SUMMER 2023

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# ENGINEERING DIMENSIONS

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# ENGINEERING DIMENSIONS


## PUBLICATIONS STAFF

**Editor**
Nicole Axworthy
editor@peo.on.ca

**Associate editor**
Marika Bigongiari

**Associate editor**
Adam Sidsworth

**Senior graphic designer**
Cindy Reichle

**Director, communications**
Katarina Praljak

**Manager, communications**
Duff McCutcheon

**Digital communications coordinator**
Michelle Yiu

## CONNECT WITH US

Professional Engineers Ontario

## ADVERTISING SALES

DOVETAIL COMMUNICATIONS

**Senior account executive**
Vince Naccarato
vnaccarato@dvtail.com

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Alliance for Audited Media

# MAKING A GREATER IMPACT

By Nicole Axworthy

When you need to get information to an audience, what's the first thing you think of? Social media? A website ad? Email? These are the questions PEO's policy team is currently grappling as they look to raise the profile and value of PEO's professional practice resources. This crucial information is created to educate practitioners on their duties and responsibilities in their everyday engineering practice. Yet, according to a 2016 survey of licence holders, many are not even aware that PEO offers practice advisory services and are consequently not tapping into these resources—even though they need the support, including for non-technical issues.

In "How PEO is enhancing its practice resources" (p. 20), we explore how PEO is taking its practice advice offerings in a new direction. Traditionally, it flows to licence holders by way of published performance standards, practice guidelines and bulletins. But not everyone has the time or capacity to read a 30-page PDF. So, to make this information as relevant, accessible and usable as possible, PEO is considering adding supporting tools such as videos, FAQs, webinars and study guides to help engineers better consume and apply this practice advice. And we want your input to ensure these tools make an impact (p. 23).

When it comes to making an impact on Council, new PEO President Roydon Fraser, PhD, P.Eng., FEC, has done just that for decades. In fact, I've personally witnessed his dedication to regulatory issues while attending Council meetings as far back as 2004, when I was assistant editor of *Engineering Dimensions*. As you'll read in "Driving PEO's future vision" (p. 28) as well as in his first President's Message (p. 6), Fraser has a solid plan for his year as president, and it includes helping PEO craft a vision of its regulatory future to ensure its relevance and value for all stakeholders.

This issue, we also share coverage of PEO's virtual annual general meeting in April (p. 9), when Fraser officially began his presidential term. Plus, with the new Council year already underway, we introduce you to all members of the 2023–2024 Council (p. 35).

Finally, over on page 43, you'll find an overview of new changes to the nomination and selection process for PEO's highly esteemed Order of Honour, which recognizes engineers who have volunteered their time to the profession. Incidentally, the 2024 call for nominations for these awards can be found on page 19. Once you're up to date on the changes, be sure to make note of the October 13 deadline if you have someone you'd like to nominate in mind. **e**

## LET US KNOW

To protect the public, PEO investigates all complaints about unlicensed individuals or companies, and unprofessional, inadequate or incompetent engineers. If you have concerns about the work of an engineer, fill out a Complaint Form found on PEO's website and email it to **complaints@peo.on.ca**. If you suspect a person or company is practising engineering without a licence, contact PEO's enforcement hotline at 800-339-3716, ext. 1444, or by email at **enforcement@peo.on.ca**.

# THE ENGINEERING PROFESSION: PAST, PRESENT, FUTURE

By Roydon Fraser, PhD, P.Eng., FEC

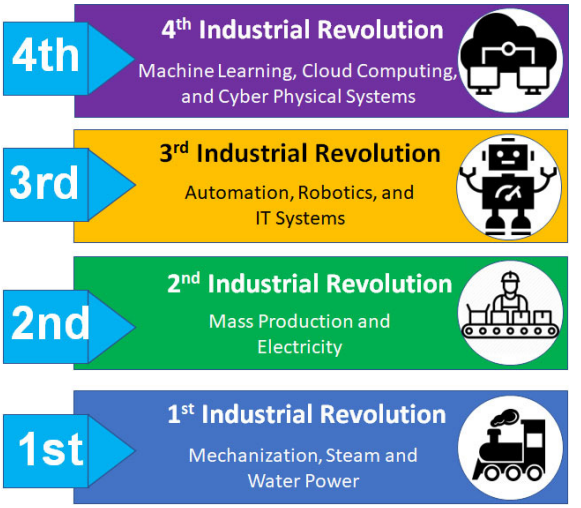



Figure 1: Evolution of Industrial Revolutions

Undoubtedly, engineering can be called The Great Profession, and we all can be very proud to be connected to this profession. But where is the future of engineering regulation headed? What opportunities and obstacles lay before us? It is a conversation I hope all PEO members will be interested in contributing to as PEO embarks over the next year on its strategic goal of establishing a future-looking vision to ensure all stakeholders see and realize "relevance and value in PEO."

To kick off PEO's future vision conversation, a good place to start is to look back and see what we can learn from history.

Mechanization with steam and waterpower defines the First Industrial Revolution, which took place from approximately the mid-1700s to mid-1800s. During this time, industrial production utilizing steam power surpassed the output of craftspersons and artisans, significantly increasing the demand for engineering skills. In parallel, science provided engineers with the means for technological advancement.

The Second Industrial Revolution, which spanned from the mid-1800s to around 1930, marked the era of mass production with assembly lines fuelled by electricity. And as society began to appreciate the dangers associated with engineering and expect greater accountability from governments and practitioners towards the end of the Second Industrial Revolution, the regulated engineering profession emerged. Thus, PEO was born on June 14, 1922. A critical element of the birth of the regulated engineering profession in Canada was a recognition that if practitioners had a vested interest in regulation, this could enhance public safety—and self-regulation was simultaneously born in Canada.

Although the first licensed professional engineers were traditional civil, mechanical, electrical, chemical and mining engineers, as technology advanced over the following decades, new engineering fields continued to emerge. Today, just in Canada, there are more than 200 accredited engineering programs spanning more than 70 different engineering disciplines. The point is engineering has become very multi-disciplinary—and new engineering disciplines will continue to emerge.

**THERE ARE CHALLENGES FACING THE ENGINEERING PROFESSION—BUT ENGINEERS ARE CREATIVE PROBLEM SOLVERS WHO I KNOW CAN POSITIVELY TACKLE THESE CHALLENGES IN A PROFESSION-ENHANCING, PUBLIC-PROTECTION-IMPROVING WAY.**

But is the regulated profession capable of handling more than the traditional engineering disciplines and slight variations thereof? And if it is capable, should the engineering profession regulate emerging engineering disciplines? These are just two of many questions to ask as PEO embarks on a strategic vision goal to ensure all stakeholders see relevance and value in the P.Eng.

Let's continue the history lesson just a bit longer to see what insights it might yield concerning possible futures for the regulated engineering profession in Canada.

The Third Industrial Revolution, from about 1930 to 2000, characterized the advent of electronic and information technology (IT) systems such as computers, robotics and automation. The Fourth Industrial Revolution, which began around 2000 and continues to the present, is marked by the internet and the datafication of nearly everything, enabling boundless information and autonomous decision-making by cyber-physical systems.

As for the Fifth Industrial Revolution, many claim we are at the start of it today. And although we have yet to establish its definition, most agree it will involve artificial intelligence (AI).

In brief, engineering rose to prominence because of the early industrial revolutions' direct correlation with increases in economic activity and corresponding increases in the standard of living via the manipulation of energy and materials. In contrast, the modern industrial revolutions are less about energy sources and materials and more about information and its use. This shift to information importance started with computer systems in the Second Industrial Revolution, expanding into IT systems in the Third Industrial Revolution before culminating today with the Fourth Industrial Revolution being almost entirely about information.

What might the future hold? And what will PEO need to be prepared for it? To begin answering these questions let's consider two sets of data.

As shown in Figure 2 (top right), 92 per cent of current PEO applicants belong to just 10 traditional and closely related engineering disciplines, and only 8 per cent belong to the 22 other engineering disciplines recognized by PEO. Also, as shown in Figure 3 (bottom right), slightly more than a third of engineering graduates in Canada seek licensure, with Ontario's rate being significantly below the national average at less than a quarter seeking licensure. For now, I will let you digest these numbers and contemplate what they might mean for the future of engineering in Canada.

From my perspective as an educator who conducts research using machine learning, develops quantum algorithms for engineering applications, supports my students who establish entrepreneurial businesses and teaches students who engage in emerging discipline co-ops, the future does not look bright for the engineering profession if it does not embrace non-traditional and emerging disciplines. But this is just my perspective. What is your perspective? Answering whether PEO should regulate new and newer engineering disciplines from the perspective of all stakeholders is a key question to be answered this year as part of PEO's strategic goal to define a future vision. Another key question when considering PEO's future vision concerns the future role and form of self-regulation in protecting the public interest.

There are challenges facing the engineering profession—but engineers are creative problem solvers who I know can positively tackle these challenges in a profession-enhancing, public-protection-improving way.

I am looking forward to the year ahead and working closely with members to develop an aspirational, robust and realistic future vision for PEO that seeks relevance and value for the P.Eng. **e**

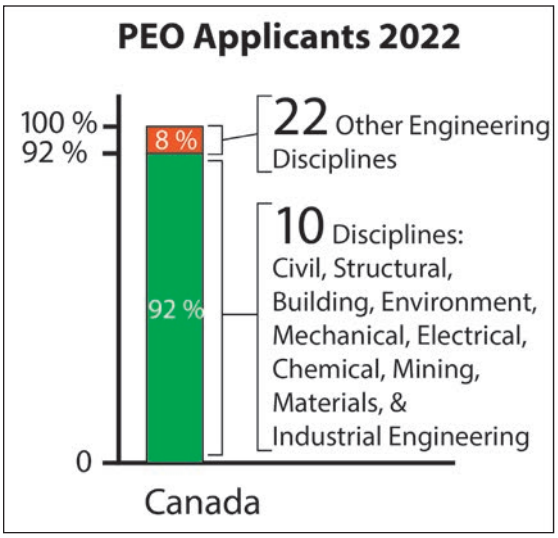



Figure 2: PEO applicants in 2022

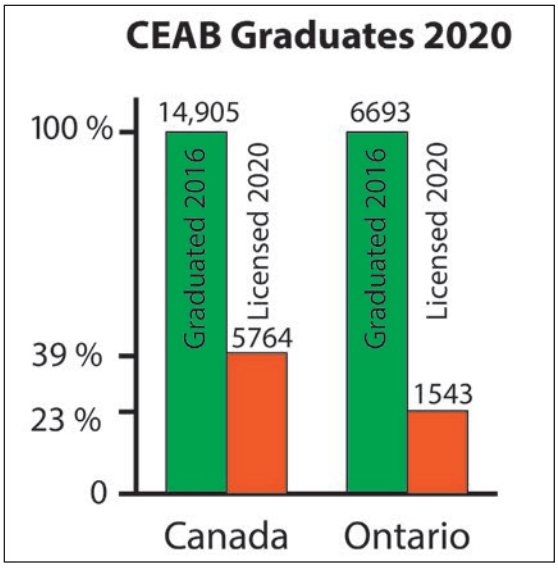



Figure 3: Proportion of CEAB graduates seeking licensure

# WITH CHANGE COMES EXCELLENCE

By Jennifer Quaglietta, MBA, P.Eng., ICD.D

According to a famous quote by Will Durant, who was interpreting the teachings of Aristotle: "We are what we repeatedly do. Excellence, then, is not an act but a habit." For me, this quote speaks to the importance of consistency and dedication in achieving excellence. It's not enough to simply have a one-time burst of motivation or inspiration; rather, we must cultivate habits and consistent practices if we are to achieve our goals.

My first six months at PEO have certainly provided me plenty of opportunity to incorporate excellence—a trait I share with Council, PEO staff and volunteers. Together, we demonstrated excellence at our 2023 Annual General Meeting (AGM) on April 29. At the AGM, Roydon Fraser, PhD, P.Eng., FEC, was sworn in as PEO president, while Past President Nick Colucci, P.Eng., FEC, and I updated attendees on key PEO milestones of the previous year.

Our AGM is perhaps PEO's keystone event of the year, and Roydon, Nick and I couldn't have done it alone. Our AGM ran smoothly because countless PEO employees and partners worked hard to make it a success. Excellence is a PEO trait.

## RECEIVING PRAISE

And PEO's excellence has been noticed. At a news conference held on May 23 at a downtown Toronto construction site, Minister of Labour, Immigration, Training and Skills Development Monte McNaughton admired PEO for being the first professional regulator to update its licensing procedures as required under the *Fair Access to Regulated Professions and Compulsory Trades Act* (FARPACTA). Specifically, Minister McNaughton praised PEO for removing its one year of supervised Canadian engineering experience requirement for licensure.

Under FARPACTA, PEO and over 30 other professional regulators in Ontario are required to eliminate the Canadian experience requirement by December 2, 2023.

To be publicly praised by a member of the provincial cabinet to the media, who widely reported the event, is encouraging—and, in fact, unique page views to our website doubled that day, to nearly 20,000, proving interest in the changes. As PEO Vice President (elected) Christopher Chahine, P.Eng., PMP, noted at the press conference, up to 60 per cent of PEO's applicants for licensure in a typical year are internationally trained, and PEO is dedicated to ensuring those qualified are licensed fairly and efficiently.

Going forward, most applicants for licensure will receive a licensing decision within six months of submitting a complete application. To enable this turnaround, all applicants must now fulfill their academic and engineering experience requirements at the time they submit their application. And, importantly, many more international undergraduate engineering degrees will be recognized by PEO and be accompanied by a confirmatory exam program and a competency-based assessment.

## EMBRACING CHANGE

Minister McNaughton's acknowledgement provides us with an opportunity to revel in our excellence. By aspiring to excellence, we created a new licensing process that is fair, transparent and protects the public interest. However, excellence ushers in change. And although change can be uncomfortable, it's important to remember that change is ongoing. It is not something that happens just once a year and then we're done. Rather, it's a continuous cycle of reflection, goal setting and action that allows us to achieve excellence. This is important to keep in mind because professional regulation is not static. Regulatory requirements change. So does the engineering profession, which is evolving exponentially. So, despite Minister McNaughton's glowing words, PEO must be prepared to continually review and adapt all its processes to better serve the public interest.

As PEO embraces its new licensing model, let's embrace Aristotle's wisdom and commit ourselves to the habits and practices that will lead us to excellence. Let's use this time to inspire and motivate each other to reach new heights. Change, here we come. **e**

# ROYDON FRASER BECOMES PRESIDENT AT PEO's AGM

Roydon Fraser transitioned into the presidency at PEO's 101st Annual General Meeting on April 29.

By Adam Sidsworth

At PEO's 101st Annual General Meeting (AGM), which was held virtually on April 29, Roydon Fraser, PhD, P.Eng., FEC, took the oath of office for the 2023–2024 Council term.

"Engineering can truly be called The Great Profession, and we all can be very proud to be connected to that profession," Fraser told attendees during his acceptance speech. "On a personal note, I am very honoured to be your 104th president of the Association of Professional Engineers of Ontario and grateful for this opportunity to guide the engineering profession into the future."

## MESSAGE FROM THE ATTORNEY GENERAL

The AGM opened with remarks from Past President Nick Colucci, MBA, P.Eng., FEC, with a land acknowledgement. With 46 treaties and other agreements covering what is now Ontario, Colucci thanked First Nations, Métis and Inuit peoples, "who have cared for these territories since time immemorial and who continue to contribute to the strength of Ontario and to all communities across the province."

Colucci introduced a pre-recorded message from Attorney General Doug Downey, LLM, LLB, the provincial minister to whom PEO is responsible. Downey reflected on the work of PEO over the past year, including updating its regulations under the *Professional Engineers Act* (PEA) regarding the use of the engineer's seal and the shifting of PEO's continuing professional development (CPD) program, PEAK, to an annual requirement.

"I am encouraged by the initial result of this new requirement," noted Downey. "These changes improve your profession while enhancing public trust [in] engineering." Downey also congratulated PEO on the development of its Anti-Racism and Equity Code, which codifies PEO's commitment to its fairness, human rights and public-interest obligations under the law. "This is a significant achievement, and it's something that every organization should dedicate meaningful time developing and strengthening. I look forward to seeing how you integrate this code and what you learn into your daily work."

## ACKNOWLEDGEMENT OF GUESTS

After Downey's address, Colucci acknowledged the virtual attendance of invited guests to the AGM, including representatives of other provincial and territorial engineering regulators; Engineers Canada; external stakeholders in the Ontario engineering community, including the Ontario Society of Professional Engineers, Black Engineers of Canada, Engineering Deans Ontario and the Ontario Building Officials Association; and representatives of other closely allied regulated professions in Ontario, including the Association of Ontario Land Surveyors, Professional Geoscientists Ontario and the Ontario Association of Certified Engineering Technicians and Technologists.

## PEO's FINANCES

Licence holders were asked to accept the minutes of the 2022 AGM. The minutes were passed, with 99 per cent voting in favour.

Lorne Cutler, MBA, P.Eng., 2022–2023 chair of the Audit and Finance Committee, then presented a report on the audited financial statements for 2022. "Overall, the association's finances are healthy and are expected to remain so for the foreseeable future," Cutler noted, adding that as of December 31, 2022, PEO had:

- Revenues of $32.7 million ($32.5 million in 2021);
- Expenses of $30.6 million ($26 million in 2021);
- A surplus or net excess of revenues over expenses of $2.1 million ($6.5 million in 2021); and
- $34.7 million in cash and marketable securities ($31.2 million in 2021).

Council had already approved the report in March 2023. However, licence holders in attendance were accommodated the chance to ask about PEO's selection of its auditor, Deloitte, for 2023 with some asking why a Canadian-owned firm was not chosen. Chetan Mehta, PEO's director, finance, noted that multiple factors go into choosing an auditor; ultimately, Deloitte was chosen because of the quality of its proposal and its competency. Eighty per cent of licence holders in attendance accepted Deloitte as the auditor.

## CEO/REGISTRAR'S REPORT

This year marked the first opportunity for Jennifer Quaglietta, MBA, P.Eng., ICD.D, to attend PEO's AGM in her capacity as CEO/registrar. Having taken over PEO's top position in January, Quaglietta acknowledged the work of her predecessor, Johnny Zuccon, P.Eng., FEC. "Under Johnny's leadership, PEO undertook what is perhaps the most ambitious transformation in its 100-year history," noted Quaglietta. "Many of these initiatives came to fruition during Johnny's tenure, while others will progress in the coming years…Johnny's efforts, contributions and accomplishments are highly commendable and are worth richly celebrating."

Focusing her remarks on the achievements of staff throughout the 2022–2023 Council term, Quaglietta noted that:

- PEO celebrated its 100th anniversary in 2022 by publishing a 16-page spread in *Engineering Dimensions*. Additionally, PEO held one of its first in-person galas in two years, when, on May 13, 2022, current and past councillors, chapter leaders and representatives from other regulatory and advocacy bodies celebrated PEO's 100 years;
- Council approved PEO's 2023–2025 Strategic Plan, which Quaglietta referred to as PEO's North Star, in June 2022;
- Throughout 2022, staff worked to transition PEAK into a mandatory program;
- With PEO required to amend its licensing processes under new *Fair Access to Regulated Professions and Compulsory Trades Act* (FARPACTA) regulations, staff worked to develop new processes to keep PEO compliant under FARPACTA-mandated licensing timelines, set to take effect by July 1, 2023.

President Roydon Fraser, PhD, P.Eng., FEC, delivers his acceptance speech after being sworn in as PEO's 2023–2024 president.

Additionally, PEO will no longer be able to require Canadian engineering experience as part of its licensing requirements as of December 2, 2023;
- Improving PEO's digital performance, such as transferring to a completely digital-based application process for licensure and the digitization of over 24,000 paper-based active applications for licensure to allow for quicker assessments;
- The development of two new guidelines and two updated guidelines designed to help engineers maintain engineering best practices; and
- PEO strengthened its equity, diversity and inclusion with the development of its Anti-Racism and Equity Code, the operationalizing of PEO's commitment to the Engineers Canada–led 30 by 30 program and the ongoing audit of PEO's licensing process to identify possible biases against women.

**PRESIDENT'S REPORT**

Colucci presented his address as outgoing PEO president. "As my term as PEO president concludes, I have reflected on the progress PEO has made over the past year—as well as on our centennial on June 14—when we celebrated 100 years regulating the engineering profession in Ontario," observed Colucci. "Our anniversary served as both a recommitment to our public protection mandate as a modern regulator, as well as a reminder of the great privilege we have in self-regulation." Colucci noted:

- Council's two-day strategic planning workshop in May 2022, during which Council developed many components of PEO's 2023–2025 Strategic Plan prior to its approval in June;
- Council's adoption in September 2022 of PEO's new data-protection policy to ensure the data privacy of licence holders and other stakeholders;
- The approval of a bylaw amendment in September 2022 to formally establish PEO's four governance committees, along with bylaw amendments related to meeting transparency, the incorporation of current approaches to Council and committee meetings and the approval of Council's new guideline outlining rules for observers of Council and committee meetings;
- The approval, in November 2022, by Council, of new licensing processes allowing PEO to be compliant with new FARPACTA requirements, notably the recognition of undergraduate degrees listed in Engineers Canada's International Institutions and Degrees Database accompanied by successful completion of a confirmatory examination program and the use of a competency-based assessment to measure the experience component for licensure;
- In March 2023, Council directed staff to work with the Ministry of the Attorney General to amend Regulation 941 of the PEA to remove references to Canadian engineering experience requirements;
- In February 2023, Council formally stood down eight committees unrelated to PEO's governance or regulatory mandate;
- In March 2023, Council approved risk assessments allowing for the continuation of most chapter activities;
- Throughout 2023, Council oversaw the transition of PEAK to a mandatory CPD program; and
- The hiring of Jennifer Quaglietta, MBA, P.Eng., ICD.D, as CEO/registrar.

**LICENCE HOLDER SUBMISSION**

At each AGM, licence holders have the opportunity to make a submission to be discussed and voted on by licence holders in attendance and considered by Council at its discretion at a future meeting. This year witnessed one submission by James Andrew Smith, PhD, P.Eng., and seconded by David Elfstrom, P.Eng. The submission concerned a motion submitted to the March 2023 Council agenda by Greg Wowchuk, P.Eng., in his then capacity as PEO's vice president, elected, and seconded by Roydon Fraser in his then capacity as PEO's president-elect. Their motion sought to repeal a resolution passed by Council during the COVID lockdowns requiring that staff show proof of vaccination against the COVID-19 virus before entering PEO's premises or attending any PEO function. Wowchuck's motion, which questioned the scientific validity of COVID vaccines, also sought to delete any collected medical information related to the vaccine.

Smith and Elfstrom's AGM submission called for Wowchuck's motion to be retracted and that Council issue a formal statement against the use of Council time to include misinformation. It also asked that Council require councillors to undergo a governance education program before participating on Council and candidates for Council be informed of the necessary qualifications before running and that licence holders be informed of the practice status, disciplinary history and potential conflicts of interest of candidates seeking a seat at Council.

In his prerecorded AGM message, Smith noted that he was most concerned with an attached apendix to the Council motion containing links to a PDF called "More harm than good," by the Canadian Covid Care Alliance (CCCA). Smith noted that "it is filled with fringe conspiracy theories…the false claims contained within were well documented in the media" and that members of the CCCA have been investigated by both the College of Physicians and Surgeons of Ontario and the media.

During the debate, some said that the vaccination mandate should be discarded because the vaccines do not prevent infection and can cause death at the time of injection and that PEO brought in the mandate during a time of fear. Smith responded, saying that the attached appendix authored by conspiracy theorists taints the judgment of the two highly placed councillors who submitted the motion. The submission ultimately passed, with 77 per cent in support of it.

**PRESIDENTIAL OATH OF OFFICE**

During the AGM, President-elect Fraser took the presidential oath of office for the 2023–2024 Council term. During his acceptance speech, Fraser pondered: "Where is the future of engineering regulation headed? What opportunities and obstacles lay before us? This is a conversation that starts today as PEO embarks over the next year on its strategic goal to 'refresh PEO's vision to ensure all stakeholders see relevance and value in PEO.'" Fraser added: "When elected last year as president-elect, I personally introduced and argued for the vision goal to be one of PEO's four strategic priorities and was very glad, encouraged…when Council agreed."

Fraser, whose acceptance speech referenced the history of the engineering profession, also projected forward, with Fraser pondering PEO's ability to effectively regulate the future of engineering: "The point is today engineering spans a wide range of disciplines, has become very multi-disciplinary, and new disciplines will continue to emerge. But is the regulated profession capable of handling more than the traditional engineering disciplines and slight variations thereof? And, if capable, should it regulate emerging engineering disciplines? These are just two of many questions to be asked as PEO embarks on a strategic vision goal to ensure all stakeholders see relevance and value in the P.Eng."

With recent developments putting the future of engineering self-regulation in various Canadian jurisdictions at risk—Fraser cites recent regulatory umbrella legislation in British Columbia, the potential inability of Alberta's engineering and geoscience regulator to enforce software engineering title rights and the swift response of PEO to FARPACTA amendments—Fraser urged PEO to add what he called "profession strengthening" to its core regulatory and governance functions. "For those who are not aware, 'Truth, Trust and Transparency' were the themes of Peter Mansbridge's PEO's 100th anniversary celebration keynote talk last year, and for me, these are three words that should not be forgotten as we venture into the future of the engineering profession together," Fraser says.

# PEO BECOMES FIRST TO REMOVE CANADIAN EXPERIENCE UNDER FARPACTA

Ontario Minister Monte McNaughton praised PEO's May 15 removal of Canadian experience from its licensing requirements.

By Adam Sidsworth

At a press conference organized by the Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) on May 23 in downtown Toronto, PEO was praised for being the first professional regulator to relinquish Canadian professional experience from its licensing requirements as part of compliance with recently passed provincial regulations.

"Today, I am proud to announce that Professional Engineers Ontario is the first association to remove the Canadian work experience from the application criteria following our legislation," noted MLITSD Minister Monte McNaughton. "This move is a game changer that will help thousands of immigrant engineers pursue their dreams over the coming years, all while maintaining Ontario's world-class licensing and exam requirements."

PEO formally stopped requiring applicants for licensure to demonstrate Canadian engineering experience on May 15 to become compliant with amendments to the *Fair Access to Regulated Professions and Compulsory Trades Act* (FARPACTA). Under the amended legislation, PEO, along with more than 30 other professional regulators in Ontario, must demonstrate fair licensing processes to the Office of the Fairness Commissioner, make licensing decisions within certain deadlines by July 1 and eliminate any Canadian experience requirements by December 2.

Noting that engineers in Ontario earn over $100,000 and fill over 7000 engineering jobs, McNaughton added: "Immigrants are crucial to our culture and our economy. They build business that we rely on. They help address the historic labour shortage we face. But it's an all-too-common experience that when newcomers arrive, the discriminatory barriers keep them from practising their chosen skills or profession and living the life they dreamed of."

McNaughton held the press conference at The Well, a partially open retail, office and residential complex still under construction on the west side of Toronto's downtown core. When completed, the complex will host 320,000 square feet of retail and food services, 1.2 million square feet of office space and 1700 residential units. According to The Well's general manager, Anthony Casalanguida, who introduced Minister McNaughton, The Well is Canada's largest construction project.

Joining McNaughton from Queen's Park at the press conference were Sheref Sabawy, parliamentary assistant to the minister of public and business service delivery and MPP for Mississauga–Erin Mills; and Deepak Anand, parliamentary assistant to Minister McNaughton and MPP for Mississauga–Malton. Coincidentally, Anand earned his undergraduate degree in chemical engineering in India but ultimately pursued a different career path when he immigrated to Canada in 2000.

**"THIS MOVE IS A GAME CHANGER THAT WILL HELP THOUSANDS OF IMMIGRANT ENGINEERS PURSUE THEIR DREAMS OVER THE COMING YEARS, ALL WHILE MAINTAINING ONTARIO'S WORLD-CLASS LICENSING AND EXAM REQUIREMENTS."—ONTARIO MINISTER MONTE MCNAUGHTON**

## PEO SHIFTS FROM GEOGRAPHY TO COMPETENCY

Representing PEO at the news conference was PEO Vice President Christopher Chahine, P.Eng., PMP, who noted: "As a body created by the legislature over 100 years ago to regulate the practice of professional engineering in Ontario, Professional Engineers Ontario has always considered public protection as being of paramount importance. We continue to serve the public interest by ensuring all professional engineers meet the rigorous qualifications and that only properly qualified and ethical individuals practise engineering."

Also observing that PEO typically has 60 per cent of its applications for licensure come from international engineering graduates, Chahine added: "We removed the requirement for Canadian engineering experience, and we expedited this into effect as of May 15. By moving to this important change and moving to a model that focuses on competency rather than geography, PEO will effectively ensure that qualified, experienced and ethical international applicants who bring their skills and talents to Ontario can be licensed more quickly than before so they can actively contribute to the economy as professional engineers."

## ACKNOWLEDGING LICENSING CHANGES

McNaughton and Chahine were also joined by Sara Asalya, executive director of Newcomer Women's Services Toronto; and Hiba Al Nasseri, finance manager of Madison Community Services. Both Asayla and Al Nasseri are aware of the struggles of internationally trained professionals to become employed in their chosen fields in Canada. Asalya thanked McNaughton for his leadership and further acknowledged PEO as the first regulator to comply with the legislation's requirement to drop requirements for Canadian experience.

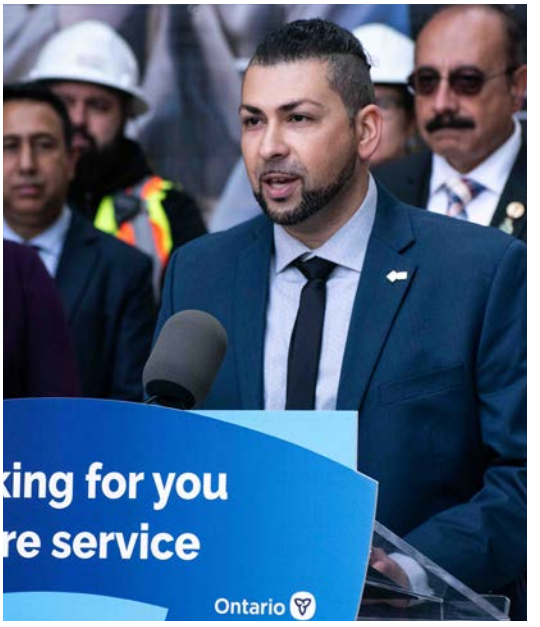
"I want to take the opportunity to thank Professional Engineers Ontario for swiftly responding to changes in the legislation and removing their Canadian experience requirement from their application process," Asalya said. "As an immigrant myself, I experienced firsthand the many challenges and barriers, especially when trying to access the labour market. It's no secret that the Canadian experience has been—and continues to be—a key barrier for many immigrants, especially for those from the regulated professions."

Al Nasseri, an accountant by training, also thanked PEO, noting her struggles to find an appropriate position in her chosen profession because she lacked Canadian experience.

Notably, though, McNaughton also announced at the May 23 press conference that he would invite 1700 immigrants to apply to the MLITSD's Ontario Immigrant Nominee Program, which, in co-operation with Immigration, Refugees and Citizenship Canada, nominates for permanent residency in Ontario foreign workers, international students and others who have the experience and skills to match the needs of Ontario's economy.


Anthony Casalanguida, general manager of The Well, introduces Minister Monte McNaughton at a press conference in downtown Toronto on May 23.

Minister Monte McNaughton addresses the media, announcing that PEO was the first regulator to remove Canadian experience requirements under recent FARPACTA amendments.




PEO Vice President (elected) Christopher Chahine, P.Eng., PMP, addresses the media during a press conference announcing PEO's revised licensing process.

Minister Monte McNaughton (third from left) is joined by (from left to right) Sara Asalya, executive director of Newcomer Women's Services Toronto; Sheref Sabawy, parliamentary assistant to the minister of public and business service delivery and MPP for Mississauga–Erin Mills; and Hiba Al Nasseri, finance director of Madison Community Services.

## PEO's FARPACTA-COMPLIANT LICENSING PROCESS

PEO Council approved a motion at its March meeting to ask the provincial cabinet to remove references to Canadian engineering experience requirements from Regulation 941 of the *Professional Engineers Act* (see "Council eliminates Canadian experience requirement," *Engineering Dimensions*, Spring 2023, p. 51).

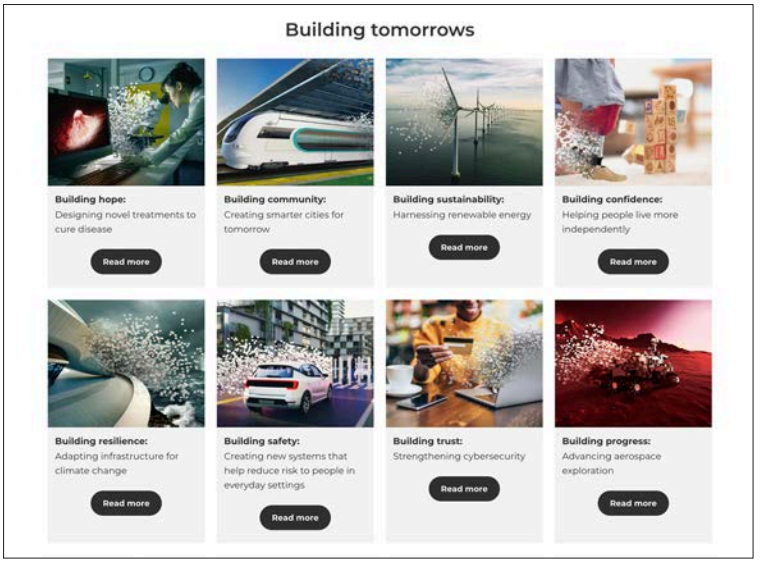
In addition to waiving the Canadian experience requirement for applicants for licensure who apply after May 15, PEO has introduced other changes to its licensing process to comply with FARPACTA, including:

- Making licensing decisions for at least 90 per cent of applications within six months of receipt of a complete application for licensure (30 days for engineers already licensed in good standing in another Canadian jurisdiction);
- Requiring that applicants demonstrate both academic and experience qualifications for licensure at the time of application;
- Acknowledging receipt of a complete application within 10 days;
- Accepting international degrees listed on PEO's Academic Equivalency List, subject to the successful completion of a confirmatory exam program, as equivalent to an accredited Canadian engineering degree; and
- Introducing a competency-based assessment, which uses an objective scoring rubric for applicant self-assessment and applicants' supervisors and an evaluative comparison of the two by staff assessors, to assess work experience without compromising public safety protection.

# ENGINEERS CANADA KICKSTARTS "BUILDING TOMORROWS" CAMPAIGN

For the first time, Engineers Canada began an online and television campaign to promote the work of engineers to the general public.

By Adam Sidsworth




In a move to help people understand the contributions of engineers to Canadian society, Engineers Canada, in co-operation with the 12 provincial and territorial engineering regulators, introduced its "Building Tomorrows" campaign in April to highlight how engineers make the world a better place—from creating smarter cities to designing novel ways to cure disease.

The campaign is accompanied by a 30-second video that was created for television, social media and the "Building Tomorrows" website and features images of actual Canadian engineers. "Engineers don't just build things," the video's voiceover states. "They build solutions to make our world better, from designing treatments that give hope to those facing disease to smarter cities that help keep our loved ones safe. They build new ways to harness renewable energy to create a better tomorrow. And they make today brighter by sparking the confidence of a young child. Because that's what engineers do: They build hope for a better future for us all."

The campaign website contains external links to Canadian engineering success stories clustered on several themes, such as **Building hope**, which explores engineering success stories in designing novel treatments to cure disease; **Building progress**, which looks at engineering success in advancing aerospace exploration; and **Building trust**, which explores engineering success stories in strengthening cybersecurity.

"This campaign is the product of many years of planning and hard work from our provincial and territorial partners," said Kathy Baig, MBA, ing., FIC, in her then role as president of Engineers Canada. "It helps expand understanding about the central role that engineers play in building solutions to address some of the most daunting challenges we face as a country, including climate change, healthcare, urban planning and safe infrastructure."

## PUTTING A FACE TO ENGINEERS

"Everybody knows they have to go to a doctor, and they have to go to the dentist or use a lawyer to sell their house," Engineers Canada CEO Gerard McDonald, MBA, P.Eng., ICD.D, told *Engineering Dimensions*. "But the engineer is very much in the background. We're trying to move the profession a little more into the forefront and create a lasting impression."

According to McDonald, the campaign grew out of Engineers Canada's 2019–2021 Strategic Plan, which included eight operational imperatives, one of which was directed at increased promotion and outreach that aimed to foster recognition of the value of the profession through various outreach initiatives. "Building Tomorrows" was developed in consultation with all 12 engineering regulators. "Many of them felt that the engineering profession was not as well understood as we'd like it to be," McDonald noted. "People think of it in traditional ways of building roads and bridges, and they have seen other professions promoting themselves, and they felt it was perhaps time for the engineering profession to do that to try to promote the profession and give people an idea what engineers do and perhaps spark interest in the next generation of professionals."

However, although McDonald acknowledges that the general public will have the opportunity to consume the campaign, the target audience is opinion leaders over the age of 35. "We found that they held engineers in high regard, but they didn't have a high appreciation of what it is they do," McDonald said.

## PROMOTING ENGINEERS NATIONALLY

Although the individual regulators have long regarded the importance of promoting the role of engineers in Canadian society and some have even coordinated their own campaigns in previous years, "Building Tomorrows" is likely the first nationally led campaign to promote engineering. "Engineers Canada attempted to do it in the early [2010s], but we never got to the production stage once people saw the cost and what it was going to look like, they lost interest," notes McDonald. "This is the first time I'm aware of that we've been able to get something on the street. A lot of people in the profession have been advocating it for a long time, so we're interested to see not only the reaction of engineers but the general public and how it impacts their perception of the image of engineers."

# PEO CELEBRATES 4 ORDER OF HONOUR RECIPIENTS

The Order of Honour hosted an in-person ceremony on June 22 to acknowledge the contributions of several long-time PEO volunteers.

By Adam Sidsworth

Order of Honour ceremony attendees included (from left to right) Lily Yan and Thomas Chong (Member), Annette Bergeron (Officer) and Richard Christie, Shirley Turnbull and Warren Turnbull (Officer).

To recognize the contributions of four long-time volunteers, PEO hosted an in-person Order of Honour (OOH) ceremony on June 22 at the Ritz-Carlton in Toronto, ON.

The OOH program honours professional engineers and others who have rendered conspicuous service to the engineering profession, typically through PEO volunteerism. Candidates should have made a substantial contribution to the operation of the profession, its professional status or one of the many specialized functions of the association. The OOH has three categories to recognize professional engineers: Member, Officer and Companion. A fourth category, Honorary Membership, honours people who are not licensed engineers but contribute to the profession.

## 2023 INDUCTEES

### Officers

**Annette Bergeron, P.Eng., FEC, FCAE**

Annette Bergeron was the 2013–2014 PEO president and served as president and chair of the Ontario Society of Professional Engineers and president of Engineers Canada. Notably, Bergeron was the sixth woman president in PEO's 100-year history and the fourth woman president of Engineers Canada.

At PEO, Bergeron also chaired and served on several committees, including the Continuing Professional Development, Competency and Quality Assurance Task Force, which was founded in response to the *Report of the Elliot Lake Commission of Inquiry*'s recommendation that PEO implement a continuing professional development (CPD) program for licence holders. Under her leadership, the task force proposed an innovative risk-based system that tailored CPD to each individual licence holder. Bergeron continued her leadership with the follow-up Continuing Professional Competence Implementation Task Force, which developed the initially voluntary Practice Evaluation and Knowledge (PEAK) program, which recently transitioned to a mandatory CPD program for all licence holders.

Bergeron also served in several capacities on the Engineers Canada board for over six years, as well as on various committees including the Linkages Task force, the Compensation Committee and the Governance Committee. And as a member of the Executive Committee, Bergeron helped develop Engineers Canada's strategic planning process and its 2019–2021 Strategic Plan.

**Warren Turnbull, P.Eng., FEC**

A longtime PEO volunteer, Warren Turnbull volunteered with the North Bay Chapter in the late 1970s before serving on the chapter executive in 1980, ultimately serving as chair in 1982 and 1983. Turnbull resumed his voluntary service with the Oakville Chapter in 2008, where he was elected to the chapter executive in 2010. Turnbull also served as Oakville Chapter chair in 2012 and 2013. During his tenure, Turnbull organized local engineering symposiums in collaboration with the Oakville Chamber of Commerce, formed alliances with local engineering firms, established strong relationships with area politicians to promote PEO and its regulatory mandate, helped start the annual Halton Regional Innovation Awards for companies and innovators and worked on education initiatives, including judging the Bay Area Science and Engineering Fair project in Hamilton, ON.

Turnbull served on Council as West Central Region councillor from 2015 to 2021. During this time, Turnbull lent his time and knowledge to the Executive, Human Resources, Regional Councillors, Discipline, Government Liaison, Volunteer Leadership Conference Planning, Finance and OSPE-PEO Joint Relations committees. Turnbull acted as Government Liaison Committee (GLC) chair for two years, delivered training conferences and regularly engaged with partners to ensure GLC activities were coordinated. Turnbull continues to serve on the Discipline Committee, where he is vice chair. He has advocated for changes to PEO's licensing process, promoted equity, diversity and anti-racism policy initiatives as well as the move to mandatory CPD.

### Members

**Thomas Chong, P.Eng., FEC, FCAE, PMP**

Thomas Chong began volunteering on the York Chapter executive in 2002, when he engaged members through

plant tours and winery visits. As webmaster, he improved the chapter website, boosted its social-media presence and produced PEO chapters' first digital member newsletters, resulting in a 75 per cent cost savings, which was shared with other chapters. He was elected to PEO Council as East Central Region councillor in 2006 and remained on Council through 2019. Throughout this period, Chong contributed to various committees, most notably the Audit, Finance, Executive, Discipline, Human Resources, Legislation, OSPE-PEO Joint Relations, Central Election and Search and Regional Councillors committees. He also participated in the Repeal of the Industrial Exemption Task Force.

Chong was elected as president-elect of PEO in 2014, becoming the first visible-minority president and chair of PEO the next year. As PEO president, Chong led Council to approve the limited engineering technologist licence. During his term, Chong also held seven town hall meetings throughout Ontario to consult with licence holders on how PEO could strengthen the profession.

In addition to his PEO service, Chong also served Engineers Canada in its Presidents' Group and Linkages Task Force and helped implement the common database program for licensure, the national mobility program and the 30 by 30 initiative. In 2007, Chong assisted York University in getting its engineering programs accredited by the Canadian Engineering Accreditation Board. Chong was inducted as fellow of Engineers Canada in 2012 and a fellow of the Canadian Academy of Engineering in 2017.

**Lindsay Keats, P.Eng., FEC**

An active PEO volunteer since 2009, Lindsay Keats has held key leadership roles with the North Bay Chapter, including as chair, vice chair and secretary. Keats has organized the chapter's annual Engineering Day Symposium; led the chapter's communications, including developing its newsletter, social media accounts and member emails; and led member-appreciation events such as curling bonspiels and engineering intern wing nights. Keats has also volunteered on several chapter committees promoting STEM among local students, including the North Bay Regional Science Fair, bridge-building competition and engineering students' night.

Keats is a voice for northern Ontario chapters at provincial events, including chapter leadership, volunteer leadership and northern regional conferences. Throughout this involvement, Keats dedicated herself to working with colleagues to resolve general membership inquiries and table motions for PEO Council to review. Keats has also helped mentor many young engineering interns.

**CHANGES TO THE OOH**

The 2023 OOH was the last to be held before PEO implemented improvements to the program. For more information about the changes, see page 43.

# A PEEK AT PEAK PARTICIPATION

Since PEO launched its mandatory Practice Evaluation and Knowledge (PEAK) program in January, the PEAK team has been analyzing program data to ensure the program is running efficiently. This includes looking at various metrics to measure participation.

The PEAK program, which is delivered through PEO's online portal and laid out in three steps to be completed annually by licence holders, appears to be off to a running start.

**PEAK participation to date:**

- 70 per cent of licence holders have complied with the program;
- 7 per cent are in progress towards compliance; and
- 23 per cent have not yet started PEAK.

**Of the 77 per cent uptake among licence holders:**

- 24 per cent declared as "not practising";
- 76 per cent declared as "practising"; and
- 9 per cent of those assigned a CPD target for this year have already reported CPD activities that met the targeted amount.

**PEAK SUPPORT**

PEO continues to support engineers working through their PEAK requirements with aids that include call and email support, reminder emails, email completion receipts, a "My Statuses" page in PEO's online portal, and FAQ videos on social media. Additionally, the peopeak.ca webpage will soon include a "Help" page that will centralize PEAK informational videos, FAQs and a "Contact Us" form.

# NANCY HILL TAKES OVER ENGINEERS CANADA PRESIDENCY

Nancy Hill took over the presidency of Engineers Canada during the organization's annual meeting on May 23.

By Adam Sidsworth

Former PEO president Nancy Hill, P.Eng., LLB, FEC, took over the presidency of Engineers Canada for their 2023–2024 board term this past May.

Hill, who served as the 100th president of PEO in 2019–2020, transitioned into Engineers Canada's presidency on May 23 during Engineers Canada's spring meetings and annual meeting of members after serving as Engineers Canada's president-elect; Hill was originally appointed to Engineers Canada board by Council as a director in 2020. Coincidently, Hill was appointed at the same time as Danny Chui, P.Eng., FEC, who served as Engineers Canada's president during the 2021–2022 board term (see "PEO member Danny Chui becomes Engineers Canada president, *Engineering Dimensions*, July/August 2021, p. 20).

## NANCY HILL A LONG-TIME VOLUNTEER

After earning her undergraduate degree in civil engineering from the University of Toronto, Hill worked at Stone & Webster, where she performed structural design of pipe systems of nuclear power plants. Hill subsequently earned her law degree from the University of Ottawa and was called to the bar by the Law Society of Upper Canada (now Law Society of Ontario). In the early 1990s, Hill co-founded the patent and trademark agency firm Hill and Schumacher, where Hill works exclusively in the area of intellectual property law.

Hill subsequently became registered as a licensed patent and trademark agent with the federally legislated College of Patent & Trademark Agents. She is effectively triply regulated—at the provincial level in Ontario as an engineer and lawyer and across Canada as a patent and trademark agent.

Nevertheless, Hill has remained committed to serving the engineering profession. She began volunteering at PEO in 1993, when she joined the Women in Engineering Advisory Committee, which she chaired from 1995 to 1997. In 2001, Hill began a six-year term as a lieutenant governor appointee on Council. While on Council, Hill was instrumental in adding a PEO policy statement and guideline on human rights in professional practice in 2000, paving the way for the inclusion of harassment in the definition of professional misconduct in Regulation 941 of the *Professional Engineers Act*.

Hill additionally served on various PEO committees, including the Advisory Committees on Volunteers, Audit Committee and Complaints Committee. Outside of PEO, Hill has also volunteered her time with the Research Management Committee of the Auto21Network of Centres of Excellence and the Canadian Coalition of Women in Engineering, Science and Technology and Canadian Coalition of Women in Engineering, Science and Technology. And at Engineers Canada, Hill volunteered at the Women in Engineering Committee.

## KEY FOCUSES FOR ENGINEERS CANADA

Hill takes over the Engineers Canada presidency from Kathy Baig, ing., FIC, who during her tenure was focused on increased flexibility in the engineering accreditation process and the streamlining of licensing requirements of each engineering regulator (see "Kathy Baig becomes Engineers Canada president," *Engineering Dimensions*, July/August 2022, p. 18). However, this year, harmonization and collaboration may be the focus of Hill's tenure as Engineers Canada's presidency. The organization's 2022–2024 Strategic Plan, *A Vision of Collaboration*, focuses on increased streamlining between the 12 engineering regulators. "Fostering collaboration and consistency of requirements, practices and processes across jurisdictions is at the heart of our mandate," the strategic plan states. "We will work with regulators to understand barriers and success factors leading to harmonization and facilitate the adoption of a national agreement that will establish the principles and areas where pan-Canadian harmonization will be sought."

# 2024
# ORDER OF HONOUR CALL FOR NOMINATIONS

This year is the 60th anniversary of PEO's Order of Honour, the regulator's highest volunteer recognition program. An honorary society, the Order recognizes PEO volunteers who have made substantial contributions to support PEO's statutory mandate to regulate the engineering profession in Ontario to protect the public interest. In 2023, PEO streamlined the nomination and selection process of the Order of Honour to be transparent, free of subjectivity and better reflect PEO's public protection mandate.

**The following changes were introduced:**

- New scoring system quantifying contributions to the engineering profession and recognizing contributions to justice, equity, diversity and inclusion (JEDI) initiatives related to the profession and societal impact;
- Switching to online nominations in the PEO portal;
- Years of service required for each classification decreased to 10 for Members, 15 for Officers, and 20 for Companions; and
- Reduced the required P.Eng. nominators to three.

**THE ORDER OF HONOUR SELECTION COMMITTEE INVITES MEMBERS TO SUBMIT NOMINATIONS BY OCTOBER 13, 2023, AT 4 p.m. EST.**

Nominators should supply complete details on their nominee. Individual statements from each nominator must accompany the nomination. Members and Officers of the Order who have continued serving and leading the engineering profession can be nominated for an upgrade to a more advanced category.

For nomination guidelines and a complete list of past recipients, visit PEO's website.

# HOW PEO IS ENHANCING ITS PRACTICE RESOURCES

PEO is currently focused on updating its practice guidelines for practitioners, including exploring ways to improve their value, usability and messaging—and widen the guidelines' audience.

BY ADAM SIDSWORTH

Because Ontario's engineers are regulated professionals, they are held to high ethical and professional standards. Indeed, the *Professional Engineers Act* (PEA), along with its accompanying regulations and Code of Ethics, spell out the obligations of professional engineers in Ontario. But although PEO's licensing process includes the passage of the National Professional Practice Exam, which tests applicants' knowledge of engineering ethics, practice, law and professional liability, Ontario's engineers may need help navigating the continually changing regulations and practice issues affecting engineers. Fortunately, that is where PEO's Practice Advice Resources and Guidelines come into action.

Section 2(4)(2) of the PEA allows PEO "to establish, maintain and develop standards of qualification and standards of practice for the practice of professional engineering." PEO's advice comes in four forms:

- **Standards**, which provide benchmarks for licence holders' expected level of performance. PEO's four standards are outlined in Ontario Regulation 260/08 and cover building construction, enlargement, alteration and demolition; environmental site assessment reports; drinking water system evaluations; and tower crane inspections. PEO's four standards are mandatory and binding, so any licence holder not adhering to them can potentially be subject to allegations of professional misconduct or incompetence;
- **Guidelines**, which are the bulk of PEO's published advice, provide recommendations on engineering best practices, specifically around performing engineering work in accordance with the PEA. Of the 33 guidelines, some provide general advice that can apply to most engineers' practice, while the rest are industry, sector, discipline or practice specific;
- **Bulletins**, which provide professional advice and interpretations on urgent issues, supplemental information or updates to existing guidelines. Because guidelines can take a few years to develop, bulletins can be viewed as guidelines in development. PEO has six bulletins, of which four are still active and cover subjects ranging from design and general review requirements for buildings to procedures for projects without building permits; and
- **Practice Advisory Services**, with PEO staff interacting with licence holders and the public by phone, email or through PEO's website to help licence holders better understand PEO's standards, guidelines and bulletins.

## GUIDELINES OFFER ADVICE TO LICENCE HOLDERS

PEO's 33 guidelines, which are located under the Knowledge Centre section of PEO's website, offer advice in various categories, including:

- General advice applicable to most engineers, such as supervising and assuming responsibility for engineering work, reviewing work prepared by another engineer and the use of the professional engineer's seal;
- Legal, such as engineers acting as expert witnesses or forensic investigators;
- Construction and building, such as temporary works for construction projects and providing mechanical and electrical engineering services in buildings;
- Transport and municipal, such as providing engineering services in transportation and traffic engineering and providing services on roads, bridges and associated facilities;
- Computer and software, such as using software-based engineering tools and developing software for safety critical engineering applications;
- Mechanical, electrical and industrial, such as providing services for pre-start health and safety reviews; and
- Geotechnical and environmental, such as providing acoustical engineering services in land-use planning and providing engineering evaluation reports for drinking water systems.

Additionally, PEO provides links to two national guidelines authored by Engineers Canada on climate change adaptation for engineers and sustainable development and environmental stewardship.

Although the advice in each guideline is voluntary, their development isn't easy: each guideline can take up to two years to develop and was, until this year, researched and written by subcommittees of the Professional Standards Committee (PSC), composed of volunteers, many of whom were licence holders.

## VOLUNTARY ADHERENCE A CRITICAL LIMITATION

Although the guidelines' contents often refer to engineers' duties under the PEA and Code of Ethics, the content is largely voluntary, and there are no disciplinary repercussions should an engineer not heed guidelines' advice. In fact, achieving voluntary adoption of established professional standards of care and practice is a common challenge for most professional regulators in Ontario.

This came to light in 2018, when PEO contracted regulatory experts to audit PEO's performance as Ontario's engineering regulator. The review—which was undertaken on PEO's own initiative—culminated in a report presented to Council in the spring of 2019. The report included 15 recommendations, including one that


targeted PEO's guidelines. "PEO should establish a formal process for keeping engineering standards up to date and relevant to contemporary practice in all the fields of engineering that it aims to regulate," the recommendation stated. "PEO should engage fully with setting standards as well as with guidance. PEO should be clear about the enforcement of guidance in complaints and discipline…."

The regulatory experts were notably concerned that PEO too readily focuses on developing advice that has no clear disciplinary consequence. PEO's four standards do have that disciplinary potential, but as the regulatory experts noted, "PEO is not helped in developing up-to-date standards by its legislation, [which] requires standards to be in statutory regulations." Nevertheless, the experts praised the content of PEO standards, noting that the guidelines are flexible and possibly more useful to engineers than standards.

"The report told us we should rely more on practice standards than guidelines," acknowledges Jordan Max, PEO's manager, policy. "You need to have content that's enforceable. But in order to change a guideline to a standard, you need to have evidence to convince the government what the risks are to the public if things aren't done properly from a quality standpoint." Given the challenges of drafting standards into PEO's regulations, it may be of no surprise that PEO relies on guiding licence holders in guideline form.

The registrar's high-level action plan, which was approved by Council in September 2019 to address each of the external review's recommendations, recognized "the role of practice guidelines as a basis for establishing a standard of care is clearly and universally understood" and directed staff to implement a process for reviewing and revising existing standards modelled on periodic regulatory review processes used by governments.

The new review process being developed by staff will add a level of rigour to the one already established in 2007 by the PSC. That policy considered factors such as the:

- Number of licence holders affected by a practice;
- Impact on the public;
- Amount of licence holders making inquiries to PEO about a practice;
- Requirement by any amendment to provincial legislation;
- Changes to the PEA or its accompanying regulations;
- History of PEO disciplinary cases that indicate there are misconceptions among engineers regarding their responsibilities; or
- Direction of Council.

With the approval of the 2023–2025 Strategic Plan, which prioritizes updating and developing standards and practice guidelines, and the decision by Council in March 2023 to replace the PSC (along with the Enforcement and Licensing committees) with advisory groups effectively operationalized the development and review of practice standards and guidelines by staff in PEO's policy unit, now under the supervision of Max. Historically, guidelines had been developed or revised by temporary subcommittees of subject-matter experts composed of volunteers.

## TAKING GUIDELINES IN A NEW DIRECTION

As far back as 2016, Max was aware PEO needed to reassess how it creates, caters to and markets its guidelines. That year, PEO's policy and professional affairs department conducted a practitioner-centred research project to assess the behaviours, attitudes, trends and challenges faced by engineers working at firms with certificates of authorization. The study found that:

- Engineers are typically more challenged by non-technical activities, such as maintaining client relationships and staying current with shifting and overlapping regulations;
- Many licence holders are unaware that PEO offers practice advisory services, including guidelines, and are consequently not tapping into PEO's resources; and
- Many licence holders want PEO to provide more support on guidance in many areas, particularly on resolving ethical issues and improving their technical and non-technical skills.

A subsequent practice advisory review in 2018 resulted in the development of prototypes to help better market guidelines to appropriate audiences. "Respondents we interviewed provided clear and concrete directions on how [guidelines] could be further developed for even greater impact," notes Max. "Some of the prototypes were for better use of graphics and layouts, which were incorporated into recently published guidelines."

## MARKETING TO A LARGER AUDIENCE

Max and his team have done environmental scans of other professional regulators in Ontario and provincial and territorial engineering regulators across Canada. "Looking at their layouts, formats and tools, I would say that PEO is in the middle of the pack," admits Max. "Among the engineering regulators, we're probably towards the top, but we're still far behind non-engineering regulators when you look at the tools that are deployed. If we want to encourage voluntary adoption of guidelines by licence holders, we need to make guidelines as relevant, current, accessible and usable as possible. This is a great challenge for content, format and communication."

Among the provincial engineering regulators across Canada, Max cites the regulators in British Columbia, Alberta and Manitoba as offering effectively marketed and designed guidelines. Indeed, Engineers and Geoscientists BC's website offers dozens of guidelines and practice advisories categorized into disciplines and trades, with many guidelines and advisories offering videos and other multimedia tools.

With five PEO guidelines currently under review or revision this year, Max is particularly enthusiastic about more effectively redesigning PEO's guidelines. "Firstly, we need to make sure our guidelines and standards are current and relevant to practice that supports PEO's new mandatory continuing professional development (CPD) requirements introduced earlier this year," Max observes. This summer, licence holders will be invited to participate in an online Professional Practice Matters survey (see sidebar) to help PEO better identify practice issues than relying only on practice advisory inquiries. For better impact, PEO could consider adding supporting tools such as FAQs, videos, webinars, self-assessments, case studies, study guides or slide presentations and consider breaking down guidelines—which are traditionally dozens of pages in length and in PDF form only—into smaller parts for easier consumption and more rapid access. "Let's take the concepts and apply them and have a live discussion. That's employing the guidelines in a more directly meaningful way," Max suggests.

Additionally, guidelines' target audiences should not be considered monolithic—or limited to just engineers. "Engineering practice is always changing," observes Max. "You have changing technology. You have changing business practices and models, like consortiums, interdisciplinary work and globalization of design and materials. You have more hybridization, more crossover of disciplines, of concepts, of tools being used in one field of engineering to another, not to mention changing government regulations, codes and standards and industry codes and standards."

Interestingly, PEO's new mandatory CPD program, PEAK, requires practising licence holders to declare their disciplines and practice areas—providing Max and his team with valuable information to whom they need to address industry- or discipline-specific guidelines. But in the future, says Max, PEO may consider developing guidelines that also address non-engineering audiences. Legal, insurance, geoscience and architectural professionals, who often interact with engineers, may benefit from reading PEO guidelines, as may consulting engineers' clients. Additionally, PEO could consider addressing more functional groupings of guidelines by work environment, such as guidelines for sole practitioners, certificate of authorization holders, government-employed engineers and engineers working in manufacturing or non-engineering companies, as each have unique engineering challenges.

Ultimately, Max is adamant that PEO's guidelines need to be interactive and on-demand to better reach their audience. "Our guidelines' audiences have specific questions about specific parts of a guideline," observes Max. "We have to help them interpret and apply our professional practice advice. Sometimes people prefer to watch a one-hour video than read a 30-page document. Even if somebody reads the document, we can use the ways of adult education to communicate and educate in many different ways. For some, it may be visual, bite-sized pieces in five-minute segments that allow people to work their way through the guideline."

Notably, PEO will begin to improve its guidelines' accessibility this month by adding a subscription option on its Knowledge Centre webpage. It allows both licence holders and the public to subscribe to specific guidelines and receive email updates as the guidelines are updated or reformatted or to be queried about necessary changes or supporting tools. Indeed, PEO's guidelines are starting to change for the better. **e**


This is your opportunity to help shape the future of PEO's professional practice resources so they are more useful to your practice. We want to hear your opinions. PEO is conducting a major opinion survey of practising licence holders throughout July and August. We want to learn more about:

- Your current professional practice issues, challenges and concerns;
- Emerging technical, technology, business or other trends that impact your professional practice;
- Your satisfaction with PEO's practice guidelines, performance standards, bulletins and practice advice inquiries; and
- Your comments on suggested improvements to PEO's practice advisory content, formats, supporting tools, marketing and communications.

If you are a practising licence holder, watch your email inbox for an invitation to participate in our Professional Practice Matters survey. The survey closes on August 24, 2023.

# SUMMARY OF DECISION AND REASONS

On allegations of professional misconduct under the *Professional Engineers Act* (the "Act") regarding the conduct of Moheb (Michael) Bassily, P.Eng. (the "Member" or "Bassily"), a member of the Association of Professional Engineers of Ontario (the "Association" or "PEO") and MBECO Engineering Ltd. (the "Holder" or "MBECO"), a holder of a Certificate of Authorization.

The Panel of the Discipline Committee heard this matter electronically via videoconference on February 13, 2023.

## AGREED STATEMENT OF FACTS & DECISION ON MISCONDUCT

The Member, MBECO, and the Association entered into an Agreed Statement of Facts ("ASF") dated February 8, 2023, the relevant parts of which (excluding schedules) are as follows:

1. Mr. Michael Bassily, P.Eng. ("Bassily") is, and was at all material times, a professional engineer licensed in good standing pursuant to the *Professional Engineers Act* (the "Act"). He has been licensed under the Act since 1992. Before becoming a licensee in Ontario, Bassily was registered or licensed with the Egyptian Society of Engineers and the Egyptian Syndicate of Engineers.

2. At all material times, MBECO Engineering Ltd. ("MBECO") held a Certificate of Authorization, and listed Bassily as the individual taking professional responsibility for engineering services provided thereunder.

3. The complainant Gerald Catt, P.Eng. ("Catt") is, and was at all material times, a professional engineer licensed in good standing pursuant to the Act. He was first licensed in 1976. He is also designated a Consulting Engineer and Building Design Specialist.

4. In 2019, Creative Carriage Ltd. ("Creative Carriage") sought to add a building extension to its single-story manufacturing facility located in St. George, County of Brant (the "Facility"). Creative Carriage retained several contractors and engineers to assist with the construction of the building addition (the "Project").

5. Before Creative Carriage had sought to add the addition, its manufacturing facility had a building area that was under the threshold in the Ontario Building Code ("OBC") requiring a standpipe system for fire protection purposes.

6. With the proposed addition, the total building area met the OBC threshold. Accordingly, the OBC required the building to have a standpipe system.

7. Around June 2019, one of the Project's contractors retained Catt to design a fire protection system for the building addition, among other things. Catt prepared drawings that implemented a standpipe system for the Facility's building addition. Catt signed and sealed the drawings on September 6, 2019 (the "Original Drawings"). He also prepared calculations to support the Original Drawings, which he signed and sealed on the same day.

8. The Original Drawings included a fire pump to maintain a certain level of water pressure and to comply with the OBC and the National Fire Protection Association's Standard for the Installation of Standpipe and Hose Systems ("NFPA-14").

9. As a result of supply chain issues caused by the COVID-19 pandemic, the fire pump required in the Original Drawings was not available during construction of the building addition.

10. Consequently, one of the Project's contractors retained Paul Flanagan of Heritage Sprinkler Design Inc. ("Heritage") to prepare drawings and calculations for a design that did not require a fire pump. Flanagan prepared drawings that appear to be a modified version of the Original Drawings, without a fire pump (the "Revised Drawings").

11. On September 4, 2020, Heritage retained Bassily and MBECO to review and approve the Revised Drawings and accompanying calculations (the "Hydraulic Calculations"). Bassily signed and sealed the Revised Drawings and the Hydraulic Calculations on the same day, September 4. The Revised Drawings and Hydraulic Calculations are attached as Schedule "A".

12. The Revised Drawings had the following text contained within a notice box:
THE SCOPE OF THIS DRAWING IS TO DETERMINE IF THE EXISTING STANDPIPE SYSTEM AS INSTALLED AT THE CREATIVE CARRIAGE FACILITY CAN BE SUPPLIED WITHOUT THE NEED FOR A FIRE PUMP AND STILL MEET OBC REQUIREMENTS FOR STANDPIPE DEMAND.

13. On September 18, 2020, Catt filed a complaint to the Association about the Revised Drawings and Hydraulic Calculations.

14. The Association obtained an expert report authored by Leslie Sims, P.Eng., dated May 5, 2021 (the "Sims Report"). A redacted copy of the Sims Report is attached as Schedule "B". Bassily and MBECO do not contest the findings, opinions, and conclusions contained in the Sims Report, as redacted. They admit the findings, opinions, and conclusions contained in the Sims Report to the extent set out below.

15. Bassily and MBECO admit that the Revised Drawings and the Hydraulic Calculations were deficient and that they failed to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances by signing and sealing the Revised Drawings and Hydraulic Calculations.

16. In particular, Bassily and MBECO admit that:
    a. The Revised Drawings did not include specified dimensions for the pipes making up the standpipe system. They also did not include pipe elevations. The dimensions and elevations used in the Hydraulic Calculations therefore could not be verified.
    b. The Hydraulic Calculations did not consider potential friction loss.
    c. The length of the underground supply pipe shown on the Revised Drawings was inconsistent with the length shown in the Original Drawings and information sourced from Google Maps.
    d. The water supply information came just under the NFPA-14 requirement that it be no more than one year old.

17. Bassily and MBECO admit that, in the circumstances, including as outlined in paragraph 18, the standards of reasonable and prudent professional engineering required them to ensure all pipes were accurately dimensioned and to consider friction loss, which they failed to do. Failing to meet these standards meant that the hydraulic calculations could not be performed with certainty.

18. Bassily and MBECO admit that the safety factor they relied on in the Hydraulic Calculations (3.714 psi, less than 5 percent of the available water supply) was insufficient in these circumstances. It created a risk that even a relatively minor loss in water pressure could have resulted in the standpipe system failing to deliver the required water supply.

19. Bassily and MBECO admit that a reasonable and prudent professional engineer in the circumstances would have provided for a higher safety factor. The Association notes the opinion in the Sims Report that a safety factor of at least 10 percent of the available water supply is recognized as good engineering practice in the industry.

20. In addition, Bassily and MBECO admit that they failed to comply with OBC section 3.2.9.6(1), which requires calculating flow at the two hydraulically most remote hose stations. Contrary to this requirement, the Hydraulic Calculations calculated the flow rate from only one hose station and only considered the flow at the second most hydraulically remote hose station through deduction.

21. The Association acknowledges that using a single flow rate from one hose station may be more hydraulically demanding than what OBC section 3.2.9.6(1) requires. However, a reasonable and prudent professional engineer in the circumstances would have calculated flow rate according to the requirements of the OBC.

22. On September 29, 2020, approximately one month after Bassily's calculations, Tidal Wave Fire Sprinkler Systems conducted a flow test on the two most hydraulically remote hose stations at the project and found the flow in excess of the requirements in OBC section 3.2.9.6(1).

23. Based on the preceding facts, the Association, Bassily, and MBECO agree that Bassily and MBECO are guilty of professional misconduct under section 72(2) of R.R.O 1990, Reg. 941 ("Regulation 941"), as follows:
    a. They committed acts or omissions in carrying out the work of a practitioner that constitute a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances, contrary to section 72(2)(a) of Regulation 941; and

b. They failed to make responsible provision for complying with applicable codes in connection with work being undertaken by or under their responsibility, contrary to section 72(2)(d) of Regulation 941.

The Member and Holder admitted the allegations set out in the Agreed Statement of Facts. The Panel conducted a plea inquiry and was satisfied that the Member's and Holder's admissions were voluntary, informed, and unequivocal.

The Panel accepted the Member's and Holder's admissions, and the facts set out in the ASF. On that basis, the Panel found the Member and Holder guilty of professional misconduct under section 28(2)(b) of the Act and section 72(2)(a) and (d) of Regulation 941 under the Act.

## JOINT SUBMISSION ON PENALTY & DECISION ON PENALTY

The parties filed a joint submission on penalty ("JSP"), which can be summarized as follows:

1. Pursuant to s. 28(4)(d) of the *Professional Engineers Act* (the "Act"), there shall be a term and condition on Bassily's licence requiring Bassily to successfully complete the Certified Water-Based Systems Professional (CWBSP) Online Learning Path – Premium course, offered by the National Fire Protection Association, within 18 months from the date of pronouncement of the decision of the Discipline Committee (the "Date");

2. Pursuant to s. 28(4)(f) of the Act, Bassily and MBECO shall be reprimanded, and the fact of the reprimand shall be permanently recorded on the Register;

3. Pursuant to s. 28(4)I(i) and (k) of the Act, a restriction shall be imposed on Bassily's licence prohibiting Bassily from practising professional engineering except under the direct supervision of another professional engineer who shall take professional responsibility for the work by affixing their signature and seal on every final drawing, report, or other document prepared by Bassily, which restriction shall be suspended for a period of 18 months from the Date. If Bassily successfully completes the remedial course within or after the time period contemplated in paragraph 1 above, this restriction shall be suspended indefinitely;

4. Pursuant to s. 28(4)(e)(i) and (k) of the Act, a restriction shall be imposed on MBECO's Certificate of Authorization prohibiting MBECO from offering or providing professional engineering services except under the direct supervision of another professional engineer who shall take professional responsibility for the work by affixing their signature and seal on every final drawing, report, or other document prepared by Bassily, which restriction shall be suspended for a period of 18 months from the Date. If Bassily successfully completes the remedial course within or after the time period contemplated in paragraph 1 above, this restriction shall be suspended indefinitely; and

5. No order as to costs.

6. For clarity, the Association, Bassily, and MBECO make no joint submission as to publication pursuant to s. 28(4)(i) of the Act of the Discipline Panel's findings and order in the official publication of PEO, either in detail or in summary and with or without names, and will address this issue before the Panel.

The Panel was satisfied that the jointly proposed penalty satisfied the test for accepting a joint submission, as it protects the public and serves the principles of general and specific deterrence, rehabilitation, and maintenance of the public's confidence in the profession. The joint submission was also consistent with prior decisions of the Discipline Committee with similar facts.

The Association, the Member and the Holder made no joint submission as to the issue of publication of the Panel's decision. After considering the submissions of the parties, the Panel determined that its decision would be published in the official publication of the Association with names.

The Panel determined that the principles of sanctioning along with the public interest in openness and transparency in the discipline process justified publication with names in this case. Publication with names serves three purposes in this case: openness, transparency and general deterrence. The Panel found that the goal of general deterrence is best served by the publication of its decision for all members of the profession. In the Panel's view, members of the profession should be made aware that instances of misconduct may, and often will, be published with names. The openness and transparency of the discipline process would also be significantly lessened by not publishing the Panel's findings or by not publishing with names.

### PENALTY ORDER

The Panel ordered the following penalty:

1. Pursuant to s. 28(4)(d) of the *Professional Engineers Act* (the "Act"), there shall be a term and condition on Moheb Bassily's licence requiring the Member to successfully complete the Certified Water-Based Systems Professional (CWBSP) Online Learning Path – Premium course, offered by the National Fire Protection Association, within 18 months from the date of pronouncement of the decision of the Discipline Committee (the "Date");

2. Pursuant to s. 28(4)(f) of the Act, the Member and the Holder shall be reprimanded, and the fact of the reprimand shall be permanently recorded on the Register;

3. Pursuant to s. 28(4)(e)(i) and (k) of the Act, a restriction shall be imposed on the Member's licence prohibiting the Member from practising professional engineering except under the direct supervision of another professional engineer who shall take professional responsibility for the work by affixing their signature and seal on every final drawing, report, or other document prepared by the Member, which restriction shall be suspended for a period of 18 months from the Date. If the Member successfully completes the remedial course within or after the time period contemplated in paragraph 1 above, this restriction shall be suspended indefinitely;

4. Pursuant to s. 28(4)(e)(i) and (k) of the Act, a restriction shall be imposed on the Holder's Certificate of Authorization prohibiting the Holder from offering or providing professional engineering services except under the direct supervision of another professional engineer who shall take professional responsibility for the work by affixing their signature and seal on every final drawing, report, or other document prepared by the Member, which restriction shall be suspended for a period of 18 months from the Date. If the Member successfully completes the remedial course within or after the time period contemplated in paragraph 1 above, this restriction shall be suspended indefinitely; and
5. Pursuant to section 28(4)(i) of the Act, the findings and order of the Discipline Committee shall be published in summary form together with the names of the Member and Holder in the official publication of the Association.

At the conclusion of the Hearing, the Panel administered a reprimand to the Member and the Holder.

On April 21, 2023, Michael Wesa, P.Eng., signed the Decision and Reasons for the decision as Chair of the Discipline Panel and on behalf of the Members of the Discipline Panel: David Germain, J.D., and Rishi Kumar, P.Eng.

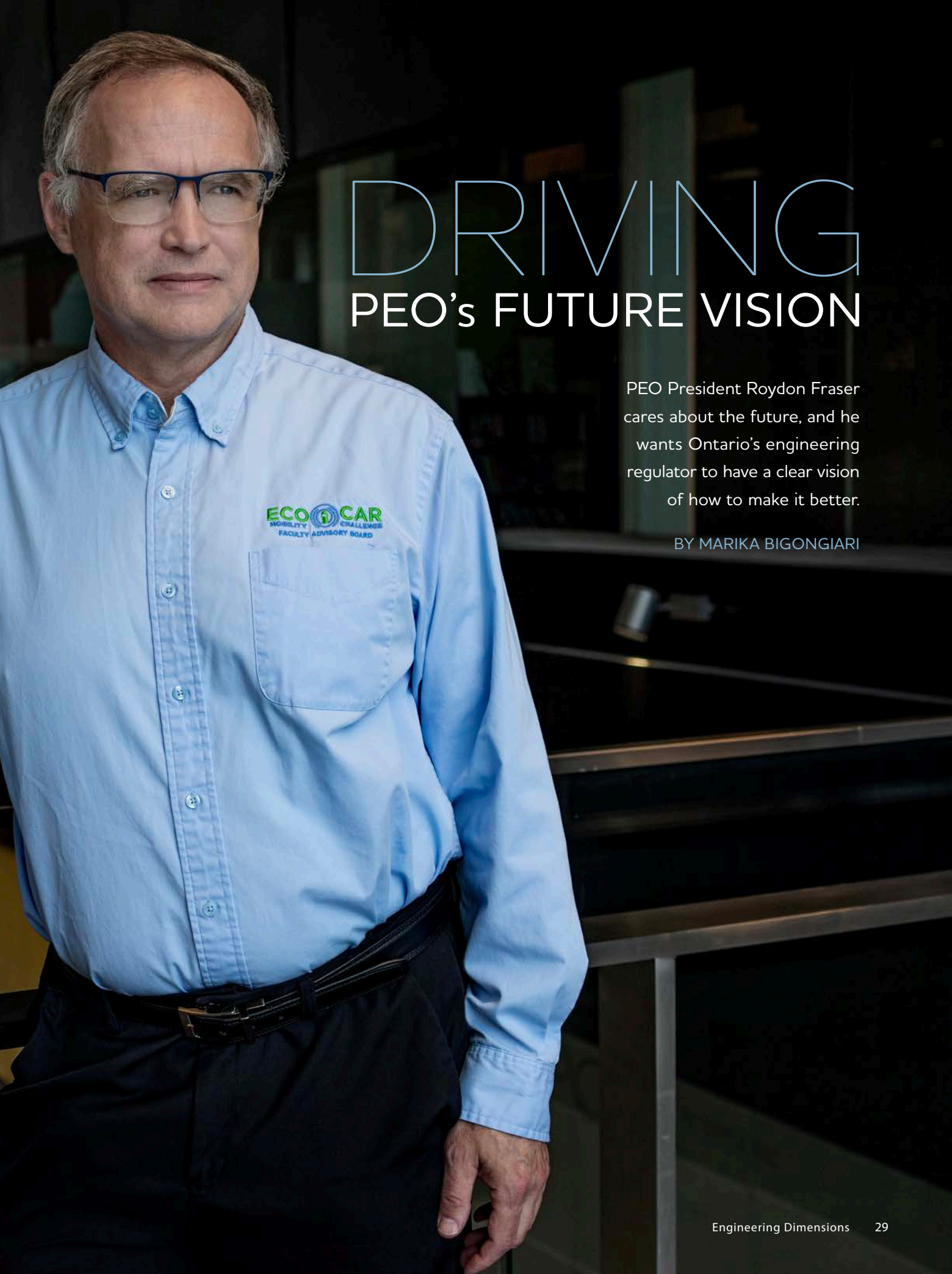
## WINCHESTER MAN AND COMPANY FINED $10,000 FOR USE OF PROFESSIONAL ENGINEER'S SEAL

The Ontario Court of Justice at Cornwall fined a corporation and its principal $10,000 for applying a facsimile of a professional engineer's seal to design drawings without the knowledge or consent of the professional engineer.

6993231 Canada Inc. (d.b.a. Empire Construction) and its principal, Edsel Byers, were retained by a client to assist with the construction of a canvas structure on the client's property. In preparing design drawings for the client, Empire Construction and Mr. Byers copied a professional engineer's seal from a previous set of drawings onto the new drawings, without the professional engineer having reviewed the new drawings and without the professional engineer's knowledge or consent. Empire Construction and Byers then gave the improperly sealed drawings to the client, who submitted them to the Township of North Dundas in connection with a permit application.

On April 26, 2023, Mr. Byers pled guilty to one count of breaching section 40(2)(c) of the *Professional Engineers Act* and Empire Construction pled guilty to one count of breaching section 40(3)(b) of the *Professional Engineers Act* in connection with this conduct. His Worship Brian Snyder imposed a $5,000 fine on Mr. Byers and a $5,000 fine on Empire Construction.

Matthew Howe (counsel) and Annecy Pang (student-at-law), both from the Toronto law firm Polley Faith LLP, represented PEO on the matter. PEO would like to thank the Township of North Dundas and the engineer for their cooperation in this investigation.

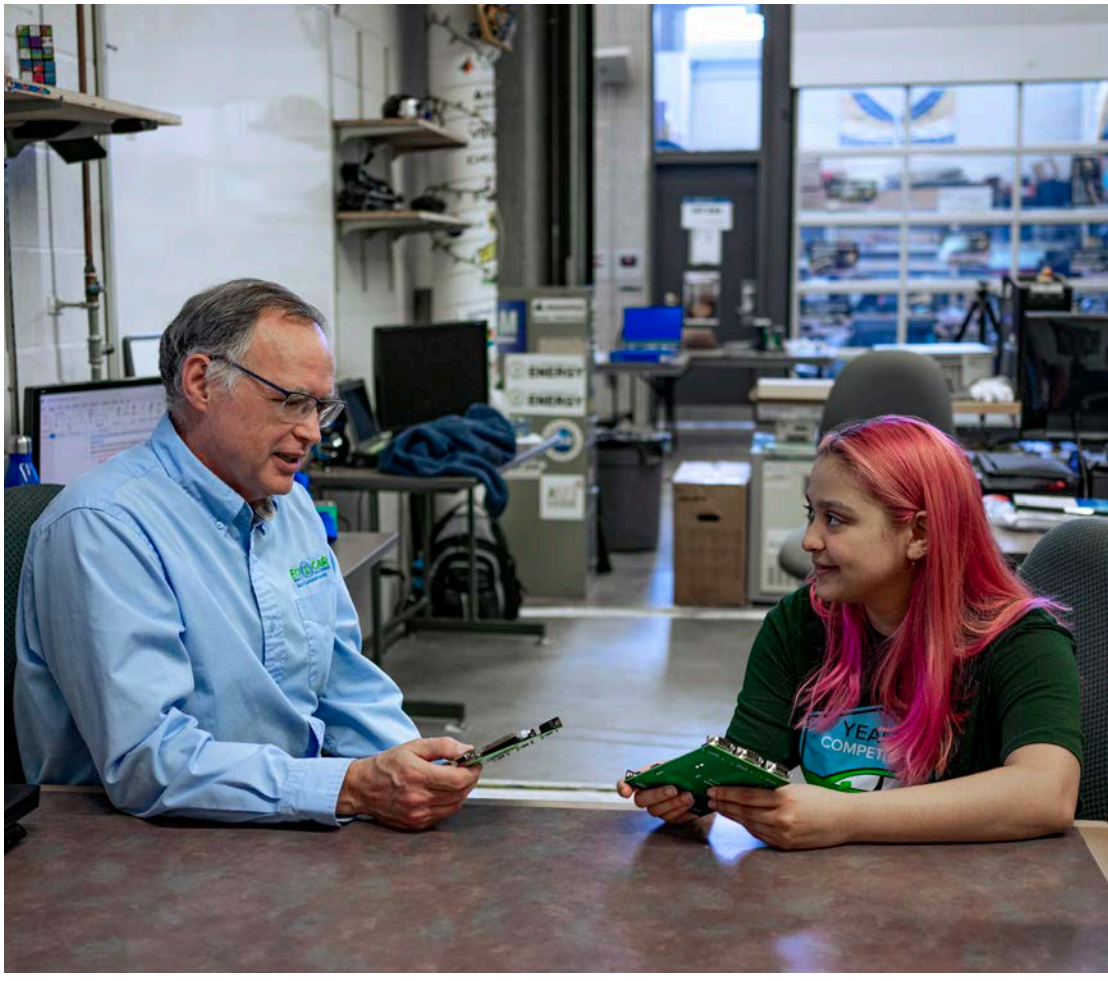



# DRIVING PEO's FUTURE VISION

PEO President Roydon Fraser cares about the future, and he wants Ontario's engineering regulator to have a clear vision of how to make it better.

BY MARIKA BIGONGIARI

Above: Roydon Fraser (centre) in the University of Waterloo's Sedra Student Design Centre with students and UWAFT's EcoCAR Mobility Challenge vehicle, a Buick Blazer that was converted to a plug-in hybrid electric vehicle. Students, from left to right: UWAFT team members and mechanical and mechatronics engineering graduate students Anthony Robert McAffee, Sachin Fernando, Heong Joo Yoo and John Francis Marrone, with nanotechnology engineering co-op student Annabelle Wicentowich.



Right: Roydon Fraser confers with nanotechnology engineering co-op student Annabelle Wicentowich at the University of Waterloo's Sedra Student Design Centre.

A video produced by the University of Waterloo (UW) marks the 25th anniversary of Roydon Fraser, PhD, P.Eng., FEC, a professor who has taught there since 1989. Fraser would say it's boastful, but it drives home the impact he's had on those he's supported over the years. The video is filled with testimonials of grateful past students, now professionals, who credit Fraser for shaping not just their education and success, but who they became as people. It's a striking tribute. But Fraser's gaze is firmly fixed forward. "The students are the future," says Fraser, who is PEO's new president for the 2023–2024 Council term. "I want the future to be good for people."

**ROUTE ORIGIN**

From Regina, SK, and now living in Kitchener, ON, Fraser is decidedly humble about awards and recognition, but he has a CV chockfull of achievements, including the Sandford Fleming Foundation Teaching Excellence Award, several fellowships and more than 175 research papers. He is also a published author and the co-inventor of two patents. As a professor of mechanical and mechatronics engineering, Fraser's primary research interests have been in energy conversion and energy systems design and optimization, which have led to major research activities in alternative fuels and the electrification of vehicles, as well as several multi-disciplinary collaborations in areas such as geothermal and compressed-air energy storage, quantum computing and artificial intelligence applied to air pollution forecasting, and precision agriculture and land restoration. Sustainability is the throughline connecting Fraser's wide-ranging areas of study.

As a young adult, Fraser was following his interests when he applied to the engineering physics program at Queen's University—an undergraduate program that offers a breadth of science studies. At the time, Fraser was unfamiliar with engineering and had never met an engineer, but he was enticed by the program's reputation as a difficult discipline. "I'm always looking for challenges," observes Fraser.

While pursuing his undergraduate degree, Fraser competed on two varsity teams in parallel. "Rowing was from 6:30 to 8 in the morning, and wrestling was from 5:30 to 7 at night," he says. Fraser takes physical fitness seriously, and, in fact, his first foray into teaching was being an aerobics instructor at Princeton in the '80s. To this day, Fraser still goes to the gym four to six times a week. "Healthy mind, healthy body," says Fraser. Fraser was also a devoted scuba diver, played underwater hockey, has biked thousands of miles and has run at least 60 10Ks since graduate school. A man of varied interests, Fraser earned his glider pilot and power pilot licences at age 15 and 16, respectively, and has also been a sky diver.

For the first two years at Queen's, Fraser took on an extra course load to keep his options open before doubling down on engineering and going on to get his master's and doctorate degrees in mechanical and aerospace engineering from Princeton University. That habit of taking on extra work Fraser started as a student is still going strong today. In fact, he doesn't get credit for half the courses he currently teaches and devotes countless volunteer hours to supporting his students. "We're supposed to teach three courses per year; I teach a minimum of six—at least three of those are for the student teams—although I get no course-teaching credit for it," says Fraser. "I get the reward of knowing students benefit when I fill a gap in available learning opportunities."

In addition to being the UW mechanical and mechatronics engineering department teaching chair for the past 10 years, Fraser is also chair of the advisory committee on engineering scholarships, a member of the faculty association's academic freedom and tenure committee and the engineering faculty liaison with PEO. Fraser was a director of the Ontario Engineering Competition, an annual three-day event that gathers engineering students from universities across Ontario, from 1996 to 2013. And he is especially proud of supporting the formation of Engineers Without Borders, which was founded by two former students, and was a member of the founding board.

**FUELLED BY CHALLENGE**

Fraser has also supervised hundreds of student-design projects, including those associated with the highly successful University of Waterloo Alternative Fuels Team (UWAFT). One such project involved Fraser's supervision of UWAFT's Advanced Vehicle Technology Competition Challenge X vehicle, the first student-built, road-capable, hydrogen fuel cell vehicle.

Fraser is extremely proud of the career success enjoyed by students who have engaged with the teams he has supervised. UWAFT, for example, is the largest student team at UW and the only one given two workspaces. "My student team was used as the poster child for our student design centre here at the University of Waterloo," Fraser beams. And, notably, the average starting salary of a UWAFT member upon graduation is 51 per cent higher than the industry average, suggesting all those extracurricular hours pay off.

As part of his UWAFT advisor activities for his associated special topics hybrid vehicle course, Fraser teaches students from a wide breadth of engineering departments as well as students from physics and computer science, business students from Wilfrid Laurier University and psychology students who work to improve team diversity, equity and inclusivity. This has given Fraser a deep appreciation for working with multi-disciplinary teams and, indeed, he is a champion of diverse expertise and perspectives.

For Fraser, one of teaching's most attractive qualities is that it keeps the mind fresh and continually learning. "It's CPD overload," he observes. "There aren't many other jobs that are quite like that. You've got to be updating things all the time, challenging things, doing what we did yesterday—just pulling out a first-year textbook, looking at a problem and discovering the problem is wrong, impractical or impossible to realize. Or, where else do you get to go across Wiki pages with students and say, 'Let's look at this Wiki page and find out what's wrong with it.' It's just enjoyable," he explains. But perhaps its biggest appeal is how it affords a glimpse into the future, something Fraser says many don't see. "Many people are blind to the future," he observes.

**A SERVICE SPIRIT**

Fraser's service spirit extends beyond supporting his students. Clearly invested in the profession, he has a decades-long record of volunteer service to PEO, Engineers Canada and several other engineering organizations. At PEO, Fraser —who was licensed in 1991—has been elected to Council 10 times since his first stint as Western Region councillor in 1998. His additional service runs the volunteer gamut, including various positions at the Kitchener-Waterloo


Fraser is a professor of mechanical and mechatronics engineering at the University of Waterloo, where he has taught since 1989, as well as an active researcher.

Chapter (now Grand River Chapter) as well as on countless PEO committees, subcommittees and task forces. Notably, Fraser has been a member of PEO's Academic Requirements Committee since 1998 and a member of Engineers Canada's Canadian Engineering Qualifications Board since 2014.

Fittingly, in 2021, Fraser received an Ontario Volunteer Service Award to recognize 25 years of service and was inducted to PEO's Order of Honour as an Officer. In 2019, Fraser received PEO's 25-year Volunteer Service pin. But Fraser is modest about his years of service. "Nothing's altruistic in this world. There's always a bias," says Fraser. "I'm worried for the future." But he also has a competitive side. Always a high achiever, Fraser wants to be the best at whatever he's doing—and if he's part of the profession of engineering, he wants the profession to be the best it can be. Fraser thinks there's work to be done. "That's one of the reasons why we'll do a vision statement this year," he reveals.

## EYES ON THE ROAD

Crafting a vision statement is high on Fraser's list of goals as he takes the wheel as PEO's 104th president. As president-elect, Fraser introduced and successfully argued for a vision statement to be one of the four strategic priorities outlined in PEO's 2023–2025 Strategic Plan. Specifically, the goal calls for establishing a vision that ensures all stakeholders see relevance and value in PEO. Different from a mission statement, a vision statement is a concise, aspirational statement that describes what an organization wants to achieve in the long-term future and aligns stakeholders around a common purpose and direction. It's something, Fraser says, that should inspire. "You never reach the perfect end, but you should always try," he observes. He points to General Motor's vision statement as an example of what works: zero crashes, zero emissions, zero congestion. "They're all impossible. But it gives you a target to always work towards," he says.

Fraser asserts that having a strong vision statement would clarify where the organization stands, as well as its direction. As new and disruptive technologies continue to alter our lives, Fraser believes a truly agile and adaptive regulator is more important now than ever, not just for PEO's long-term viability but for the long-term viability of the profession. And for Fraser, whose student teams practise agility management, agility means reacting in the space of days or weeks, not years. Establishing a clear vision to navigate the ground moving beneath our feet is the first step. "We don't have anything like that right now," he notes.

## WIDENING THE ROAD

Fraser would like to see a vision that embraces the big-tent concept—which involves regulating new and newer engineering disciplines, such as nanoengineering, artificial intelligence (AI) and other fields that aren't typically licensed—versus regulating strictly traditional disciplines, otherwise known as the small tent. But whether the consensus is big or


Fraser teaches students from a wide range of engineering departments as well as from physics, computer science, business and psychology. Sustainability factors prominently in his teaching.

small, Fraser says it's important for the regulator to make clear which route it intends to take. With the meteoric rise of AI, for example, and corresponding calls for oversight into what is a potentially volatile technology, it's a timely discussion—and an opportunity. "Should we stick with primarily licensing the traditional disciplines, or should we also be welcoming to the non-traditional disciplines?" Fraser asks.

Firmly in the latter camp, Fraser thinks PEO should be welcoming to newer disciplines. Although some see PEO strictly as a licensing body, he doesn't think that maximizes the public interest. And after years of working alongside students doing novel work every day, he sees the risks. "I see the dangers of nanotech, of the biomedical field. I do machine learning stuff myself with self-driving vehicles because of my research. I see the dangers," he explains. But he doesn't see students jumping to get a licence from those areas. It concerns him. "I'm a big tent guy." says Fraser. "That's my vision."

**FRASER ASSERTS THAT HAVING A STRONG VISION STATEMENT WOULD CLARIFY WHERE THE ORGANIZATION STANDS, AS WELL AS ITS DIRECTION.**

### A FORK IN THE ROAD

Fraser sees PEO at a crossroads. He notes a cross-country drift approach to regulation that's moving away from a shared responsibility to a more top down, less collegial approach. This, Fraser maintains, presents a dilemma—it makes PEO uninviting to entrepreneurs, precluding the big tent vision. "The University of Waterloo is known for its spin-off companies. We've got over 700 of them right now, just that we know of," Fraser points out. "I've got students starting companies, and they're not getting licensed. They're not going to get licensed." Why? Because they've struggled and survived on their own with no support. They've made it through the valley of death—the four-year do-or-die stage that determines if a new start up survives—and now they've achieved success.

Fraser highlights the disconnect between traditional licensure and the competitive nature of the world and points to a recent student startup, a carbon sequestration company that achieved a valuation of $20 million within six months. "PEO will tell them they can't do engineering work unless they're licensed," he says. "Why would you want to be told, while you're having all this success, that you can't do the work without a licence that you can't get for four years? Companies can't sit and wait." The answer, Fraser says, is to add value and relevance to the licence for entrepreneurs and devise a mechanism for allowing them in.

"It needs environmental scans and awareness of what's going on in the outside world," explains Fraser. When considering work on autonomous vehicles, quadrotors and drones or AI, for example, another challenge of licensing newer disciplines becomes apparent: They involve fields that aren't engineering, like physics, computer science and math. "How inviting are we to computer science and math students? We're not," says Fraser. "Are we saying that AI stuff or nano is not professional engineering work? If we are, this is the small tent view."

Questions must be asked, and decisions made, to determine if these groups are doing professional engineering work or not, as well as an assessment of the obstacles and opportunities. This is where discussions on crafting a vision should begin. Would having some oversight on AI, autonomous vehicles and other newer disciplines be protecting the public interest? Fraser thinks so. He suggests the need for a culture shift that values all disciplines, which would facilitate oversight of the newer fields and solid protection of the public interest: a win-win that is representative of Fraser's approach to problem solving. "I always look for win-wins. It's a mindset. This is why the vision statement is so important," says Fraser. "If you're continually fighting this big versus small tent viewpoint, you'll never see the big tent issue."

**"I BRING A SIMILAR PASSION TO MY PEO VOLUNTEERISM, WITH A VISION OF A PROFESSION THAT IS VALUED, THAT REMAINS RELEVANT IN THE PRESENCE OF NEW TECHNOLOGY AND WHOSE MANDATE TO PROTECT THE PUBLIC INTEREST IS RESPECTED," FRASER EXPLAINS**

**NEXT STOP**

Fraser is not one to look back. "When I retire maybe I will think about where I have been. I like learning from history but do not wish to live in the past," he says. "It's more about where I (and everyone) am going," he observes. His focus on the future is, at least in part, explained by his view of what it means to be a professional engineer charged with protecting public welfare, a responsibility Fraser takes seriously. His approach to working at PEO is not unlike his work with student teams. "I bring a similar passion to my PEO volunteerism, with a vision of a profession that is valued, that remains relevant in the presence of new technology and whose mandate to protect the public interest is respected," Fraser explains.

He brings an engineering mindset and creative approach to problem-solving to the Council table, where he hopes to be met with an open mind. "I just want things to be better," he notes. It's not about having all the right ideas, he says, but about being open to different possibilities. "It's about asking why and not defending what you've done in the past. I always ask why, and I change my mind," says Fraser. "That's why the vision statement matters, because then you've got people on the same path." **e**

# INTRODUCING PEO COUNCIL 2023–2024

## EXECUTIVE COMMITTEE

**Roydon Fraser, PhD, P.Eng., FEC**
**President**

Roydon Fraser received a bachelor's degree in engineering physics at Queen's University and his master's degree and doctorate in mechanical and aerospace engineering from Princeton University. He is a professor in the mechanical and mechatronics engineering department at the University of Waterloo. He joined PEO in 1991, serving on the executive of the Grand River Chapter (formerly the Kitchener-Waterloo and Guelph-Cambridge chapters) starting in 1993 and chairing the chapter in 1996. From 1998 to 2019, Fraser served nine times (18 years) as an elected PEO councillor and served on many PEO committees, including the Academic Review Committee from 1998 to 2022. Fraser supervises the University of Waterloo Alternative Fuels Team (UWAFT), which competes internationally in the Advanced Vehicle Technology Competitions (AVTC). From 2022 to 2026 UWAFT will be competing in the next AVTC series, the EcoCAR EV Challenge to design, build and test the next generation of electrified connected automated (e.g., autonomous) vehicles. As UWAFT team advisor, Fraser's team has many technical awards and received the EcoCAR Women in STEM Award for four consecutive years (2019, 2020, 2021 and 2022). Fraser received the 2014 US National Science Foundation Outstanding Long Term Faculty Advisor Award. His research interests include vehicle powertrain design, vehicle emissions health impacts; compressed air energy storage; deep geothermal energy; thermoacoustics; oilsands tailings pond elimination; and remote sensing indicators of urban, crop and ecosystem health and development. He is a member of the Society of Automotive Engineers and the American Society of Mechanical Engineers and is a lifetime member of the Sandford Fleming Foundation. **rafraser@uwaterloo.ca**

**Gregory Wowchuk, P.Eng.**
**President-elect**

Gregory Wowchuk holds a BASc degree from the University of Windsor and a diploma in electrical technology from the former Ryerson Polytechnical Institute (now Toronto Metropolitan University), reflecting his affinity for both the theoretical and the practical. Along with his engineering education, Wowchuk has also taken courses in psychology and effective communication. He won second prize in the 1982 Ontario Engineering Design Competition. Wowchuk began his career in the defence systems division of Spar Aerospace Limited, and he is currently president of Wheatfield Instrument Corporation Ltd. and a special advisor to Dynamic Solutions Institute of Applied Knowledge Inc. in Detroit, MI. He has served as PEO councillor-at-large (2018–2020), a lieutenant governor-in-council appointed councillor (1997–2000) and chair of the former Communications Committee (1997–1999). He was also a co-founder of Engineers for Engineers (1997), Ontario Engineers for Democracy on Council (2011) and Ontario Engineers for Grassroots Democracy (2017). He is an ardent supporter of the self-regulation model of our profession and speaks often against bureaucracy and waste. His commitment to grassroots democracy spans several decades: He has run for Toronto City Council (2003 and 2006), served as a provincial returning officer (Etobicoke-Lakeshore) (1998–2003) and has co-founded several citizens' advocacy groups. He was also president of the Etobicoke Historical Society (2004–2007). Wowchuk holds a black belt in traditional Japanese karate, is an aficionado of old cars and enjoys pulling, modifying and rebuilding their engines. Wowchuk views the role of PEO Council as serving the profession and protecting the public interest. He firmly believes these two functions are not mutually exclusive. **gwowchuk@peo.on.ca**

**Nick Colucci, MBA, P.Eng., FEC**
**Past President**

Nick Colucci received his engineering degree in civil engineering with a management sciences option from the University of Waterloo in 1987. He is currently working as the director of infrastructure services and engineer at the Town of Erin, ON, where he manages the infrastructure, roads, recreation, water, wastewater and engineering departments. Colucci started his career 35 years ago at a consulting engineering firm, where he was responsible for various stages of infrastructure projects, including design, construction management, contract administration and project management. Colucci went on to open his own firm, which he operated successfully until eventually moving to a municipality in 2008. He has volunteered for PEO throughout his 35-year career, including holding positions as East Central Region councillor and Eastern Region councillor. He currently holds positions on volunteer boards, including the Municipal Engineers Association, Ontario Public Works Association and Ontario One Call board of directors. In the past, Colucci held several volunteer board positions, including the Durham Public Works Association presidency, Canadian National Exhibition board of governors, National Spa and Pool Institute Toronto president, Bethesda House Ride for Refuge Committee, Waterloo Engineers in Toronto president, Emily-Omemee Skating Club president and St. Paul Catholic School Council. Colucci continues to volunteer his time for several philanthropic organizations and participated in the 2022 Wounded Warriors Canada Battlefield Bike Ride to celebrate, commemorate and reflect on Canada's 100 days to victory during the last 100 days of the First World War. **ncolucci@peo.on.ca**

**Christopher Chahine, P.Eng., PMP, SSBBP**
**Vice president (elected)**

Christopher Chahine has 12 years of professional work experience at Toronto Hydro along with a handful of leadership certifications from several universities in Ontario, including University of Windsor, University of Toronto, York University Schulich School of Business and Wilfred Laurier University. Alongside a P.Eng. licence, Chahine has diverse experience and holds Project Manager Professional and Six Sigma Black Belt Professional designations and specializes in efficiency and leadership. He currently works as a system planner, where he is the lead engineer for short- and long-term system reliability and strategic planning for transformer stations and feeders in Scarborough, ON. Throughout his career, Chahine participated in countless committees, including Standard Design Practice and leading and writing a multimillion-dollar business case portfolio for electrical rate application to the Ontario Energy Board. Throughout his time on Council, Chahine contributed to the Regulatory Policy and Legislation Committee, was vice chair of the 2021 Chapters Leaders Conference, was the keynote speaker at several chapter events and licence ceremonies, is the current appointed chair of the Regional Councillors Committee and has been actively involved with PEO chapters. Chahine is the past unit director of the Society of United Professionals Toronto Hydro Local. Chahine is passionate about climate change and has delivered several seminars on climate change engineering and process solutions. Chahine is an articulate and charismatic presenter and facilitator with years of motivational speaking experience and winner of a Toastmasters International Award. **cchahine@peo.on.ca**

**Leila Notash, PhD, P.Eng., FEC**
**Vice president (appointed)**

Leila Notash is a professor in the department of mechanical and materials engineering at Queen's University and was previously an assistant professor at the University of Windsor. Notash grew up in Iran and received her BASc, MASc and PhD degrees in mechanical engineering from the Middle East Technical University, Turkey; University of Toronto; and University of Victoria, respectively. Licensed by PEO in 1996, she joined PEO as a member of the Academic Requirements Committee (ARC) in 2003, served as the vice chair and then chair of ARC from 2015 to 2018 and was vice chair of the Kingston Chapter from 2015 to 2019. Notash is an associate editor (AE) of *Mechanism and Machine Theory* and the American Society of Mechanical Engineers (ASME) *Journal of Mechanical Design* (2022-2024) and was an AE (2014–2020) and guest AE (2021–2022) of the ASME *Journal of Mechanisms and Robotics* and *CSME Transactions* (1999–2017). She was the symposium/program chair/co-chair of ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. She was a member of the Canadian Committee for the Theory of Machines and Mechanisms executive (1998–2004) and International Federation for the Theory of Machines and Mechanisms Permanent Commission on Communications (2001–2011) and was the chair of PC from 2006 to 2011. Notash has served on the Queen's University Senate since 2009. She is committed to equity, diversity and inclusivity (EDI) and has championed EDI among her students. She was a member (2009–2011, 2018–2020) and chair (2010–2012) of the Queen's Senate Educational Equity Committee and the Canadian coordinator of an international capstone design project to provide international experience for undergraduate students (1997–2003).
**leila.notash@queensu.ca**

**Lorne Cutler, MBA, P.Eng.**
**Appointed councillor**

Lorne Cutler graduated with a BASc in chemical engineering from the University of Toronto in 1979. He worked for Dow Chemical for four years in Fort Saskatchewan, AB, before returning to the Ivy School of Business at Western University, where he completed his MBA in 1985. In 1985, Cutler joined Export Development Canada (EDC), where he was responsible for signing loans in excess of $1 billion in India and the countries of central and eastern Europe and the former Soviet Union. In his capacity as senior advisor, Africa, Europe and Middle East in EDC's International Business Development Group, Cutler was primarily responsible for country and sector development strategies, relationship management with Canadian banks and exporters interested in the region and implementation of financing facilities with international financial institutions. Upon early retirement in 2009, Cutler started a consulting firm, LAC & Associates Consulting, which focused on the areas of policy analysis and development, training, personal finance, personal taxation preparation and strategies, municipal finance, small business consulting, social finance and international business development. For several years prior to 2019, Cutler delivered a Professional Practice Exam training course for international engineering graduates for the Ontario Society of Professional Engineers (OSPE). He received a Queen Elizabeth Diamond Jubilee Medal, Ontario 150 Award and Ontario Volunteer Services Awards for his volunteer work with such organizations as Ottawa Community Loan Fund and Jewish Family Services of Ottawa. For several years, Cutler has also been president of his local community association and treasurer of the Federation of Citizens' Associations. Cutler is chair of PEO's Audit and Finance Committee. **lcutler@peo.on.ca**

**Michelle Liu, MASc, JD, P.Eng., LEED-GA**
**Eastern Region councillor**

Michelle Liu (she/they) is a Queer and racialized professional engineer. Liu earned their BASc and MASc in civil engineering from the University of Waterloo. After working in construction and design for various national and multi-national consulting engineering firms, Liu went on to pursue their law degree (JD) and PhD in civil engineering simultaneously at the University of Ottawa. Liu's engineering PhD focuses on using equity, diversity and inclusion (EDI) frameworks to critically examine the interactions between technological designs and engineering professional norms. Their work takes place between the faculty of engineering and the Centre for Law, Technology and Society at the faculty of law. In all their academic endeavours, Liu prioritizes mentoring and supporting equity-seeking students as well as students interested in interdisciplinary research. Engineers Canada named Liu one of 13 EDI Leaders in Engineering Workplaces in 2021–2022. Liu's promotion of EDI in both the engineering and legal professions includes serving as co-chair of Ontario Society of Professional Engineers' Equity, Diversity, Inclusion and Accessibility Task Force, chair of the Waterloo Recent Engineering Alumni Council and as a member of the Equity Advisory Group of the Law Society of Ontario. Liu also co-created and co-funds the Liu-Kennington Award for the 2SLGBTQ+ Engineering Community, the first university-level scholarship for 2SLGBTQ+ engineering students in Canada. For their leadership and groundbreaking research, Liu became the only person in the 2021–2022 application cycle to receive both the Pierre Elliott Trudeau Foundation Scholarship and the Vanier Canada Graduate Scholarship (in the NSERC stream), two of the most prestigious PhD scholarships in Canada. Liu is likely the first openly 2SLGBTQ-identifying councillor at PEO. Liu lives in Ottawa and enjoys reading, hiking, canoeing and backcountry camping. **miliu@peo.on.ca**

## COUNCILLORS-AT-LARGE

**Vajahat H. Banday, P.Eng., PE (Michigan), FEC**

Vajahat (Vaj) Banday is first and foremost an engineer. He advocates for his fellow professionals and has dedicated his life to volunteerism. Being licensed in Ontario for 14 years, with 25 years of work experience, he is committed to promoting self-regulation of the profession and regulating emerging disciplines. Within PEO, he has been involved with the Mississauga, Scarborough and Georgian Bay chapters. In 2019, he served on PEO Council as a lieutenant governor appointee. He has served on the PEO Chapter Leaders Conference Organizing Committee, Education Conference Subcommittee and Advisory Committee on Volunteers and became a fellow of Engineers Canada in 2017. He has a master of science in electrical engineering and a master of science in computer engineering (both from Western Michigan University) and has many years of experience in engineering industries and scientific research. Aside from PEO, he has been a licensed engineer in the state of Michigan since 2006. He has been a Saugeen Shores United Football Club board executive since 2019 and has also volunteered for the Society of United Professionals. He has a firm belief that volunteering is one of the foundations of a true democratic society. **vbanday@peo.on.ca**

**Leila Notash, PhD, P.Eng., FEC**
(see Executive Committee)

**Glen Schjerning, P.Eng.**

Glen Schjerning graduated from Carleton University in engineering in 1988. During the late 1980s and early 1990s, he served as an engineering officer in the Royal Canadian Navy, including taking a half-billion-dollar warship (1990 dollars) to sea as the marine systems engineering officer. He first became a P.Eng. in 1996. In the late 1990s and subsequently, he was a civilian engineer in both Canada's nuclear industry and with the Department of National Defence. For two decades, he was active in the Professional Institute of the Public Service of Canada union. He was elected as NR Group president for multiple terms to represent the engineers, architects and land surveyors employed in the federal public sector. This work included negotiating collective bargaining agreements, where salaries and benefits are determined. In 2023, he was elected as a councillor-at-large on PEO Council. **gschjerning@peo.on.ca**

## REGIONAL COUNCILLORS

### Eastern Region councillors

**Tim Kirkby, P.Eng., FEC**
Tim Kirkby grew up working with his dad at Kirkby's Welding Ltd., where he learned the trade of welding and all about structural steel, operating cranes, compressors, various equipment and industrial repairs in Gananoque, ON, and throughout Kingston, ON. Always an entrepreneur, as a teen Kirkby created and operated a Gananoque-Thousand Islands cottage maintenance and winter snow service. Encouragement from his parents for education, as well as his father's untimely death at an early age, guided Kirkby to St. Lawrence College, Kingston, and later to a bachelor of engineering degree in civil engineering from Lakehead University in Thunder Bay, ON. Kirkby splits his time between Howe Island, ON, and Summerstown, ON, with his wife, Sue. His career with the federal government included work with the Coast Guard, Parks Canada and nationally with Public Works. His appreciation for waterfront communities, stemming from growing up as a "river rat," continues. His community involvement has included former president of the Cornwall United Way; sitting on the board of governors of St. Lawrence College and the Cornwall Community Hospital; and as the national group president of the federal government engineering, architecture and land surveyors bargaining unit (with 4500 members), he negotiated employment contracts/recognition and is a recognized life member. Kirkby's volunteerism at PEO spans 25 years in many roles, and he was inducted as a member to PEO's Order of Honour in 2022. He thanks all friends and supporters. **tkirkby@peo.on.ca**

**Michelle Liu, MASc, JD, P.Eng., LEED-GA**
(see Executive Committee)

### East Central Region councillors

**David Kiguel, P.Eng., FEC**
David Kiguel received his civil-electrical engineering degree from the University of Chile and has been a PEO-licensed engineer for over 43 years. Kiguel worked for Ontario Hydro and its successor company, Hydro One Networks, for 36 years, retiring in 2013. At the time of his retirement, he was manager of reliability standards. Kiguel has been a PEO volunteer since the early 2000s, and his activities have been mostly in the licensure area. As a member of the Experience Requirements Committee (ERC) since 2004, he served as vice chair (2015–2017) and chair (2018–2020). During his ERC membership, he conducted close to 400 interviews to determine whether applicants met requirements for licensure. He was also a Licensing Committee member for five years and chaired the committee in 2021 and 2022. Kiguel was named a fellow of Engineers Canada in 2014 and was inducted into PEO's Order of Honour as a member in 2020. He is an Institute of Electrical and Electronics Engineers senior member and has authored and co-authored more than 10 technical papers. His other voluntary activities include being an elected member of the North American Electric Reliability Corporation Standards Committee, representing small electricity end-users from 2017 to 2020; as well as being a member of the Northeast Power Coordinating Council and its Regional Standards Committee. He is also an Ontario Independent Electricity System Operator (IESO) Reliability Standards Standing Committee member and was member of the IESO Local Advisory Committee for the Regional Electricity Supply to the City of Toronto (2016–2018). **dkiguel@peo.on.ca**

**Nanda Layos Lwin, P.Eng., FEC**
Nanda Layos Lwin is a professor in the School of Environmental and Civil Engineering Technology at Seneca Polytechnic in Toronto. In February 2023, he was elected as an East Central Region councillor on PEO Council. Prior to his election to Council, Lwin served 18 years on the executive of PEO's Willowdale/Thornhill Chapter, four of those years as chair. He also sat on PEO's East Central 30 by 30 Committee and was a member of the Government Liaison Committee. He is a member of the Ontario Society of Professional Engineers and the Council of Tall Buildings and Urban Habitat. In recognition of his contributions and service to the engineering profession, Lwin was made a fellow of Engineers Canada in 2015 and inducted into PEO's Order of Honour in 2022. As an educator, Lwin began teaching at Humber College in Toronto in 2003, and then at Seneca the following year. There, he co-founded the student-run Seneca Civil Society and publishes an annual directory of civil engineering firms. In 2021, he established the Nanda Layos Lwin Civil Endowed Award for students in financial need. Lwin holds a bachelor's degree in civil engineering from the University of Toronto and a master's degree in engineering and public policy from McMaster University. He has worked in both structural and transportation engineering. While employed at NCK Engineering in Toronto, he fulfilled a childhood dream by working on the structural rehabilitation program of the CN Tower, then the world's tallest free-standing structure. Lwin is a journalist and the author and publisher of eight reference books on contemporary music and wrote a popular weekly column on music charts. His articles have appeared in *The Globe and Mail*, canoe.com, and *The Hamilton Spectator*. In his leisure time, he enjoys keeping track of music charts, listening to music, reading, writing and politics, and he can often be found in a bookstore, museum or art gallery. He has also performed stand-up at a Toronto comedy club and is a former president of the Ruskin Literary and Debating Society, one of the oldest debating clubs in Canada. **nlwin@peo.on.ca**

## Northern Region councillors

**Dana Montgomery, P.Eng.**
Dana Montgomery is an accomplished engineer and project manager with a chemical engineering degree from the University of New Brunswick. She began her engineering career working in Germany for an R&D firm specializing in the production of heat exchangers constructed with heat resistant and lightweight materials. After her time in Germany, Montgomery transitioned into her current position at the consulting engineering firm Hatch, in Sudbury, ON. With over 10 years of experience, Montgomery has completed integral work on projects across several industries, including mining, process, transit and nuclear. In addition to contributing to the technical design and delivery of a variety of projects, she has been granted progressive leadership roles of increasing responsibility. This versatility, due to both the nature of the challenges she has faced and the opportunities for growth, is just a part of the reason she enjoys such an engaging career. Montgomery has served on many boards and societies in a volunteer capacity, including, most recently, as a member on the board of Meals on Wheels of Sudbury. Additionally, she is honoured to be able to serve on PEO Council, representing the Northern Region. She is committed to the core principles of PEO and believes in the mission of regulating and advancing the practice of engineering to protect the public interest. This includes working to fulfill the vision of the organization to become a trusted leader in professional self-regulation. **dmontgomery@peo.on.ca**

**Luc Roberge, P.Eng., FEC**
Luc Roberge was raised in Verner, a small dairy community located in northeastern Ontario. He received his bachelor of engineering science (mechanical) from Queen's University, was registered with PEO in 1988 and has been a member of OSPE since its inception. Roberge started as an EIT in the pulp and paper industry with MacMillan Bloedel Ltd, went on to work in the lumber industry with Weyerhaeuser and ended his career with Ontario Power Generation in the renewable energy sector. His participation in the chapter system started 19 years ago with the Algoma Chapter. He has also been a member of the Kapuskasing-Porcupine Chapter, where he was chair in 2019; and the North Bay Chapter, where he was chair from 2012 to 2014. Roberge was first elected to PEO Council in 2020, for a two-year term, as a Northern Region councillor. During this period, he served on PEO's Licensing, Auditing, OSPE-PEO Joint Relations, Governance, Regional Councillors and Human Resources and Compensation committees. During his second year, he also served as chair of the Human Resources and Compensation and Volunteer Leadership Conference Planning committees. Roberge was inducted into the PEO Order of Honour at the Member level in 2019. Before his involvement with PEO, he also volunteered as a Scouts Canada leader. He is looking forward to continuing serving as a Northern Region councillor. **lroberge@peo.on.ca**

## Western Region councillors

**Vicki Hilborn, MASc, P.Eng.**
Vicki Hilborn (she/her) began her engineering career working for a design-build firm focused on agricultural anaerobic digesters, where she maximized the mechanical and biological operation of anaerobic digester systems throughout North America. Currently, Hilborn works as the engineering program coordinator for the Ontario Ministry of Agriculture, Food and Rural Affairs, where she leads a team of agricultural engineers located across Ontario to support innovation within Ontario's agri-food sector. In that role, she is regularly asked to speak on topics such as nuisance control and barn fire prevention and was selected as a 2019 Amethyst Award winner in the Outstanding Young Professional Award category. Hilborn has also sat on a number of boards, including the Zooshare Biogas Cooperative and the Canadian Biogas Association. Hilborn has previously acted as the chapter chair for PEO's Brantford Chapter and volunteered on several PEO committees, including the Equity and Diversity Committee, Government Liaison Committee and Advisory Committee on Volunteers. Hilborn graduated from the University of Waterloo with a BASc (environmental engineering) and University of Guelph with a MASc (environmental engineering). Hilborn lives in Brantford with her husband, Matt; son, Eden; and dog, Wally. **vhilborn@peo.on.ca**

**Susan MacFarlane, MSc, PhD, P.Eng.**
Susan MacFarlane has a PhD in civil (environmental) engineering from the University of Toronto and a MSc and BSc(Eng) in biological (environmental) engineering from the University of Guelph. For the past 25 years, MacFarlane has worked and solved problems in the areas of water, waste, stormwater, wastewater, spills and contaminated sites. Her most recent position was general manager of Lambton Area Water Supply System (LAWSS), which supplies water to about 100,000 people in Lambton County. At LAWSS, she managed capital projects and oversaw the operations and maintenance of the water treatment plant, booster stations and distribution system. Prior to her work at LAWSS, MacFarlane worked for a variety of environmental consulting companies on projects across Canada. It is of note that she was on the board of directors of the Ontario Municipal Water Association from 2016 until she left LAWSS in 2018. MacFarlane has been a member of PEO since 1992. Her interest in joining PEO Council began when she became aware that PEO has a number of challenges to be addressed related to governance and regulatory performance, which will have lasting impacts on the profession. Her hope is that she can contribute positively and productively to resolving these issues and ensure that PEO remains a relevant and fair regulator moving forward. **smacfarlane@peo.on.ca**

## West Central Region councillors

**Pappur Shankar, P.Eng., FEC**
Pappur Shankar is a mechanical engineer who has worked in many capacities on major EPC projects, ranging from $50 million to $500 million, for the past 35 years. Since 2017, Shankar has been involved in marketing and business development of engineering products. His experience in project management spans a wide range of industry sectors related to power (nuclear, mining, thermal, hydroelectric and utilities), oil and gas, mining and utilities with organizations including EXXON, Iberdrola USA, OPG, Hydro One and numerous mining and oil companies, and he was a member of the due diligence team for Cold Lake project in 1981. Shankar is a co-founder and past president of PMI Lakeshore Chapter and a current member of PEO and the OSPE Energy Task Force. He has volunteered with PEO at the chapter level for 17 years in many capacities. He was the vice president of finance and SME for Indo Canada Chamber of Commerce in 2017 and a conference chair of Canada India Business Symposium, held in Toronto, where 130 companies participated. Shankar led the business delegation to India in 2017 as part of ICCC. He aims to address the challenges that must be faced over the next few years and work with Council to address regulatory requirements that will have a positive impact on the profession. **pshankar@peo.on.ca**

**Ravinder Panesar, P.Eng., FEC**
After graduating in civil engineering from MNR Regional Engineering College (now NIT) with honours, Panesar joined the Punjab Water Supply and Sewerage Board, an undertaking of the Government of Punjab responsible for providing the water and wastewater infrastructure in Punjab under the International Development Agency. In 1986, Panesar became estate officer cum engineer to establish the Regional Engineering College campus (now NIT), a joint venture of the Government of India and State of Punjab, where he completed 80 per cent of the campus comprising of an administrative block, various teaching departments, faculty residences and student hostels, sports facilities and the infrastructure of roads, water and wastewater. In 1996, Panesar migrated to Canada and joined C&T Reinforcing Steel as a detailer and estimator. After obtaining his professional engineering licence in January 2000, Panesar joined PEO's Brampton Chapter as an executive. Since then, he has served the chapter in various capacities, including chair, vice chair and almost 20 years as GLP chair. As a chapter chair, Panesar invited experts, speakers and politicians to enhance the knowledge and outlook of engineers. Panesar is a member of the Ontario Society of Professional Engineers and has mentored nationally and internationally educated engineers. In 2002, Panesar joined Albrecht Reinforcing Steel (now AGF Rebar) as a detailer and estimator, where he supervised a team of estimators and managed diverse projects. Currently, Panesar is associated with Technoarc Inc., an architectural consultant, and MAGH Engineering Inc. **rpanesar@peo.on.ca**

## APPOINTED COUNCILLORS

**Arjan Arenja, MBA, P.Eng.**
Arjan Arenja is a highly accomplished professional with a broad range of experience in the engineering, construction and electrical (generation and safety) fields. He holds a degree in civil engineering from the University of Waterloo and an executive MBA from the Ivey School of Business, Western University. Arenja is a licensed professional engineer with PEO and has held senior management roles in various organizations, including Royal Group Technologies and Bruce Power. Arenja is currently the president of Spectrum Business Development Inc., where he focuses on real estate investment and development in Grey and Bruce counties. He is also an active volunteer and sits on the boards of several organizations. He is a board member and chair of the People, Culture and Governance Committee at the Electrical Safety Authority; a board member and chair of the Finance, Audit and Risk Committee at Engineers Canada; a member of PEO Council and past chair of its Governance and Nomination Committee; and a board member of Palette Skills. Arenja is passionate about corporate governance. Throughout his career, Arenja has demonstrated a commitment to excellence and has been recognized for his achievements. He is a respected leader in his field and continues to make significant contributions to the engineering and business communities through his work and volunteer efforts. **aarenja@peo.on.ca**

**Lorne Cutler, MBA, P.Eng.**
(see Executive Committee)

**Andrew R. Dryland, C.E.T.**
Andrew Dryland is a senior associate, contract administrator with R.V. Anderson Associates Limited, with over 36 years of experience in inspection and contract administration. He has been involved with multi-discipline projects in the mechanical, electrical, supervisory control and data acquisition (SCADA) process works for both water and wastewater projects. He graduated from Cambrian College in 1986 with a diploma in civil technology and started his career with R.V. Anderson Limited. Dryland became a lieutenant governor–appointed councillor to PEO Council in 2020. He is also an active member of the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) and volunteers with his local chapter. Dryland is an elected vice president of OACETT's professional affairs and services board (PASB) and was on the OACETT administration board from 2017 to 2019. As PASB councillor for the northern region from 2009 to 2017, he served as a member of the Policy Committee and provided leadership to northern region chapter executives and members. Dryland was vice chair of PASB from 2015 to 2017 and has over 10 years' experience serving on OACETT committees and Council. He has been involved with the OACETT Sudbury Chapter in many different capacities, volunteering as chapter treasurer, secretary and chapter chair for eight years. Dryland has acquired over 35 years' experience in managerial roles in large organizations, and this has allowed him to be an excellent public speaker and to develop strong leadership skills. He looks forward to continuing to use these skills for OACETT and PEO to better the engineering industry for all professionals in the field. **adryland@peo.on.ca**

**Paul Mandel, MBA, CPA, CA, CBV, CFF**
Paul Mandel is a recent lieutenant governor appointee to PEO Council. He is a chartered professional accountant and chartered business valuator by training and is currently the national business valuations partner for RSM Canada. With 25 years of full-time business valuation experience, his clients include both public companies navigating valuation issues and parties in disputes where value of a business is an issue. He has been accepted as an expert witness by Ontario courts as an expert in business valuation and economic damages. When not working, he is an avid skier and biker and a parent to four children. **pmandel@peo.on.ca**

**George Nikolov, P.Eng.**
George Nikolov is a professional engineer and member of PEO. As an internationally trained professional, he has a MSc in civil engineering from Europe, an MBA from the UK and received certification as a project management professional from the US. Nikolov is a business strategist with a background in governance, administration, operation, audits, asset management and risk management. He has overseen multi-million-dollar projects across Ontario, Western Canada and on four continents. He currently serves on the board of the Justices of the Peace Review Council and on the Board of Trustees of the Ontario Motor Vehicle Industry Council. He feels strongly about giving back to the community and promoting access to justice and volunteers with Don Valley Community Legal Services. **gnikolov@peo.on.ca**

**Scott Schelske, P.Eng., FEC**
Scott Schelske is a retired professional engineer in Ontario who worked for 47 years after graduating with a BSc in mining engineering from Queen's University in 1975. His extensive experience in operations, engineering, construction and consulting includes decades in a supervisory or managerial capacity of over $1 billion in capital projects. He has experience in education as both a high school teacher and headmaster of an underground mine training facility and was certified as an industrial and safety trainer. Notable positions include chief engineer at the Griffith Mine, the largest mining operation in Ontario at the time; quarry manager of Cold Spring Granite Company, the largest granite quarrier in the world; regional mineral development consultant with the Ontario Ministry of Northern Development and Mines, where he was nominated for an Amethyst Award and was the Ontario Government's team leader for permitting of over 50 mining ventures; and manager of mining and engineering at the Lac Des Iles Mine, North America's largest palladium producer. Schelske left mining and transitioned into civil engineering with a local consulting firm and spent the last 15 years of his career working with Indigenous Peoples managing two Tribal Council technical services departments. As such, he was the professional project manager for over 100 capital projects, plus the construction or renovation of over 200 housing units for the Anishinaabe People. Schelske held various positions on the executive for PEO's Lake of the Woods Chapter for 22 years, was named a fellow of Engineers Canada and inducted to PEO's Order of Honour for 2020. He was also given a lifetime achievement award by the Worldwide Who's Who for technical and engineering professionals. **sschelske@peo.on.ca**

**Uditha Senaratne, P.Eng., FEC**
Uditha Senaratne is the manager of the independent technical reviews department (also known as the Safety Review Committee) at Canadian Nuclear Laboratories (CNL), Chalk River, ON. He is responsible for the independent technical review of all nuclear-safety-related documents prior to their submission to the Canadian Nuclear Safety Commission, the federal regulator of nuclear power and materials in Canada. Senaratne has over 20 years of experience in various aspects of nuclear engineering at CNL. Senaratne holds a B.Sc.Eng. degree in chemical engineering from University of Peradeniya, Sri Lanka (1991) and a Master of Science degree in nuclear engineering from Penn State University, University Park, PA (1995, Fulbright Scholar). He is a licensed professional engineer with PEO and a fellow of Engineers Canada. Senaratne's pastimes include photography and model railroading (Canadian Pacific models). **usenaratne@peo.on.ca**

**Sherlock Sung, BASc**
After obtaining a bachelor of applied science degree from the University of Toronto, Sung held technical positions in both the public and private sectors domestically and internationally across different industries. His employment experiences include research and development, product design, system commissioning, test and validation, quality assurance, technical instruction, operations, infrastructure management, procurement, contract administration, metrology and team supervision. **ssung@peo.on.ca**

# PEO's ORDER OF HONOUR GETS AN UPDATE

PEO has streamlined the nomination and selection process of the Order of Honour to be more transparent, free of subjectivity and reflect PEO's public-protection mandate.

By Adam Sidsworth


When looking to nominate an individual for the 2024 Order of Honour (OOH), many long-time members of the PEO community may notice some changes. The OOH, which recognizes the contributions of long-time volunteers, had its revised nomination and selection criteria approved by Council last March. The aim is to reflect PEO's mandate to protect the public interest with a more measurable and transparent nomination and selection process.

## PEO REFOCUSES ITS RECOGNITION PROGRAMS

When PEO assessed its over 90 activities based on recommendations from a 2019 external review of its regulatory performance, it found that 35 of those activities—including the OOH and other recognition programs—were unrelated to PEO's regulatory activities and governance. Since then, all PEO recognition programs have faced different fates. Notably, the Ontario Professional Engineers Awards (OPEA), which PEO had first awarded in 1947 and had co-presented with the Ontario Society of Professional Engineers (OSPE) since 2005, became entirely administered by OSPE (see "OSPE takes the reins of the Ontario Professional Engineers Awards," *Engineering Dimensions*, January/February 2022, p. 10). Similarly, the President's Award was transferred to OSPE as the renamed Engineering Ally Award; the annual V.G. Smith and S.E. Wolfe Awards were suspended until further review; and the G. Gordon M. Sterling Engineering Intern Award program is currently under review. However, the OOH will remain a PEO program, albeit with updated nomination and selection criteria.

"The OOH stays with PEO, as we'll always rely on our volunteers," notes Rob Dmochewicz, PEO's recognition coordinator. "The OPEA is definitely focused on celebrating engineering excellence, so it's better suited with OSPE, much like the Engineering Ally Award for non-engineers. However, the OOH is based on merit, and the new criteria approved by Council this past March support PEO's regulatory mandate."

## OOH UPDATES CORE PRINCIPLES

Marking its 60th anniversary this year, the OOH was founded in 1963 as the Sons of Martha's Medal to recognize engineers who have made a substantial contribution to the operation of the profession, improvement of its professional status or the work of the association. Since then, the program has gone through two name changes and made other improvements.

With this year's updates, the OOH will continue to recognize individuals who have committed to volunteering at PEO over many years. However, its core principles have been updated to:

- Identify extraordinary volunteers who support PEO's statutory mandate to regulate the engineering profession in Ontario to protect the public interest;
- Maintain a limited number of inductees to ensure only extraordinary volunteers are recognized;
- Establish a selection process for new members that ensures accountability; fairness; transparency; and justice, equity, diversity and inclusion (JEDI); and
- Confirm that potential and active members of the OOH reflect the high degree of ethics and professional conduct of the engineering profession.

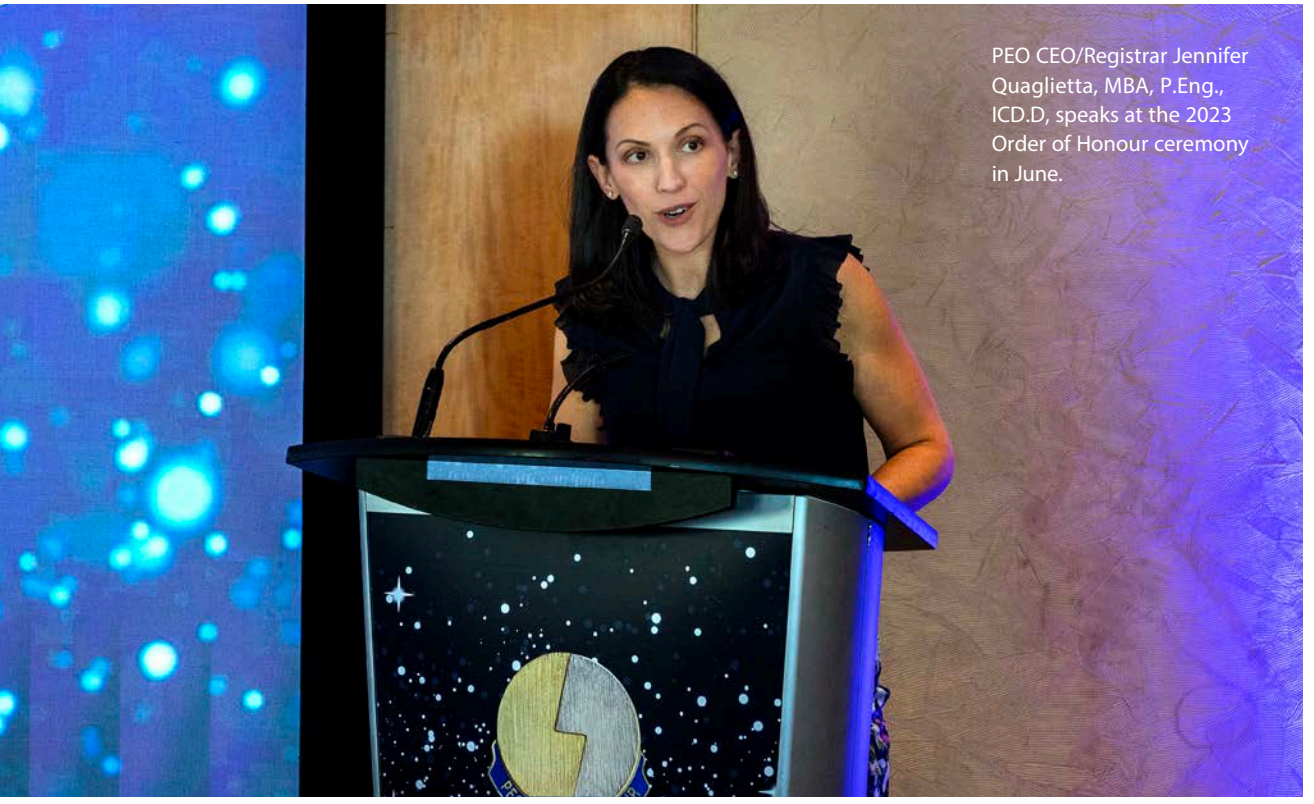
To qualify for recognition, nominees are marked out of 100, with up to 20 points awarded for years of service exceeding the minimum requirement, 60 points for overall impact of service in the profession and 20 points for JEDI accomplishments related to the engineering profession and impacts to society.

Examples of impacts to the profession could include:

- Leadership and general involvement in promoting PEO and its regulatory works;
- Mentoring new chapter members or individuals who are on the path to licensure;
- Volunteering in leaderships roles on Council, on committees or task forces, or at the chapter level; or
- Contributing conspicuous and outstanding service, including promoting PEO's regulatory role to decision makers and the public.

JEDI-related initiatives and societal impacts could include:

- Expanding diversity and inclusivity in the engineering profession through promoting women in engineering and supporting equity for Black, Indigenous Peoples, persons of colour and 2SLGBTQ+ people in engineering;
- Dismantling systemic disadvantages and barriers to resources and opportunities in engineering;
- Promoting fairness and social justice in engineering;



PEO CEO/Registrar Jennifer Quaglietta, MBA, P.Eng., ICD.D, speaks at the 2023 Order of Honour ceremony in June.

**"THE OOH STAYS WITH PEO, AS WE'LL ALWAYS RELY ON OUR VOLUNTEERS."**
**—ROB DMOCHEWICZ**

- Expanding the relevance of engineering by responding to global issues such as climate change, global hunger and child labour; or
- Fostering a sense of belonging in the engineering profession by centering, valuing and amplifying the voices, perspectives and styles of those who experience more barriers based on their identities.

Additionally, Officers must obtain at least 50 per cent of the available points for the latter two categories, and Companions must obtain 75 per cent of the available points for the same categories.

Eligibility to be recognized to the OOH will be normally extended to licence holders in good standing who meet certain time-based criteria for three OOH classes:

- Minimum 10 years of voluntary service for **Member**, with no limits on living Members;
- Minimum 15 years for **Officer**, down from the current 20 years, with no more than 100 living Officers at any time; and
- Minimum 20 years for **Companion**, down from the current 30 years, with no more than 50 living Companions at any time.

Nominations must be made by three licence holders in good standing—down from the current five—and only a maximum of 13 people will be recognized per year. To keep in line with PEO's commitment to modernization, the PDF-fillable nomination form has been replaced with an online nomination process on PEO's portal.

For more information on the OOH, visit the OOH webpage on PEO's website. e

## READ

***Creative Engineering: Promoting Innovation by Thinking Differently,*** by John E. Arnold, 2016: This book is a compilation of Arnold's engineering design teachings, which he presented at a 1959 Stanford University seminar. It features an introduction and biographical essay by William J. Clancey, PhD, to provide historical context, including a detailed explanation of how Arnold's groundbreaking work establishes a scientific foundation for creative engineering and outlines a framework for design thinking.

***A Quantum Machine Learning Approach to Spatiotemporal Emission Modelling,*** by Kelly Zheng, Jesse Van Griensven Thé, PhD, P.Eng., and Roydon Fraser, PhD, P.Eng., FEC, 2023: Despite the growing impact of emissions on health and the environment, there remains a need for emission concentration prediction and forecasting. This work takes a quantum machine learning approach to the spatiotemporal prediction of emission concentration and suggests it could become a powerful tool for accurately predicting air pollution.

***Product Aesthetic Design: A Machine Learning Augmentation,*** by Alex Burnap, PhD, John R. Hauser, ScD, and Artem Timoshenko, PhD, 2022: While considering the importance of aesthetics to market acceptance, the authors propose a model to augment the commonly used aesthetic design process by predicting aesthetic scores and generating innovative and appealing images.

**The following events may have an in-person and/or online component. See individual websites for details.**

## ATTEND

**JULY 20**
**International Conference on Innovation and Systems Engineering,** Toronto, ON

**JULY 26**
**International Conference on Mechanical and Automobile Engineering,** Toronto, ON

**AUGUST 3**
**International Conference on Environmental Engineering and Renewable Energy,** Toronto, ON

**AUGUST 16**
**International Conference on Computer Science and Engineering,** Toronto, ON

**AUGUST 28**
**Robotics Science and Systems,** Toronto, ON

**SEPTEMBER 4–8**
**Interdisciplinary Symposium on Smart and Sustainable Infrastructures,** Vancouver, BC

**SEPTEMBER 14–15**
**International Conference on Web Science and Engineering,** Toronto, ON

**SEPTEMBER 25–26**
**Artificial Lift Canada,** Calgary, AB

**SEPTEMBER 26–27**
**The Canadian Steel Conference,** Toronto, ON

## LISTEN

**The Naked Scientists**
A podcast by a Cambridge University team of scientists, doctors and communicators with a passion to help the public understand and engage with the worlds of science, technology and medicine

**Design Mind**
A podcast that introduces listeners to humans designing the future and solving problems that matter, from industry leaders to design and strategy professionals and creative thinkers of all kinds

**Utility Vegetation Management**
A podcast aimed at advancing knowledge-sharing to improve the reliability and safety of the world's electric transmission and distribution grid

**The Engineers Collective Podcast**
A podcast for those who are curious about the future and how engineers will keep our towns and cities running

## WATCH


**Design Thinking: An Immersive Crash Course** An introduction to design thinking, the power of the mindset and mechanics of the process, including hands-on exercises designed for instant impact, case studies and actionable skills

**Road Projects: From Start to Finish**
A look at why road construction projects take an enormous amount of preparation due to the myriad factors that must be addressed before roadwork begins

# JENNIFER QUAGLIETTA STEERS PEO TOWARDS SUCCESS

PEO's CEO/registrar reflects on her first six months on the job and shares her thoughts on what is needed to guide Ontario's engineering regulator into the future.

By Marika Bigongiari

Stepping into her role as PEO's CEO/registrar in January, Jennifer Quaglietta, MBA, P.Eng., ICD.D, assumed leadership during one of the regulator's most transformative periods. With a background in chemical engineering and an MBA from the University of Toronto, she brings a wealth of knowledge and experience to her position. She also brings the perspective of someone who has embraced the challenge of problem-solving while consistently drawing on engineering principles throughout her diverse career. In her first CEO/Registrar's Message ("Leading PEO into its second century," *Engineering Dimensions,* Spring 2023, p. 8), Quaglietta recalls feeling immense pride and a deep sense of responsibility upon earning her P.Eng. designation—and a firm belief in the profound impact engineering has on society. We sit down with Quaglietta as she reflects on her first six months at the helm.

**Engineering Dimensions (ED): What are your impressions of PEO after your first six months as CEO/registrar?**

**Jennifer Quaglietta (JQ):** As I reflect on my first six months at PEO, a study conducted by McKinsey & Company comes to mind. The study demonstrated that successful, agile organizations consistently exhibit five trademarks related to strategy, structure, process, technology and people. Specifically, McKinsey states that agile organizations have:

- A corporate strategy embodied by a clear North Star that represents a shared purpose or vision everyone can work towards, like our 2023–2025 Strategic Plan—which took effect when I transitioned into the CEO/registrar role;
- An organizational structure that enables local decision-making, characterized by a network of empowered teams and active partnerships—and the structure PEO has built serves as a great example;
- Processes that promote standardization and effectiveness in the workplace and encourage continuous learning and action-oriented decision-making—consider, for example, our Information Discovery and Digitization project, which will see all application files fully digitized by the end of Q2 2023;
- Technology that supports productivity and efficiency and data collection to generate insights and improvements, such as ensuring staff have the tools needed to thrive in a hybrid work environment, the implementation of digital licence certificates and ongoing cybersecurity enhancements; and
- A rich and diverse pool of talented people who engage and interact with stakeholders while delivering value—which I've witnessed firsthand, as well as our team's passion for our work, vision and mission. Our people, including our staff, Council and volunteers, are our greatest strength.

These are characteristics of agility, and they stem from PEO's people-centred culture. PEO operates as a cohesive unit that collaboratively generates value for our stakeholders. That's what I see. When I began at PEO, I was struck by the agility and commitment of our staff, Council, volunteers, licence holders and stakeholders as we worked on two of the most significant projects in PEO's 100-year history—mandatory continuing professional development and licensing improvements to comply with the *Fair Access to Regulated Professions and Compulsory Trades Act*, or FARPACTA. Our dynamic teams accomplished this through rapid learning and decision-making facilitated by technology, dedication and a common purpose.

**ED: What are your goals and objectives as CEO/registrar?**

**JQ:** As CEO/registrar, I support the goals and objectives defined by Council in our 2023–2025 Strategic Plan and the targets set out in the operational plan devised by staff. The four strategic goals guiding PEO's focus for the next three years emphasize modernizing processes, optimizing organizational performance, improving governance and creating a vision for PEO that generates value for all stakeholders. These are exciting goals!

The operational plan clearly outlines the projects and activities PEO departments and individuals will undertake to ensure we reach our goals and objectives. In March, I presented a three-year summary of PEO's strategic plan to Council; it breaks down our four strategic goals into attainable deadlines.

Beyond our strategic goals and major projects, my focus is on our people.

**ED: How have you engaged with staff in your first six months?**

**JQ:** Fostering a positive organizational culture is very important. I meet weekly with executive staff to ensure we create psychologically safe environments and take an evidence-based or principle-based approach to decision-making. I have held several events to help me get to know all staff—for example, our coffee chats, town halls and staff meetings. I regularly engage with our team as I travel through the office.

I think feedback is important, and I welcome it. My Friday Reflection messages are an invitation to message me, and I have an open-door policy

**"OUR PEOPLE, INCLUDING OUR STAFF, COUNCIL AND VOLUNTEERS, ARE OUR GREATEST STRENGTH."**

that invites everyone to come by and share with me their concerns, ideas and perspectives. I welcome their input, their knowledge and their creativity. Positive culture starts at the top, leading by example.

This past February, I hosted my first town hall meeting as CEO/registrar. It was my first opportunity to speak with staff collectively. I reiterated the importance of embracing agility. I also outlined how our 2023–2025 Strategic Plan is our North Star. When it comes to realizing our goals as an organization, our people are the ones who will make that happen.

As we work towards our strategic objectives, my biggest challenge will be ensuring staff well-being, particularly when we have several large transformative projects to deliver. The Institute for Healthcare Improvement refers to joy in work and workforce well-being in a 2017 whitepaper that concluded the same issues that drive burnout also diminish joy in work, and by identifying and addressing those issues they could ensure the nurturing of their workforce. They found the most joyful, productive and engaged staff feel both physically and psychologically safe, appreciate the meaning and purpose of their work, have some choice and control over their time, experience camaraderie with others at work and perceive their work life as fair and equitable.

The goal is to enable staff to thrive, not just persevere. We will focus on bringing joy to work and ensure staff feel engaged and empowered and see themselves in the vision as they work to deliver the strategy. As CEO/registrar, it is my job to ensure PEO maintains a positive work environment. Our executive leadership team—including me—must employ empathetic leadership.

I take this to heart. PEO's focus has shifted its social and corporate responsibility to focus on equity, diversity, inclusion, belonging and accessibility. PEO has actively been working towards this in several ways, including our Employee Engagement Pulse Survey, the establishment of PEO's Anti-Racism and Equity Code last year, engaging a spokesperson from Holland Bloorview Kids Rehabilitation Hospital's Dear Everybody campaign to speak to staff at our February town hall about strategies to address systemic ableism, and Council's approval of PEO's Safe

Jennifer Quaglietta, MBA, P.Eng., ICD.D, became PEO's CEO/registrar in January 2023.

Disclosure policy, which allows all PEO staff and volunteers to report any potentially unethical PEO conduct without fear of recrimination.

### ED: How important is driving innovation and creativity?

**JQ:** To be truly agile, fostering an atmosphere of continual improvement is essential—as are having clear goals. Innovation, creativity and agility go hand in hand. At PEO, we are starting to bring a design-thinking approach to projects that will help us support our teams and our strategic objectives. Charles Kettering, an accomplished inventor, engineer and businessman, famously said, "If you have always done it that way, it is probably wrong." It is all about keeping our ears to the ground.

Design thinking is an approach to designing systems that uses environmental scans to ensure the systems are relevant and add value for users—and it comes straight out of the engineering toolkit. One of the first people to teach design thinking was John E. Arnold, a mechanical engineering professor at Stanford University. His 1959 seminar titled "Creative Engineering" (posthumously published in 2016) outlines the design thinking framework. Design thinking is both a mindset and a process that aims to address complex problems through a user-centred perspective. It focuses on achieving practical results and solutions that are technically practicable, financially sustainable and meet an authentic human need. This innovative approach is the energy we want to bring.

Our approach to complying with FARPACTA is a fitting example of how PEO is innovating. We are the first professional regulator in Ontario to remove the Canadian experience requirement. And we have modernized and significantly improved our application processes—and will continue to do so. There are many exciting projects in the works. We hired a new vice president of digital transformation and corporate operations, Arun Dixit, P.Eng., who brings considerable experience in continual improvement and digital innovation and strategy. He will help guide us into organizational effectiveness. We also have a vice president of policy and governance, and chief legal officer, Dan Abrahams, LLB, who will lead us into a modern-day governance model. And we will be hiring a director to support a new process for licensing that aligns with FARPACTA. Most importantly, we are working on a people plan to create a working environment that is supportive and flexible.

**"THE GOAL IS TO ENABLE STAFF TO THRIVE, NOT JUST PERSEVERE."**

Keeping our minds fresh is also important, so we are promoting professional development, including offering lunch and learns and other opportunities.

### ED: What are you looking forward to as CEO/registrar?

**JQ:** As I support Council's work to realize the goals of our strategic plan, I look forward to working with our new president, Roydon Fraser, PhD, P.Eng., FEC, to help him and Council define a vision for PEO. I hope to facilitate meaningful dialogue with licence holders and our stakeholders to help them see value and relevance in PEO. Their engagement is essential. We have an opportunity to get feedback from our nearly 90,000 licence holders.

At my recent fireside chat with OSPE CEO Sandro Perruzza, I posed the question: How can we better leverage their expertise to become a truly modern regulator? As the country's largest engineering regulator, I would like to see PEO positioned as a regulatory leader at the forefront of modern-day engineering regulation. I think we can get there—but first, we must ensure the happiness of our people, including our staff, Council and volunteers so we can continue to build together. **e**

# COUNCIL APPROVES GOVERNANCE COMMITTEES' WORK PLANS

**558TH MEETING, JUNE 23, 2023**

At its June meeting, Council approved the annual workplans of its governance committees, which include the Audit and Finance (AFC), Governance and Nominating (GNC), Human Resources and Compensation (HRCC) and Regulatory Policy and Legislation (RPLC) committees. The work plan for each committee is considered a living and flexible document intended to be a framework and provide guidance for the committee's activities.

The work plan for the AFC includes improving centralized banking for chapters, creating budget assumptions for 2024 and the strategic plan budget and reviewing of the financial statements quarterly.

The work plan for the GNC includes an ongoing review of the Council elections process; developing advisory groups to replace the Licensing, Enforcement and Professional Standards committees; reviewing the nomination process to external boards, such as the Engineers Canada board; and proposing changes to the annual general meeting member submissions guidelines.

The work plan for the HRCC includes CEO/registrar succession planning and performance reviews, reviewing and monitoring PEO's risks related to human resources and reviewing the Workplace Anti-Violence and Harassment Policy as it relates to PEO volunteers.

The work plan for the RPLC was presented as discussion only because there had been an insufficient number of votes by committee members to recommend its current draft work plan to Council for approval. However, it is expected that the work plan will be brought to Council for approval at its next meeting.

## ELECTION MATTERS

Council approved a motion related to the 2024 Council elections cycle, specifically the approval of procedures and forms and recommendations for the appointment of a Regional Election and Search Committee (RESC) for each region and a junior regional councillor in each region (Nanda Lwin, P.Eng., FEC, Michelle Liu, MASc, JD, P.Eng., Luc Roberge, P.Eng., FEC, Ravinder Panesar, P.Eng., FEC, and Susan MacFarlane, MSc, PhD, P.Eng.) to chair the RESC for their region. The approved motion included three amendments. One was to remove the strike-out of section 26 of the Election Publicity Procedures at C-558-3.7, Appendix B, and include it in the approved document. The second amendment related to amending all nomination acceptance forms in C-558-3.7, Appendix D, to read:

> "I declare that I have read and understand the Code of Conduct for Councillors located at section 3.1.8 of the PEO Governance Manual and agree to act in accordance with it if elected.
> I declare that I will complete the PEO mandatory compliance training if elected.
> I have completed or will complete the 'Board Basics' orientation by December 31, 2023."

Additionally, there was unanimous consent to a third amendment, which was that changes to the nomination form be reflected in procedures 11 and 12 of the nomination and voting procedures in C-558-3.7, Appendix A. These changes will be made by the CEO/registrar.

Before coming to Council, the GNC reviewed draft versions of the procedures and forms and recommendations for substantive changes were provided to Council, along with rationales for the amendments. The proposed amendments flowed from two election-related workstreams: the GNC's ongoing election process reform, and the Central Election and Search Committee's (CESC) 2023 elections issues review.

These documents will be amended where required by Council and incorporated into the 2024 Council Elections Guide. The 2024 Council elections call for candidates and nomination and election procedures will be published in the Fall 2023 issue of *Engineering Dimensions*.

In a separate motion, Council appointed Isidro Buquiron, P.Eng., Giuseppe (Joseph) Facca, P.Eng., Suresh Khanal, P.Eng., and Mostafa Khosravyelhossaini, P.Eng., as the additional members to the 2023–2024 CESC, which was constituted at the meeting and the 2022–2023 CESC was stood down with thanks.

Additionally, another motion asked Council to approve the chief elections officer role description and oath of office and the official elections agent security requirements, as presented at the meeting; and that the GNC's Election Officials Subcommittee be composed of Council members Vajahat Banday, P.Eng., PE (Michigan), FEC, Vicki Hilborn, P.Eng., Nanda Lwin, P.Eng., FEC, Luc Roberge, P.Eng., FEC, and Glen Schjerning, P.Eng. The five councillors were added to the motion when the chair asked for volunteers from the floor.

These decisions flow from information presented to Council for discussion at its February 2023 meeting, when the GNC presented 11 recommendations as part of its election process reform work, two of which dealt with clarifying the role of the chief elections officer and ensuring that security measures are in place for Council elections.

## POLICY DEVELOPMENT FRAMEWORK

At its June meeting, Council reviewed and approved a motion related to adopting a Policy Development Framework. However, Council voted to amend the original motion to reflect that both policy impact analysis and the policy impact analysis tool will be expected, but not required, of all PEO regulatory policy initiatives.

Recognizing that policy development is core to PEO's mandate and operations, the motion noted that it is essential to establish a policy framework and guiding principles to be able to develop, implement, monitor and evaluate policies driven by various internal and external priorities. This framework is a part of a series of tools that will be created under the auspices of the RPLC to ensure PEO's regulatory policy decisions are based on a proper evaluation of risk, solid evidence, a thorough analysis of options and impacts, avoid unnecessary barriers and involve stakeholders in the policy development process.

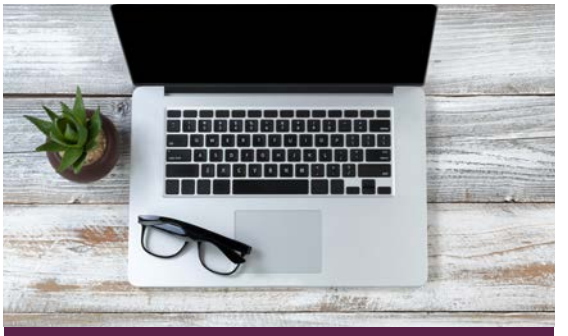
It is expected that the policy impact analysis tool will be piloted for one year before it is adopted as PEO's formal policy management tool, and the framework will be reviewed again in 2024 by Council and every three years thereafter. **e**

## AD INDEX




Contact Dovetail Communications:
Vince Naccarato
905-707-3509
vnaccarato@dvtail.com

**Deadline for Fall 2023 is September 5, 2023**



## WANT TO UPDATE YOUR EMAIL ADDRESS?

PEO is communicating to licence holders by email. If you have already provided us with a valid email address, please ensure it is the one you wish to use to receive essential information from PEO. It is important to choose an email address that you check on a regular basis, do not share with other people and will not have to change often. You can update your email address through PEO's online portal.

# Mandatory continuing professional development is here

PEO's mandatory Practice Evaluation and Knowledge (PEAK) program is designed to help licence holders maintain their professional knowledge, skills and competence as engineers and is in keeping with PEO's regulatory, public protection mandate as set out in the *Professional Engineers Act*.

Licence holders must comply with the program. Beginning in 2024, non-compliance could result in the administrative suspension of licences. More information can be found at **www.peopeak.ca**.

Professional Engineers Ontario

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