current plan will have resulted in adoption of the 2020 codes by September or October, but may have occurred earlier than this.

As such, engineers should start preparing by ensuring that any projects which may not get submitted for permit until later in the year are designed in compliance with the new codes. This is emphasized by the fact that adoption of, effectively, two building code cycles at once, will result in very significant changes. A prime example is the introduction of seismic loading for buildings in Manitoba.

PRACTITIONERS SHOULD ENSURE THAT THEY UNDERTAKE THE TRAINING REQUIRED TO BECOME PROFICIENT IN THESE NEW REQUIREMENTS.

Since the 2005 version, the NBCC has suggested that certain buildings in Manitoba be designed for seismic loads. When that NBCC was adopted here, however, this requirement was intentionally deleted. This seismic loading was removed again for the 2010 cycle. Going forward, however, the province plans to adopt the national model codes with as few changes as possible. They have specifically indicated that the requirement for seismic loading (new for Manitoba) will remain unaltered and will apply to all buildings, regardless of their classifications.

Of course, this is not the only change. It was said that the 2015 versions of the national model codes brought in 400 changes.[2] The 2020 codes, in turn, brought another 400 changes, including:

- "A tiered energy performance compliance path which incrementally improves energy efficiency at each successive tier (four energy performance tiers are specified);
- Updates to evaporative equipment and drain pans to minimize the growth and transmission of legionella and other bacteria;

- The introduction of whole-building airtightness testing as an option for complying with air leakage requirements;
- The introduction of encapsulated mass timber construction to allow for the construction of wood buildings up to 12 storeys tall;
- A clarification that, through certain technical requirements, the existing Fire Safety objective addresses safety of emergency responders including firefighters when performing their duties;
- Strengthened protections for openable windows in residential occupancies to minimize the risk of falling;
- Safety glazing in windows and doors for schools, and similar buildings, to reduce the hazards of wired glass;
- Adjustments to the minimum dimensions of building elements to accommodate people using a wider variety of mobility devices, and requirements for tactile signage and for more pedestrian entrances and floor levels to be accessible;
- A new home-type care occupancy that will allow for safe and affordable care; and
- The introduction of technical requirements for large farm buildings and addition of new agricultural occupancies." [3]

Engineers Geoscientists Manitoba's practitioners should ensure that they undertake the training required to become proficient in these new requirements. This is especially true for the seismic requirements and design in accordance with the energy code.

There should never be reliance on authorities having jurisdiction (AHJs) to review our designs, particularly since some AHJs don't perform any review of these elements.

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****.*

1 Note: there was no 2000 code during the lengthy transition to an objective-based code system
2 https://www.canadianconsultingengineer.com/buildings/new-canadian-building-codes-have-400-changes/1003401766/
3 https://www.hpacmag.com/heating-plumbing-air-conditioning-general/the-new-2020-national-model-codes-finally-released/1004134385/

NOTICE

Under *The Engineering and Geoscientific Professions Act* and the Association's Discipline By-law

ORDER OF THE DISCIPLINE COMMITTEE

This is Notice that on August 3, 2022, Gregory T. Fortune, P.Eng., was issued a reprimand following a conviction on a charge of professional misconduct, in accordance with Section 46(1)(d) of The Engineering and Geoscientific Professions Act.

The conviction arises out of Mr. Fortune's failure to comply with the Association's Continuing Professional Development program for multiple reporting periods, in contravention of Section 11.2 of the Association's by-laws, and failure to return his stamp and seal following the suspension of his registration in contravention of Sub-Section 26(2) of the Act.

In addition to the reprimand, Mr. Fortune was required to pay a fine of $750.00 and costs in the sum of $4,000.00.

Grant Koropatnick, P.Eng., FEC
CEO & Registrar

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