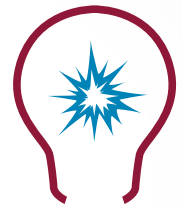


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# THE KEYSTONE PROFESSIONAL

AUTUMN 2021



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### INSIDE

THIS ISSUE

Ingenium 2021

50th Anniversary  
Biosystems Engineering

Leveraging Your  
Soft Skills: Delegation

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<sup>2</sup> Statistics Canada, "Household spending, Canada, regions and provinces," November 25, 2019.

<sup>3</sup> CMHC, "Mortgage and Consumer Credit Trends National Report – Q4 2019," December 2019.

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## Closing

It is amazing how quickly my time as President of our Association went by. My first *Keystone Professional* article was titled "Opportunity, Value, and Change". These things are important to me, and I believe in them, especially if they can work together to create that great outcome. It's not always easy. My term will be memorable in so many ways. The major touchpoints include the forward-thinking and important decisions Council has made, some arising from reduced spending that was inevitable during this COVID-19 period.

The Building Regional Adaptation Capacity and Expertise (BRACE) programming, the creation of some long-term and recurring financial support for students, and a plan to create a dedicated mentorship space at the Association offices will form an enduring memory for me. These kinds of initiatives create lasting opportunities for those future and new practitioners who are coming up, rising in their training, experience and careers, and who will form the next set of leaders in our professions.

“My time as President of the Association is closing, and it has been a significant honour to serve.”

There is strong, intrinsic value created because, at a minimum, by simply having these kinds of resources available helps to improve the circumstance of our practitioners in the long game. We are an Association where self-regulation is paramount. However, these assets that are aligned with our strategic plan and which help fulfil our ends, lead to the changes that build our strong and healthy professions. We are a proud community of practitioners who are highly dedicated to what we do, and we are steadfast on why we do it. Continue to also share this perspective with our owners. It is important.

My time as President of the Association is closing, and it has been a significant honour to serve. Some hard work was done along the way by many dedicated individuals, and I must take a moment to thank the staff of the Association

for all their support and efforts during uncertain times. The important work of the Association carried on quite seamlessly. Thank you to an objective and supportive Council, who were all engaged and interested in respectfully discussing all matters. Thank you as well to those practitioners who volunteer on the various Association committees – the Association cannot operate, or go forward, without the dedicated work of volunteers. To the various Chapters, the involvement in your communities is exemplary.

The Association and our Council of representatives continue to, in my opinion, take a leadership view in what can be done, within and outside of our key scope of self-regulation, to build and support our community of practitioners. I look forward to observing the outcomes of these initiatives over time. I am confident they will be great. ⊕



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## Mentorship, Internship, Return-Ship

### I want you to remember

three important “ships” that you will be hearing a lot about in the coming year:

**Mentorship** – is the vessel that will provide important mentoring of current and new practitioners with career advice from mentors.

**Internship** – is the vessel where new grads and interns interface with validators, assessors, and experienced practitioners in a career-building relationship.

**Return-ship** – is the vessel where we welcome those who previously left the profession for whatever reason. For anyone wanting back into the profession, they will be welcomed with resources, policies, and support as they return.

Member surveys and focus groups clearly communicated these three topics as the future for the Association. I call it a win-win-win. The member due won't change. The Mentoring Centre uses funds already saved. The development of a Mentoring Centre can be achieved by moving funds from unrestricted reserve over to capital assets. The wealth and overall value of the Association is maintained at the same level for the same member due. This is a great new opportunity for enhancing member services and beginning a new chapter for the Association.

Here are some highlights:

- **Mentoring Centre** – a dedicated space on the second floor with rooms, workstations, and other amenities to support mentors and those being mentored.
- **Enhanced technology** – the pandemic has advanced the use of video and audio technology in online meetings. Meeting rooms will be upgraded to offer “hybrid” meeting options for in-person or remote attendance at committee meetings, hearings, and events.



- **Temporary Work Space** – part of the area will be configured for temporary workspace for anyone needing to park for a day in a business environment. Work on your resume, send emails, update your LinkedIn profile or other social media. Book an appointment and connect with an EngGeoMB staff person. High-tech cubes will be available on a temporary, daily basis.
  - **Support Services** – sessions will be offered for any member who is job searching, wanting to meet others, upgrading English language skills, technical writing, public speaking, and communication skills. Free Wi-Fi, printing, coffee service, and a lunch nook are accessible to applicants, members, and associates of EngGeoMB.
  - **Production Studio** – online professional development (PD) sessions have become standard practice for learning new concepts, best practices, and staying up to date in a particular discipline, sector, or career path. Engineers Geoscientists Manitoba will produce and broadcast top-quality PD sessions from a fully-equipped production studio for ongoing support to members, the professions, and partner organizations in Manitoba, Canada, and across the globe.
  - **Expanded Chapter Support** – Chapters will be invited to use the space for mentoring, professional development, networking, and executive meetings.
  - **Member Services Coordinator** – the Mentoring Centre will be supported and coordinated by EngGeoMB Member Services Coordinator, Joy Fadogba.
- Back to School, Work, Normal**  
2020 and most of 2021 have been defined by forced restrictions, altered routines, new ways of working, learning, and new rules at home, in the community, and our province. Travelling internationally was cut off for a while and has started again. Many had plans to immigrate to Manitoba that were delayed. Hopefully, plans can be fulfilled in 2022 and beyond.
- Thanks to all members, Council, and employees of Engineers Geoscientists Manitoba for their stamina, endurance, and ongoing belief in the engineering and geoscience professions. There is great hope and a lot to look forward to as we move forward. Let's join together, working hard in this season of back to school, back to work and...back to normal.
- Your feedback is invited and welcomed. If you have any thoughts on anything you read in *The Keystone Professional*, please email me at [GKoropatnick@EngGeoMB.ca](mailto:GKoropatnick@EngGeoMB.ca).  
Have a great day! ☺



# Manitoba Trailblazers

## JENNIFER MCNEILL, P.ENG.



Jennifer McNeill, P.Eng., is a transportation industry veteran with over two decades of leadership in transit bus manufacturing

and aerospace maintenance. Jennifer joined NFI Group, Inc. (NFI) in 2012, and currently leads the Public Sales and Marketing operation for New Flyer and MCI brands, while also providing strategic business intelligence direction. Prior to joining NFI subsidiary New Flyer, Jennifer spent 17 years at StandardAero, where she held senior management and leadership positions in engineering, quality, sales, and business strategy, including Vice President Sales, Marketing, and Business Development.

Jennifer is a catalyst for the development of New Flyer's zero-emission bus and infrastructure offerings in Canada and the U.S. and is an advocate for smart, sustainable, and resilient mobility. She is a board member with the American Public Transit Association, Canadian Urban Transit Association, and the Canadian Urban Transit Research and Innovation Consortium.

In 2020, Jennifer was named one of Canada's Clean50 sustainability leaders as the category leader for Manufacturing and Transportation. More recently, she was recognized and named one of 26 Climate Champions across Canada in preparation for the 2021 United Nations Climate Change Conference of the Parties.

Jennifer holds a mechanical engineering degree and a Master of Business Administration degree from the University of Manitoba, and is an accredited professional engineer.

## GERARD COUSIN, P.ENG.(SM)



Jerry (Gerard) Cousin, P.Eng.(SM) was part of the first graduating class of agricultural engineers in 1971 at the University of Manitoba, where he also studied civil

engineering courses towards a master's degree. Now a Senior Member of the Association, he became a Research Engineer for the Province of Manitoba, specializing in planning and completing water and sewer research projects, before establishing the firm JR Cousin Consultants Ltd. (JRCC) with his business partner in 1981. As President, Jerry upheld the firm's mission to work as a team to provide clients with effective and innovative engineering services related to water treatment, sewage treatment,

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roads, drainage, waste disposal grounds, and land development. Jerry committed to improving infrastructure in First Nations and northern communities throughout his career. He has worked with over 50 First Nations communities in Manitoba, Ontario, and Saskatchewan to improve water and sewage treatment and to update community development. Jerry has also made significant contributions to the engineering profession through his innovative projects, many of which were recipients of engineering excellence awards. Some of his notable award-winning projects include White Lake Campground Wastewater Biofiltration Treatment and Disposal (2011), RM of Victoria Holland Chlorine Dioxide Water Treatment Plant (2007), and Ste. Agathe Pipeline Project (1994).

### NANCY CHOW, P.GEO.



Nancy Chow, P.Geo., is a Senior Scholar at the University of Manitoba, having recently retired from the university where she was a Professor of Geology in the Clayton H. Riddell

Faculty of Environment, Earth, and Resources. A former Head of the Department of Geological Sciences, over Nancy's 34 years at the university she taught a variety of undergraduate and graduate courses in sedimentary geology and petroleum geology, as well as introductory-level courses (including the popular "Rocks and Stars" course).

Her research in the field of carbonate sedimentology has focused on Paleozoic-age carbonate platforms and reefs in western Canada and northwestern Australia. By integrating field observations, drill-core and well log data, and lab analyses, her work has contributed to an improved understanding of the depositional and diagenetic history of these ancient platforms and reefs and

the various controls on their petroleum reservoir quality. Her contributions to the geoscience profession include helping to establish the geoscientists' academic qualifications for Engineers Geoscientists Manitoba, serving on the Academic Review Committee, and chairing the 2013 Joint Annual Meeting of the Geological Association of Canada and Mineralogical Association of Canada. ⊕

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# Biosystems Engineering – Celebrating a Milestone!

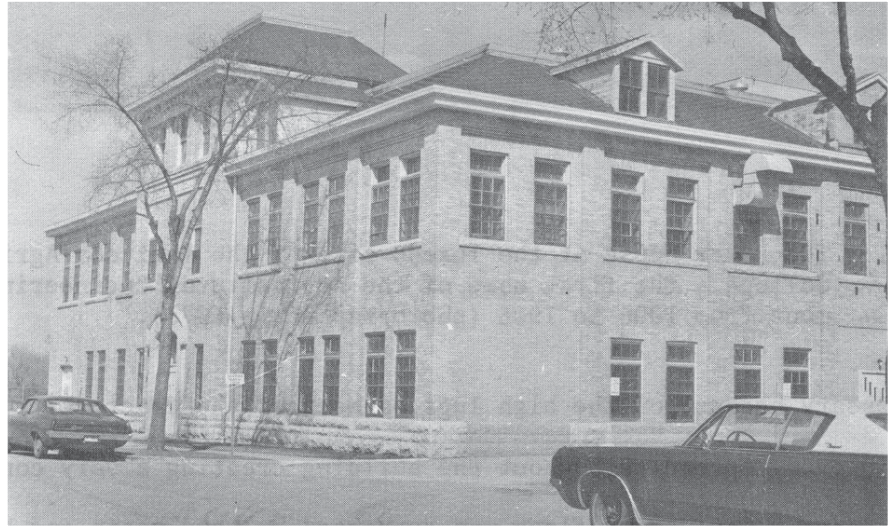
Prepared by Danny Mann, Ph.D., P.Eng., Professor and Head, Department of Biosystems Engineering

**Milestones arrive even in the midst of a pandemic. To be completely honest, I was not even aware of this milestone until a review of the department’s history (as documented by several previous professors) revealed that the first bachelor’s degree in agricultural engineering was awarded at the University of Manitoba in 1971 – marking 50 years – certainly a reason for celebration!**

## **A Look Back at Our History**

The current Department of Biosystems Engineering can trace its history back to 1906, the year that marked the opening of the Manitoba Agricultural College on property in Winnipeg’s Tuxedo neighbourhood bounded on the north by Wellington Crescent, and on the east by Doncaster Street. At the time, the academic unit was referred to as the Farm Mechanics Department. As early as 1912, graduates from the Manitoba Agricultural College with a Bachelor of Science in Agriculture (BSA) were offered a choice of two degree options: Plant Science and Agricultural Engineering. Unfortunately, the Agricultural Engineering option of this era had little real engineering content.

For several decades, successive Heads of the Department of Agricultural Engineering held to the hope that, someday, students of the University of Manitoba would be able to complete a program leading to a professional engineering degree in the discipline of agricultural engineering. It was not until 1958 when traction towards this goal began to occur. The Head, Professor H. Lapp, submitted a brief entitled “Agricultural Engineering for Manitoba” to the Deans of both the Agriculture and Engineering faculties that described the need for a professional engineering program in agricultural engineering in Manitoba. A year later, six second-year engineering students at the University of Manitoba contributed to another written brief requesting the university offer a degree in agricultural engineering. Unfortunately, two of the six students were unwilling to wait for change to occur at the University of Manitoba and transferred to the University of Saskatchewan to obtain agricultural engineering degrees from that institution.



*The Engineering and Mechanics Building at the Tuxedo site of the Manitoba Agricultural College — home of the Agricultural Engineering Department from 1908 to 1913 (photographed in 1973).*

In 1960, the Education Committee of the Manitoba Institute of Agrologists recommended that an agricultural engineering degree be established at the University of Manitoba. Unfortunately, the university tabled its deliberations in 1964. Professor Lapp refused to give up and, in 1965, submitted a “Five-year plan of development for the Agricultural Engineering Department” to the Dean of Agriculture. Finally, in 1968, a Committee on Agricultural Engineering presented recommendations to the University of Manitoba. It was unanimously concluded that the university should offer an undergraduate program in Agricultural Engineering.

Later in 1968, the establishment of the Agricultural Engineering degree program was finally approved. Although the Department of Agricultural Engineering remained an academic unit in the Faculty of Agriculture, the Agricultural Engineering undergraduate program was established

in the Faculty of Engineering – this dual-faculty arrangement exists to this day with the academic staff formally belonging to the Faculty Councils in both faculties.

In 1971, the first students graduated with a bachelor’s degree in agricultural engineering from the University of Manitoba. They were G.R. Cousin, R.J. Dunlop, and M. Van Den Bosch. The agricultural engineering degree was first accredited by the Accreditation Board of the Canadian Council of Professional Engineers (now “Engineers Canada”) in 1971. Accreditation of the Agricultural Engineering program continued until 1998, when the degree was replaced by one in biosystems engineering, which has been accredited since 1996.

Between 1971 and 1998, there were a total of 172 graduates of the Agricultural Engineering program. Since 1996, there have been a total of 396 (and counting) graduates of the Biosystems Engineering program. The decision made by members



Front view of the Agricultural Engineering Building along Dafoe Road on the University of Manitoba's Fort Garry campus.

of Department Council in the 1990s to change the degree from agricultural engineering to biosystems engineering had the desired effect of increasing enrolment in the program. Currently, the Biosystems Engineering program has an admission cap of 48 students – a cap that has been reached in four of the past five years.

### **Biosystems Engineering in 2021**

The discipline of biosystems engineering emphasizes the application of engineering principles to biologically centred systems. Biosystems engineers help to create new technologies for the well-being of humans and animals, and the preservation and enhancement of natural resources and the environment. The Biosystems Engineering program is designed to give students knowledge of the fundamental principles of engineering and introduces biological concepts to enable these engineers to successfully interact with relevant professionals when solving engineering problems involving biological systems. The Department of Biosystems Engineering offers three specializations (Biomedical, Bioresource, and Environmental) which are available to undergraduate students. The program is offered in both traditional and co-operative education formats. Profiles of a number of our alumni are featured on the department's website ([www.umanitoba.ca/engineering/biosystems](http://www.umanitoba.ca/engineering/biosystems)).

In 1981, Lendre Adele Heise became the first female graduate of the Agricultural Engineering program. Although there were few female students in the program in those early years, 41 per cent of a recent graduating class (June 2020) were women. The Biosystems Engineering

program has been consistently attracting a proportion of female engineering students of 40 per cent or greater since the early 2000s. I am proud of the fact that the Biosystems Engineering program appeals to all kinds of engineering students.

To complement the undergraduate program, three distinct graduate programs are available. At the master's level, students can choose between the research-based MSc program, which began in 1967, and the course-based M.Eng program, which began in 1976. The PhD program in Biosystems Engineering was not approved until 1988. A recent addition to the PhD program is a Graduate Specialization in Engineering Education to formally provide credit to doctoral students interested in specializing in the emerging academic discipline of engineering education.

Faculty and students in the Department of Biosystems Engineering conduct world-class research in a number of areas where the engineering and biological worlds intersect (i.e., machinery systems, agricultural structures, soil and water engineering, food storage and processing, etc.). Historically, the department has perhaps been best known for research in the areas of grain storage and handling, including modelling of the stored-grain ecosystem and biological (microbial) production of biofuels and bioproducts. Emerging research strengths include processing and utilization of waste biomass fibre for industrial and medical applications, computational methods for biological and biomedical imaging, smart technologies for food-process

engineering, sustainable food production in controlled-environment systems, remote supervision of autonomous agricultural machines, and surface engineering of polymeric materials for medical and biomedical applications. And, as introduced in the previous paragraph, doctoral students in Biosystems Engineering can complete research on a number of topics contributing to the scholarship of engineering education.

The Department of Biosystems Engineering is home to the University of Manitoba's Sustainability-in-Action Facility (SiAF). The department's vision is that SiAF will become the campus home for experiential learning and demonstration opportunities that relate to sustainability. The current pandemic has slowed our progress on this new initiative, but we soon hope to be able to use the SiAF site to offer experiential learning opportunities in undergraduate and graduate courses in the areas of renewable energy, innovative food production systems within controlled environments, sustainable building practices, and utilization of waste biomass for production of value-added materials. Furthermore, we hope that SiAF can be used to engage in public education and outreach in areas of sustainability, to initiate short-term demonstration projects with industry to showcase emerging sustainability technologies, and to support innovative research activities in areas of sustainability. We would love to have visitors to SiAF once COVID-19 allows such activities to resume.





Front view of the new Engineering Information Technology Complex (EITC) at the Fort Garry campus. The offices of the Department of Biosystems Engineering are located on the second floor immediately above the entrance in the foreground.



Sustainability-in-Action Facility (SiAF) located on the west edge of the Fort Garry campus.

### Celebrating the Achievements of our Alumni

In recognition of this milestone year, members of Department Council established terms of reference for Alumni of Influence Awards to be awarded to both undergraduate and graduate alumni of the Department of Biosystems Engineering (or former Department of Agricultural Engineering).

These awards are intended to help the Council celebrate achievements made by people who have graduated from the department's programs. Separate awards will be selected for those alumni who graduated prior to 1995 from the Department of Agricultural Engineering and those who graduated after 1995 from the Department of Biosystems Engineering. It is our intent to formally

recognize the inaugural recipients of the Biosystems Engineering Alumni of Influence Awards at a special event in September.

I encourage you to visit the department's webpage ([www.umanitoba.ca/engineering/biosystems](http://www.umanitoba.ca/engineering/biosystems)) throughout the coming months for more information on the department's history and upcoming events celebrating this milestone anniversary. ☺

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5. understand the importance of the Request for Proposal (RFP) and what to include in it.

**Format:**

To allow time for participants to understand and practice the new concepts, the training is divided into eight sessions. Each participant will have at least six (6) opportunities to practice presentation skills. Depending on the number of participants, within two weeks, the facilitator will provide personal voice-over feedback on the final recorded presentation and send it to each participant. This is a powerful opportunity for participants to see themselves and to receive constructive comments.

We use ZOOM for delivery and will issue the link to all participants in advance.

**Duration:**

Six (6) hours divided into four 90-minute Zoom sessions with assignments in between.

**Pre-study:**

Participants will be asked to bring several ideas he/she can use when discussing proposal content and structure.

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## VIRTUAL INGENIUM BIGGER AND BETTER!

Following the success of last year's virtual conference, this year's Ingenium Professional Development Seminars will again be held virtually, allowing attendees to join the event without having to leave their desks. The 2021 event features more content, more interaction, more flexibility, and even more value for money.

- **More Content:** This year's Professional Development Seminars schedule features four keynotes and 14 sessions with live Q&A, as well as virtual networking events and wellness activities. The popular, on-demand library also returns, with exclusive content accessible to all registrants.
- **More Interaction:** Missing the social aspect of in-person conferences? Learn with your peers in our daily interactive sessions, featuring top speakers

presenting their hands-on topics with opportunities for working in small groups. Then join one of our two virtual networking sessions, hosted on Gather, the proximity chat platform that allows you to mingle and chat in an online event space.

- **More Flexibility:** With a combination of exclusive on-demand content and scheduled sessions running over four days, you choose when to tune in. Missed a live session? Check out our on-demand

library, where all sessions will be available for three months after the event, ready to be revisited at your leisure.

- **More Value:** With no need to choose between topics or miss out on any sessions this year, you get access to all the content for one flat fee. Registrants of Engineers Geoscientists Manitoba also get a discount on the registration fee, getting access to the Professional Development Seminars for just \$100 (plus GST) – that's less than \$5 per session!

### 2021 Keynotes

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

### 2021 Seminars

#### Fourteen sessions with Q&A including:

- How Will Climate Change Affect Your Future Practice?
- Risk Management in Engineering: Not Just Another Failure Mode and Effects Analysis! Insights From the Biomedical Field
- Pandemic Pivot: Manitoba Manufacturing Case Study
- Key Skills for Creating and Claiming Value in Negotiations *Interactive*
- Modern Methods for Estimating Climate Change Impacts on Water Supply in Manitoba
- Mass Timber Case Studies

#### Exclusive on-demand sessions including:

- Manitoba Hydro's Approach to Climate Change Resilience
- Improving Building Health and Efficiency with Data Driven Solutions
- Clean Microgrid Development

For the full list of session descriptions, visit [www.EngGeoMB.ca/Ingenium](http://www.EngGeoMB.ca/Ingenium).



## INGENIUM 2021 KEYNOTE ADDRESSES

### WAHKOHTOWIN: THE INTERCONNECTEDNESS OF DESIGN AND ENGINEERING

*Speaker: James Harper, EIT*



This presentation outlines the parallels of systems-level engineering design and the approach of interconnectedness, as well as where there are gaps in the standard engineering approach versus a holistic, multigenerational perspective. The keynote will explore the consequences of the traditional engineering method and why the wisdom of Indigenous design is needed at this time.

### INSPIRING CLEAN ENERGY DIVERSIFICATION: HAVING THE COURAGE TO MAKE A DIFFERENCE

*Speaker: Kirsten Marcia, P.Geo.*



As a female geologist in the midst of her geology resource career in Saskatchewan, Kirsten contemplated if it was time to try something new during the junior resource industry boom of 2010. Listen to her story and how she and Deep Earth Energy Production (DEEP) are soon building Canada's first geothermal power plant in southern

Saskatchewan with the support of SaskPower, the Federal government, and numerous equity investors.

### EMPLOYEE ENGAGEMENT – THE MYTHS AND THE REALITY

*Speaker: Jane Helbrecht*



Research shows that an engaged workforce and strong workplace culture is a clear competitive advantage, however, the term "employee engagement" is used as a buzzword so much that it runs the risk of losing its meaning. This keynote will focus on how to build and maintain a strong workplace culture and team through discussing the six things that you think impact a strong and engaged workplace culture (but don't) and the one thing that does.

### HEY SIRI, MAKE ME HAPPIER

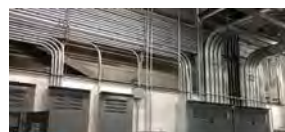
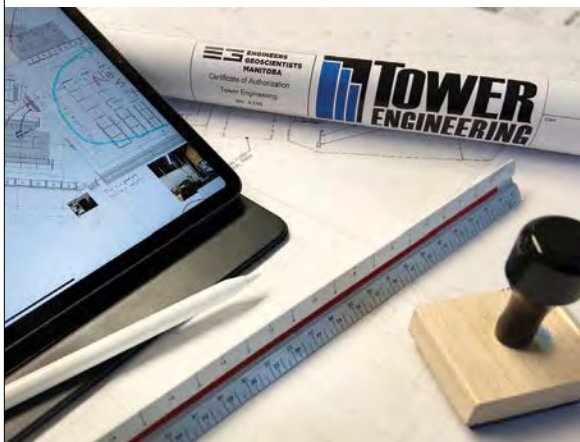
*Speaker: Gillian Mandich*



Technology is often a key ingredient to being efficient, effective, and successful; however, the grass is not always greener in cyberspace. Our modern-day relationship with technology is also making it more difficult to switch off and unplug, taking a toll on our energy, our happiness, and our mental health. Using fresh insights based on the latest research, attendees will learn how to effectively leverage technology as a tool to enhance performance, increase well-being, and boost happiness.

Gillian Mandich Photo Credit: Dave Laus

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## PROFESSIONAL DEVELOPMENT SEMINARS

	Tuesday October 26	Wednesday October 27	Thursday October 28	Friday October 29
9:00	<b>Keynote:</b> Wahkohtowin: The Interconnectedness of Design and Engineering – <i>Mihskakwan</i> <i>James Harper, EIT</i>	Practical Root Cause Problem Solving – <i>Vern Campbell, P.Eng.</i>	<b>Keynote:</b> Inspiring Clean Energy Diversification, Having the Courage to Pivot and Make a Difference – <i>Kirsten Marcia, P.Geo.</i>	Key Skills for Creating and Claiming Value in Negotiations – <i>Lukas Neville</i>
9:30				
10:00			Fitness Break	
10:30	How to Listen to Your Customers, Clients, and Colleagues – <i>Lisa Moretto</i>	Risk Management in Engineering: Not Just Another Failure Mode & Effects Analysis! Insights from the Biomedical Field – <i>Ian Maclean, P.Eng.</i>	Unleashing Your Strengths – <i>Jane Helbrecht</i>	Development of Small Modular Reactors and Pinawa's Proposed Demonstration Remote Community – <i>Blair Skinner</i>
11:00				
11:30				
12:00	Networking	<b>Keynote:</b> Hey Siri, Make Me Happier – <i>Dr. Gillian Mandich</i>		<b>Keynote:</b> Employee Engagement – The Myths and The Reality – <i>Jane Helbrecht</i>
12:30				
13:00			Strengthening Professional Practice by Merging Common Ethical Education and Indigenous Ethics – <i>John Desjarlais, P.Eng.</i>	Mass Timber Case Studies – <i>Jack Keays, P.Eng.</i>
13:30	How Will Climate Change Affect Your Future Practice? <i>Panel Discussion</i>	Pandemic Pivot: Manitoba Manufacturing Case Study – <i>Ryan Olson, EIT,</i> <i>Trevor Penner, EIT, and</i> <i>Heather Smart, P.Eng.</i>		
14:00				
14:30			Modern Methods for Estimating Climate Change Impacts on Water Supply in Manitoba – <i>Scott Pokorny, EIT</i> <i>and Hank Venema, P.Eng.</i>	Target Zero: Where The Two Greens Meet – <i>Dave Pancoe</i> <i>and Stephanie Chow</i>
15:00	Carbon Capture, Utilization, and Storage Potential in Canada – <i>Marcia Couëslan</i>	Career Change – From Field to Leader – <i>Tafa Kennedy, P.Geo.</i>		
15:30			Networking	
16:00	Fitness Session			

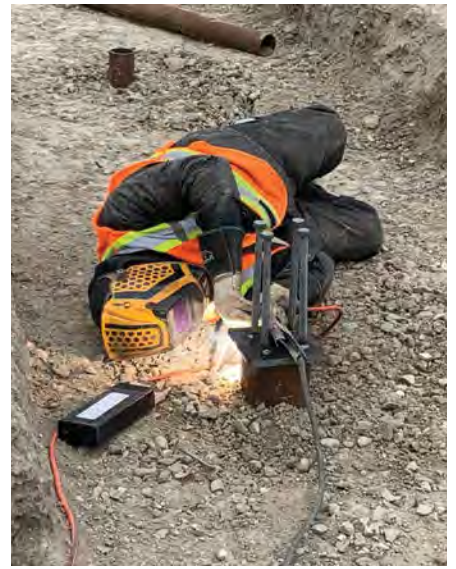
For details of each session, visit [www.EngGeoMB.ca/Ingenium](http://www.EngGeoMB.ca/Ingenium).



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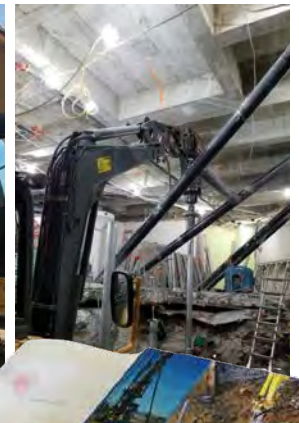
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# EARLY CAREER LEADERSHIP

# DELEGATION



By K. Dodds

**E**very effective leader must learn and employ delegation. One of the most challenging aspects of early career leadership is that your role now is not to produce work through yourself, but to produce work through others. If you

fail to learn delegation, you will quickly become overwhelmed and will not have enough time to adequately lead and support your team effectively. The more you share the load, the more time you will have for your staff.

I would encourage you to think of delegating tasks to others, or even to yourself, as opportunities. Even delegating the most basic tasks in an organization can present unforeseen positive or negative outcomes, depending on your outlook.

So how do we effectively share the load? I'd like to remind you of the expression "That's not my monkey". Picture an employee running into your office and saying, "We have a problem". Take a minute and think about that word "we". The employee proceeds to describe the problem to you and you stare at them, fully engrossed in the details of this new challenge, like the action-oriented, solution-focused engineer you are. You rack your brain for solutions, cycling through your copious mental rolodex, driving your hand to the bottom of the toolbox for just the right wrench. You inevitably say, "Let me think about it and get back to you." With this statement, the project has stalled while you formulate a solution. Your employee leaves and has dropped the respective monkey on your shoulders.



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### Is It Time for a Wrench?

I'd like to go back to the use of "we". The next time someone presents you as a leader or manager with a problem, consider whether it is this really a "we" problem. Will offloading that problem from your staff accelerate or stall the solution? What should your role in this situation really be? Does your staff have all the tools required to formulate a solution? Do they really need your wrench? If they do not have all the tools, then why not? And how, if possible, can they be provided? If yes, what is the risk in flipping the "we" problem back to the employee and saying, "Thank you for bringing this to my attention, can you tell me about the solutions you have come up with to address this?"

The next time you find yourself in this situation, I would urge you to follow the advice in Ken Blanchard's, *The One Minute Manager*: "All monkeys should be handled at the lowest organizational level consistent with their welfare". The next time your staff member tries to drop a monkey off on your shoulders, allow your staff to retain control as

"Just because you can solve a problem faster, more efficiently, or in just the way you like does not mean you should take that opportunity away from your team."

people need to be empowered to act and solve problems. Part of your role as a leader is providing your staff with tools and training to perform their jobs. Responsibility can only be developed if people are given responsibility.

Just because you can solve a problem faster, more efficiently, or in just the way you like does not mean you should take that opportunity away from your team. Give them the opportunity to grow and they may surprise you. This does not mean you are off the hook. You are responsible for providing your team with the tools necessary to do their jobs.

If you find yourself hesitating to let go, ask yourself the following questions:

- *What is holding me back?*
- *What am I afraid will happen if I am not directly involved in this project or solution?*

Once you have the answers to those questions you can work to resolve them

and transfer responsibility. Remember, as a leader, it is your responsibility to delegate work, but still remain in control of the outcome of that work.

The greatest compliment that you can receive from one of your staff or team members is that they feel supported.

Will delegation be easy? No. Will it feel uncomfortable telling other people what to do? Quite possibly. Will pressure of leadership always feel like a walk in the park? Absolutely not, but your role and your privilege are to lead people into whom and what they should become. Pressure is a privilege, and we who have worked hard to be given the opportunity to lead others should embrace that challenge.

All this to say that just because you move into a leadership or a management position, it does not mean you get to avoid nitty gritty. Do not let pomposity get the better of you. Continue to roll up those sleeves. ☩

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# Silver

By R. Reichelt, P.Geo., FGC, and L. Stewart, P.Geo.

## Introduction

Silver is an inherently attractive material. Bright, shiny, and useful, silver is rightfully classified as a precious metal. In this essay, we will look at its history, production, and occurrence, and its current uses, including its use as a commodity.

## History

People have used silver for at least the past 5,000 years, with the earliest evidence of silver mining dating from approximately 3,000 B.C. in Anatolia.<sup>1</sup> Historically, silver was used for jewelry, art works, and especially as currency. Silver from the Laurium mines in Attica financed the Athenian thalassocracy. The Romans paid their legions with silver from mines in Spain and the Spanish paid for their Armada and famous tercios with silver from Mexico and Peru. In North America, significant silver production has come out of Nevada, Alaska, and the Cobalt region of Ontario.

We know a lot about coinage used by the Romans because, when the Western Roman Empire was falling apart politically in the years from 400 to 500 AD, wealthy families would bury their silver to keep it out of the hands of the advancing barbarians. They weren't always able to return to their stashes and these hordes are uncovered by treasure hunters on a regular basis, as in **Figure 1**.



**Figure 1:** Roman Silver Coins<sup>2</sup>

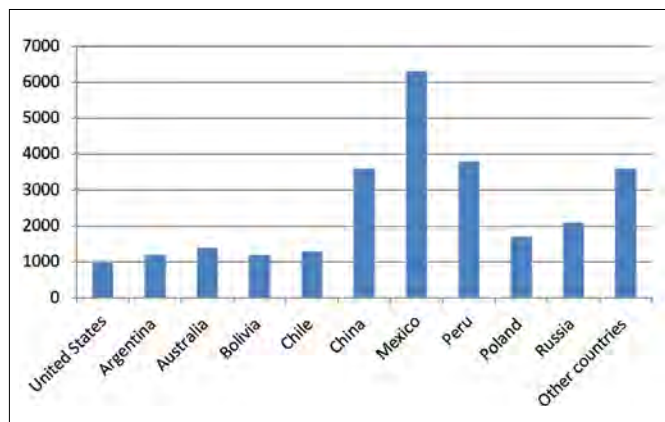
## Production

The production figures shown are for 2019, pre-COVID-19. Approximately 27,000 tonnes of silver were produced worldwide in 2019.<sup>3</sup> **Table 1**, shows the major producers in 2019.

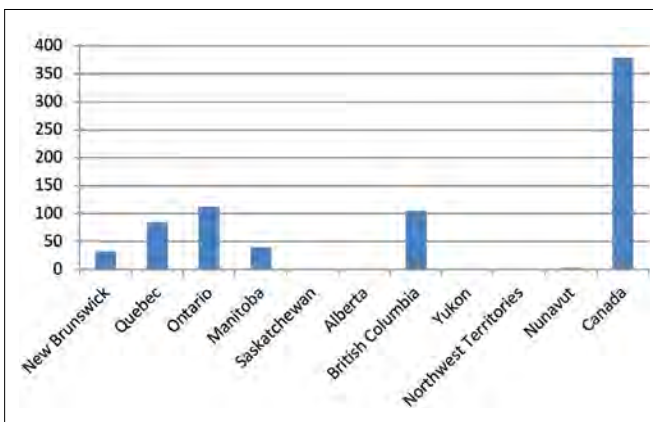
Canadian production of silver in 2019 was approximately 379 tonnes, of which 40 tonnes were produced from mines in Manitoba.<sup>4</sup> **Table 2** shows Canadian silver production in 2019.

## Occurrence

In addition to native silver, there are about 143 minerals that have silver as a significant component.<sup>5</sup> Most of these Ag-bearing minerals are rare: exceptions are acanthite ( $\text{Ag}_2\text{S}$ ), proustite ( $\text{Ag}_3\text{AsS}_3$ ), and pyrargyrite ( $\text{Ag}_3\text{SbS}_3$ ).<sup>6</sup> Silver commonly occurs as a minor constituent of copper, lead, and zinc-sulfide minerals or as minor inclusions of native silver within the deposits. Silver can also



**Table 1:** World Silver Production, 2019 in tonnes<sup>3</sup>



**Table 2:** Silver Production in Canada by Province in tonnes<sup>4</sup>

be found as a natural alloy with gold, known as electrum.<sup>6</sup>

Silver-bearing minerals are usually found in locations associated with past magmatic and/or hydrothermal activity. Deposits of significant grade are formed in four genetic groups: volcanogenic massive sulphides (VMS), sedimentary exhalative (SEDEX), lithogene, and magmatic-hydrothermal. Of these types, the greatest production is from the magmatic-hydrothermal deposits associated with cordilleran igneous and volcanic suites. This accounts for the silver occurrences in the expansive trend ranging along the western side of the Americas from Chile to Alaska, as well as the trend of silver occurrences in Europe and Anatolia.<sup>6</sup>

While some silver production has been from mines where silver-bearing minerals predominated, most silver production is from mines where the primary production is copper, lead, or zinc.<sup>6</sup> This is the case here in Manitoba where there are no dedicated silver mines but where silver is produced as a by-product of the production of base metals.<sup>7</sup>

### Uses of Silver

Silver is known as a precious metal primarily because it is rare and has high economic value, but is also extremely useful due to desirable physical properties. Silver is stable and resists tarnish by oxidation, making it suitable for decorative applications and as currency. It also has the highest electrical conductivity of all metals, making it desirable for the electric industry. For example, in 2019 in the United States the estimated domestic uses for silver were 30% electrical and electronics, 26% jewelry and silverware, 12% coins and medals, 3% photography, and 29% for other purposes. Other applications for silver include use in pharmaceuticals, batteries, bearings, brazing and soldering, automobile catalytic converters, electroplating, inks, mirrors, photovoltaic solar cells, water purification, and wood treatment. Dental amalgams are made from mercury and silver; the two metals are biocides that inhibit recurrent decay.<sup>3</sup>

### Silver as a Commodity

Silver is no longer in general use as currency. This is the result of monetary inflation lowering the relative value of state currencies, such as the Canadian dollar, with regards to silver. For example, once the value of silver in a coin, such as a silver dollar, exceeded the face value of the coin it was no longer economical to issue silver coins. This change occurred in Canada in 1967, following which “silver” coins were struck using nickel and people removed the existing silver coins in circulation for their silver content. Silver dollars minted in Canada from 1935 to 1967 weighed 23.33 grams and were 80% silver and 20% copper, thus containing 18.66 grams of pure silver. At the current price of silver \$0.84/gram (July 16, 2020), a 1966 Canadian Silver Dollar would be worth \$15.67 just for its silver content.

As a commodity, silver has its share of speculators, as well as people who buy it as a tangible precious-commodity store of wealth. The price of silver over the last year reflects the general volatility of our economy as is shown on **Table 3** below. Due to the common practice of measuring precious metals as commodities, gold and silver often parallel each other over the long term. Therefore, a commonly used metric of the relative fluctuations in the market is represented by the ratio of gold prices to silver prices.

If you are looking for silver coins to bury in your back yard before the

barbarians arrive, one good place to start is the Royal Canadian Mint website.<sup>9</sup> There are also dedicated precious-metal dealers. You can even get old Roman currency from coin dealers, if you wish.

There is a lot more that could be said about silver. If you are curious to learn more, start with the references below and enjoy your search.

### References

- <sup>1</sup> The Silver Institute, 2020, *Silver Mining in History*, <https://www.silverinstitute.org/silver-mining-history>
- <sup>2</sup> Karasavvas, T., October 2017, *Huge Hoard of Ancient Roman Silver Coins Worth £200,000 Found During Treasure Hunt*, Ancient Origins, <https://www.ancient-origins.net/news-history-archaeology/huge-hoard-ancient-roman-silver-coins-worth-200000-found-during-treasure-021639>
- <sup>3</sup> U.S. Geological Survey, 2020, *Mineral commodity summaries 2020*: U.S. Geological Survey, 200 p., <https://doi.org/10.3133/mcs2020>
- <sup>4</sup> Natural Resources Canada, February 2020, *Annual Statistics of Mineral Production, Preliminary estimate of the mineral production in Canada, 2019*, <https://sead.nrcan-rncan.gc.ca/prod-prod/ann-ann-eng.aspx>
- <sup>5</sup> Hudson Institute of Mineralogy, 2020, *The Mineralogy of Silver*, <https://www.mindat.org/element/Silver>
- <sup>6</sup> King, H.M., 2013, *Silver*, in Geology.com, <https://geology.com/minerals/silver.shtml>
- <sup>7</sup> Manitoba Agriculture and Resource Development, May 2019, *Manitoba Mineral Sector Profile, Manitoba Operating Mines*, <https://www.gov.mb.ca/iem/industry/sector/mines.html>
- <sup>8</sup> SilverPrice.Org, June 2020, <https://silverprice.org/silver-price-chart.html>
- <sup>9</sup> Royal Canadian Mint website, [https://www.mint.ca/store/buy/silver\\_coins-cat120006](https://www.mint.ca/store/buy/silver_coins-cat120006) ☺



**Table 3:** Silver Price July 8, 2020 to July 8, 2021 in CAD<sup>8</sup>



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# Ingenium Task Group

By R. Lewis

Conferences have become a staple of just about every organization. Every year, like-minded and similarly qualified professionals congregate to learn, network, and later apply all the information that is scheduled into a few intense days of activities. What many often don't realize is just how much planning and effort go on behind the scenes to make a conference a resounding success; one that members would be excited about attending in the future. But the lack of awareness is not necessarily a negative. In fact, it's more of a testament to the well-oiled machine that keeps professionals and organizations on top of their game. Engineers Geoscientists Manitoba is one such well-oiled machine that works to provide members with the content and information needed to advance in their careers.

The challenge of achieving a successful conference each year includes selecting themes, introducing compelling content that holds the attention of attendees, inspires members, and raising awareness of pertinent topics. In addition to pulling all the moving parts together, there is the additional challenge of finding and choosing the right speakers to present on those topics. With so many hurdles to cross before the leap to the conference day finish line, the Association saw the need for the creation of a dedicated task group that could facilitate this multifaceted process. In July 2017, the Ingenium Task Group was formed with this very goal in mind. And who better than the very target audience of Ingenium to help shape the event? The task group, originally a four-member committee, has grown to six members since its inception – five engineers and one geoscientist – who represent the various disciplines within the two fields.

## Value of Getting Involved

Andrew Kalicinski, P.Eng., an industrial engineer and one of the task group's original members, had not been a regular attendee to Ingenium. He, however, saw the task group as his opportunity

to contribute rather than remain on the sidelines. Kalicinski decided to join the task group not only to get more involved in the profession, but also because he felt confident that the years of experience he had gained working as an engineer and his past experience in event planning could be useful. Kalicinski also saw the value of the Association reaching out to members in an attempt to form a task group to produce such a major event as its conference.

"While several of the staff at the Association are engineers, I can appreciate how it may be seen as a closed loop. It was felt that the task group would be helpful in providing broader input", he said.


Tania Martins, P.Geo., a geoscientist and one of the task group's newest members, decided to join in June 2020. For Martins, as a member of an Association that represents both engineers and geoscientists, she saw getting involved in the task group as the perfect opportunity to represent her profession and fellow geoscientists in lobbying for more geoscientific content. Martins, one of the two female members of the Ingenium Task Group, who also

chairs the Continuing Competency Committee and actively works in mentoring females to pursue geoscience as a career, felt that her involvement in shaping the content of the conference could potentially draw more interest from her colleagues in the geoscience world.

## Retreat to the Virtual World

While the pandemic has forced the task group to go virtual, planning meetings are typically held at the Association's headquarters. Meeting remotely has certainly proven to be convenient for the group. Gemma Keatch, the Association's staff support for the task group, coordinates the meetings and also takes the feedback provided from those meetings to create professional development seminars for members to attend during Ingenium, then recruits the speakers.



In the future, the virtual component to the planning meetings may even become a staple for the group, particularly when scheduling conflicts arise. The doing-away with in-person meetings, however, is not a situation that the task group members foresee. Both Kalicinski and Martins see the



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value in the online format, but admitted to missing the in-person connection.

“The format has been working well. Gemma is also very organized and we follow an agenda, so it’s sometimes easier to get things done, but at the same time, for certain aspects, it is more difficult, and I do miss the personal connection”, Martins said.

Kalicenski also expressed hopes for an in-person post-conference recap come November when the group meets to discuss the success of the conference, review attendee surveys filled out during the conference, assess the level of attendance and engagement among attendees, and the topics that solicited the most interest. Clayton Crawford, P.Eng., an engineer and original member of the task group, is also looking forward to the very same progression when it comes to the conference. Ingenium, which had shifted to an online format last year, will also follow the same format this year. There is anticipation, however, that the conference will return to its former glory of being an

“**In-person attendance will remain an important networking opportunity, but it is also important to recognize that some people simply want the content.**”

in-person event, but with the potential for an online component.

“It offers a much greater geographical range and the opportunity to view content at one’s convenience. In-person attendance will remain an important networking opportunity, but it is also important to recognize that some people simply want the content”, said Crawford.

**Shared Sentiment**

One of the perks of getting involved with the task group has been the opportunity to engage with people from all walks of the engineering and geoscientific worlds and putting faces to the names of the those who work at the Association. Crawford is particularly

looking forward to this year’s event.

“It is shaping up as a very strong slate of speakers with topics of interest to a broad audience, but also with technical content that will appeal to our geoscientist and engineering colleagues”, he said.

Overall, Ingenium Task Group members consider the experience to be a rewarding one and for the Association, which has reaped the rewards of their involvement in the process, the sentiment is a shared one.

“As an events professional, having the input from the members who form this task group has been invaluable, and the quality of our content is because of them. I couldn’t do it without them!”, said Keatch. ⊕



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# ‘The New Limitations Act’

## Given Royal Assent on May 20, 2021

The upcoming proclamation of *The Limitations Act* is the culmination of at least 12 years of effort by the Association. A limitation refers to a law that sets a maximum period that a person can wait before filing a lawsuit. The limitation periods in Canada vary by province and by type of claim. Manitoba had the longest limitation period in Canada, at 30 years, and the Association sought to have the Manitoba Government reduce both the basic and ultimate limitation periods to be in line with other provincial jurisdictions. The appeal to government was made on the basis that the change would not only improve regulatory efficiency by better aligning regulations across provinces and reducing red tape, and on the basis that having the longest liability period might be impairing Manitoba’s competitiveness in trade, labour mobility, and attracting and retaining businesses.

### History: Efforts from 2009-2017

In 2009, six associations, including Engineers Geoscientists Manitoba, the Winnipeg Construction Association, the Consulting Engineers of Manitoba, the Manitoba Association of Architects, the Association of Manitoba Land Surveyors, and the Certified Technicians and Technologists Association of Manitoba, jointly submitted a recommendation for amendments to *The Limitations of Action Act* to the Manitoba Law Reform Commission. In 2010, the Commission released a report on Limitations of Actions in Manitoba with 38 recommendations, including that the basic limitation period should be two years from discoverability for all claims and that the ultimate limitation period should be 15 years.

In 2017, the Association identified changing *The Limitation of Actions Act* as the top priority for the Association’s Government Relations Department.

### Recognition of Efforts Made by the Association’s Limitations of Action Task Group from 2017-2021

The Association’s Limitations of Action Task Group was created in November 2017 to engage stakeholders who had the expertise, ideas, and passion to support and advocate for lowering the limitations periods. The Task Group worked with the Government Relations Department to develop and submit a proposal for changes to *The Limitations of Action Act* to the Minister of Justice at the time. Initially, the government anticipated addressing the Association’s issues through a private member’s bill to exempt Engineers Geoscientists Manitoba from the Act, but later determined that a government-sponsored bill was the approach to take, replacing *The Limitations of Action Act* entirely.

Throughout these long years of pursuing Act changes through these alternate mechanisms, the Limitations of Action Task Group and the Government Relations Advisory Committee provided solid advice to the Government Relations Department. The Government Relations Department would like to recognize the Limitations of Action Task Group members who participated in this lengthy endeavour, thank them for their support and efforts on behalf of the Association, and congratulate them on the successful conclusion of this advocacy effort. The Task Group members from the Association are James Blatz, Steve Reaburn, John Guenther, Leonnie Kavanagh, Allan Silk, and Tom Gouldsbrough.

Derek Johnson, Commercial Branch Manager and Partner of Standard Insurance, is an expert and valued member of the Task Group. Association staff supporting the Task Group are Mike Gregoire, Grant Koropatnick, Scott Sarna, Suling Dong, and Monika Franz-Lien.

This Task Group will now be disbanded.

### What the Changes Are

Here is a summary of *The Limitations Act*. For the full version of the Act, see the link below.

#### Basic limitation period

The previous Act had several limitation periods ranging from two to 10 years, based on the type of legal action. *The Limitations Act* replaces those periods with a single limitation period of two years, which begins to run from the day the claim is discovered. A claim is discovered when the person with the claim knew, or ought to have known, the material facts.

#### Ultimate limitation period

Even if a claim has not been discovered within 15 years of the event that gave rise to the claim, an action started after the 15<sup>th</sup> anniversary of that event will be statute barred. This 15-year period is called the “ultimate limitation period”.

#### No limitation period

The new Act lists a variety of proceedings for which there is no limitation period, such as proceedings arising from a sexual assault.

#### Suspension of limitation periods

A limitation period is suspended during the time a claimant is a child or under a disability, or if the person who is to defend the claim has concealed it from the claimant, or willfully misled the claimant.

#### Financial claims

Detailed rules are provided for determining whether claims of a financial nature have been acknowledged by the debtor, in which case, the limitation period for the claim begins to run again.

Link to the Act: <https://web2.gov.mb.ca/bills/42-3/b051e.php> 

## Danny Chui Appointed Engineers Canada President

Our national industry association, Engineers Canada, has appointed Danny Chui, P.Eng., FEC, as president for the 2021–2022 term.

Chui has over 30 years of managerial experience with the City of Toronto in the Capital Works Department with the Board of Governors of Exhibition Place. He oversaw the planning, budgeting, programming, implementation, management, and administration of the Board of Governors of Exhibition Place annual Capital Works Program, in addition to undertaking major construction support and advisory functions.

## NOTICE

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

This is Notice that on November 30, 2020, Pavel F. Ast 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. Ast's failure to comply with the Association's Continuing Professional Development program for multiple reporting periods, in contravention of Section 11.3 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.

The Association's Investigation Committee was unsuccessful at resolving this matter with Mr. Ast by way of penalty proposal.

In addition to the reprimand, Mr. Ast was required to pay a fine in the sum of \$500 and costs in the sum of \$2,250.

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

## E-News Notices

Are you a current subscriber to the Association's weekly online News Notices? If not, you may be missing out on important updates, events, volunteer, and professional development opportunities.

To subscribe, please visit the Engineers Geoscientists Manitoba website to update your subscription preferences in your database profile. If you are already a subscriber to the News Notices, be sure to add the Association as a contact in your email settings in order to ensure they arrive in your inbox promptly.

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S. Amirsadri	S.W. Douglas	V.G. Kallur	B. Mohammadi	V. Shalini
G. Asala	N. Dumral	S. Kanevsky	A. Mokhtar-zadeh	H. Sharma
J.S. Bansal	K.E. Egilson	A. Kebernik	D.G. Morlidge	S.W. Simons
W.J. Bautista	J.G. Fairhead	J.C. Kehler	Y. Mouzahem	K.J. Sinclair
S. Bhadra	B.K. Fell	R.J. Khakharia	D.B. Murray	D.F. Sketchley
O.A. Bloch	D.G. Fernandes	J.L. Kianfar	S. Naraekkattu Shaji	J. Soviak
P.L. Bonham	M.N.J. Fillion	E. Koc	B. Nguyen	S.A. Stevenson
P.N. Boyd	D.M.W. Friesen	B.A. Kowalski	A.L. Ominski	F. Tan
E.G. Burnham	L. Giritharan	M.S. Kowalski	J.P. Ormiston	J. Tjahjadi
J.A.A. Canaveral	D.V. Glenney	K.E.V. Kuby	P.A. Ozigbo	E. Ustundag
T.J. Chadwick	C.L. Greene	A.C. Kuruppu	D.R.H. Parsonage	R.J.J. Van Rensburg
W.W. Chan	N. Gurbarsud	S.S. Kwon	M.A. Pelletier	R.A. Vendramelli
J.L.Y. Chen	S.L. Gustafson	H.D. Lavoie	A. Pimenta Ribeiro	C.H.P. Vidinha
R.L. Cholock	F. Habib	N.C. Lee	Pontes Almeida	G.F. Vogelsang
J.D.A. Cole	A.S. Hammad	X. Lei	J.J. Pinkos	C.K.M. Wai
E. Cornish	S.E. Haq	I.W.H. Leung	C. Pitman	H. Wang
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# Professionalism Through e-Learning

This year, Engineers Geoscientists Manitoba will launch the first phase of a new resource for all practitioners. This proactive approach to professional regulation will involve the introduction of e-learning modules available directly through our secure website. With the new system, members will be able to learn and review concepts of professionalism, including standards and guidelines, from any device at their own pace.

The first phase includes three modules:

- Introduction to Professionalism
- Code of Ethics
- Good Character

The introductory module takes a look at professionalism at the highest level. Users will gain a better understanding of the initial registration requirements, and continuous professional practice responsibilities. These concepts will help practitioners to answer the fundamental question, "How do I avoid being found guilty of professional misconduct?".

The Code of Ethics module assists members in understanding this foundational piece of our legislation. When the Code of Ethics was updated in 2018, it was simplified from its previous form. However, it still maintains most of the underlying principles.



The primary benefit of the e-learning module is that this new format presents the information in a way that addresses multiple learning styles.



Now, the content is further reviewed and supported with real-world cases so that an engineer or geoscientist may have a better grasp of the complex professional scenarios to avoid stepping over the line.

The Good Character module will serve applicants and long-serving members alike in understanding this rapidly evolving concept in professional regulation. Good character traits such as trustworthiness, respect, and responsibility are defined. Much like the Code of Ethics module, the concepts are reinforced with actual investigation files that led to disciplinary action.

In addition to the first phase described above, work has already started on the second phase of development for e-learning modules. The next three modules aim to provide a new way to digest the information found in existing guidelines. The chosen guidelines are:

- Authentication of Professional Documents
- Conflicts of Interest
- ProDev

The last of these is aimed squarely at new members and may not be used much by the general membership. The first one, by contrast, is easily the most referenced guideline by members who reach out to the association with questions about expected practice.

Although these guidelines have existed in written form for years, there are benefits to having them ported into e-learning format. The primary benefit of the e-learning module is that this new format presents the information in a way that addresses multiple learning styles. In addition, they offer an online resource for members seeking Formal Training options, as the modules all include verification of knowledge retention (i.e., quizzes). To make it even easier for members, when one of these modules is completed through the Engineers Geoscientists Manitoba website, the ProDev system will automatically recognize it.

Are there any e-learning modules that you'd like to see developed? What other resources should Engineers Geoscientists Manitoba provide in tandem with these e-learning modules?

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](mailto:MGregoire@EngGeoMB.ca). ☎



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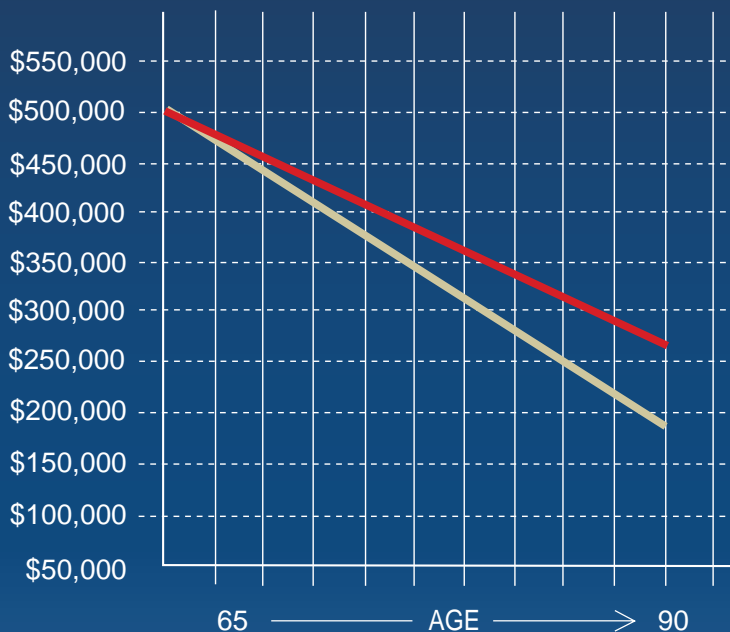
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