

# PEG

WINTER 2018

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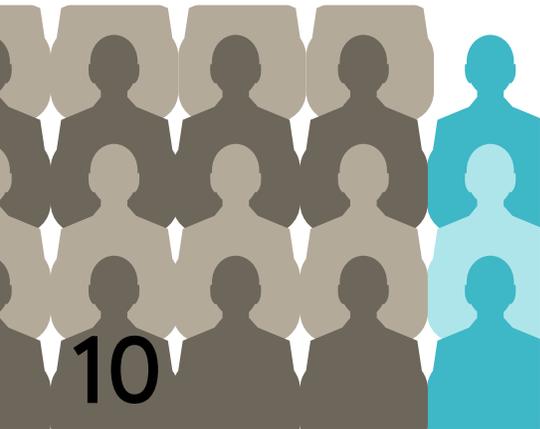


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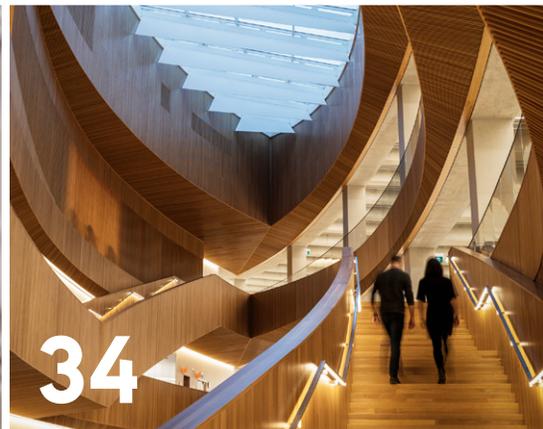
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# PEG

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*The PEG's* content relates primarily to APEGA, our statutory obligations, our services to Members and Permit Holders, and the professional development of Members. The magazine also celebrates Member and Permit Holder accomplishments in Professional Engineering, Professional Geoscience, and other areas.

*The PEG* is not a technical, peer-reviewed publication. Although we publish items about accomplishments in research, we **do not** publish actual academic or scientific papers and presentations, even in summary form.

*The PEG* does not accept advertising.

Opinions published in *The PEG* do not necessarily reflect the opinions or policy of APEGA or its Council.

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# Congratulations

## 2018 Geoscience Fellows

APEGA and [Geoscientists Canada](#) are proud to congratulate the 2018 recipients of the Geoscientists Canada Fellowship.

The Geoscientists Canada Fellowship program honours individuals who have given noteworthy service to the geoscience profession, through service to Geoscientists Canada, service to one of the constituent associations of Geoscientists Canada or service in another capacity. The expertise and dedication of these professionals is a reflection of the thriving geoscience community in Canada and is a credit to the profession.

Douglas Buchanan, P.Eng., FEC, FGC (Hon.)

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Todd Simenson, P.Eng., FEC, FGC (Hon.)

Stanley Zwierzchowski, P.Eng., FEC, FGC (Hon.)

## 2018 Engineering Fellows

APEGA and [Engineers Canada](#) are proud to congratulate the 2018 recipients of the Engineers Canada Fellowship.

The Engineers Canada Fellowship program recognizes Professional Engineers and non-engineers who have made outstanding contributions to the engineering profession through their professional accomplishments.

Saumya Barua, P.Eng., FEC

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Don Raboud, P.Eng., FEC, FGC (Hon.), PhD

Bob Rundle, P.Eng., FEC, FGC (Hon.)

Stanley Zwierzchowski, P.Eng., FEC, FGC (Hon.)



# As Our Second Century Draws Near, What Lies Ahead for APEGA and Our Professions?

BY **NIMA DORJEE**, P.ENG., FEC, FGC (HON.)

*APEGA President*

In the year 2020, a century will have passed since engineers in Alberta and elsewhere in Canada began operating self-regulatory organizations. These bodies arose directly from a societal need for professional, ethical, and skilled practice to protect the public, and engineers themselves first proposed them.

What were we back then? What are we now? What will we become? As APEGA nears its centennial year, these are important questions to ask and examine, not only as a regulator but also as a community of professionals. We practise in challenging times, as we always have, regardless of the economic landscape.

Back in 1920, the Wild West was winding down, and a system of regulation was needed to make sure bridges and buildings didn't collapse. Unscrupulous practitioners were tarnishing the reputations of the good, honest professionals who were doing their jobs properly.

Enough was enough. Our professional forebears came up with a solution and proposed it to the government.

Cities were growing, and the age of the automobile was in its infancy. Less than two decades earlier, Western Canada's first oil strike had been recorded, in what is now Waterton Lakes National Park in Alberta. Exemplified in our province by Leduc No. 1, the era of continuous fossil fuel exploration and development would soon be upon Alberta and the world, allowing the geoscience disciplines to come into their own rather than remain a subset of engineering. Then came the advance of sustainable energy and concerns about a warming climate, along with the beginning of the end for coal-fired electrical generation.

What a century it has been. When the first version of our enabling legislation was enacted, engineers could never have conceived of the digital and global world of today. Engineering work done in Alberta was for Alberta. Now, we must embrace globalization while ensuring our citizens are protected.

Part of this is making sure our oversight of engineering and geoscience work is consistent and thorough, no matter where the work is done. However, as I hope to demonstrate in this column, globalization does not go in one direction. Within this exchange lies opportunity for our expertise on the world stage.

APEGA has endured as a shining example of regulatory excellence and fortitude. Self-regulation is under serious scrutiny and criticism in some jurisdictions, but in Alberta, despite the complexity of the industries engineers and geoscientists are involved in, APEGA has a solid reputation. This has helped safeguard us from public criticism, but the trends beyond our provincial borders indicate we must be steadfast in our ability to maintain public confidence.

So, what comes next? I think we—the professionals who count ourselves as APEGA members—would be wise to capitalize on our success by doing more to sell our professional work beyond our borders. Certainly, this already happens to some extent. When the world needs top-quality engineering and geoscience, it often knocks on Alberta's door. That's at least partially a consequence of our system of self-regulation. It's also because there's a lot more to our economy and our professions than meets the undiscerning eye.



Over the last several decades, Alberta has attracted some of the best engineering and geoscience talent from around the world and across Canada, to help build our energy sector. I submit that this level of engineering and geoscience prowess positions us to become an engineering and geoscience capital *for* the world. A Silicon Valley of sorts, but this one built on

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**GLOBALIZATION DOES NOT GO IN ONE DIRECTION. WITHIN THIS EXCHANGE LIES OPPORTUNITY FOR OUR EXPERTISE ON THE WORLD STAGE.**

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developing technology for our future energy needs and to take on climate change.

While Alberta was busy developing its resources, other areas of our technical advancement were not dormant. Flip through any edition of *The PEG* to see the great things our members are up to on the R&D front. Alberta researchers are involved in everything from smart cars to biomedical maximization, from satellite development to robotics.

Not only do we have the expertise and the regulatory framework, we also have the people. Including members-in-training, Alberta has a talent pool of more than 70,000 engineers and geoscientists. In and around Calgary, my home city, we have the highest concentration anywhere of engineers and geoscientists for the energy sector.

There are nine engineers per 1,000 people in metro Houston, the recognized energy capital of the world. Yet there are 33 engineers per 1,000 people in Calgary. Most of Canada's geoscientists live in and around my city. Many of these professionals were attracted to Alberta by the energy sector.

For much of our membership, the economic downturn has been devastating. Production caps are now looming and our shipping capacity continues to face barriers. Even though Alberta's economy has recovered somewhat from the 2015 downturn, our membership is not as close to full employment as it once was.

The world has changed. While other sources of energy will be found and developed, there will be a greater need for innovation in the extraction and processing of petroleum resources. There are many

research groups seeking solutions in enhanced oil recovery and greenhouse gas mitigation, especially at the University of Alberta and the University of Calgary. We have the engineering and geoscience capacity available in this province to provide solutions for the world.

We are more than an oil and gas province, even though the industry has dominated our consciousness. It's a highly technical industry, and much of the expertise we've learned is transferable to other situations in other countries. Many of the complementary skills we've learned, as project managers and leaders, are also applicable elsewhere.

Look at our can-do spirit and the accomplishments it has spawned. One of the world's biggest engineering and geoscience feats is the development of our oil sands. Our success in this area may not always be politically correct to celebrate, but its impressiveness, and its economic and technological impact, are undeniable. We keep getting more efficient and environmentally innovative in the way we mine the oil sands. The reclamation work there continues to improve. The economic impact of the oil sands has rippled across the country and, through foreign investment, around the planet.

Most of you know all about outsourcing and the effect it can have on professional staffing levels in major engineering and geoscience companies. Well, the Internet goes both ways (no surprise there). Other countries may be able to offer us inexpensive engineering and geoscience. What we have to offer them is high-end engineering and geoscience, developed hand-in-hand with strong self-regulation.

Some challenges require something better than a low-cost alternative, and those are jobs we're qualified for.

Many of you will be familiar with the term the Alberta Advantage. As a recap, here's my take on what makes up today's Alberta Advantage:

1. We have among the highest concentrations of engineering and geoscience talent in the world.
2. Alberta has attracted much of the top talent in our professions, from around the world and from across Canada.
3. Immigrants have brought with them the business and cultural know-how of a mosaic of cultures. Diverse, globalized teams of APEGA professionals are already here, just as the world begins to appreciate their value.
4. We are one of the few countries with mandatory licensing of engineering and geoscience. Our professionals are qualified and deemed competent by APEGA, and we hold them accountable to our *Code of Ethics*.

The diversification of the economy of this province should be accomplished through the acknowledgment and recognition of our capabilities and talent. We should position ourselves to offer technical innovation and leadership as a high-performing member of the global community.

I am talking about a long play here, but I am suggesting that someday soon, ideas like this will be well worth further investigation from our provincial and national governments. We don't need a major out-migration of engineers and geoscientists. We need to keep the expertise we have and make sure it has a valued, well-deserved, and impactful place on the world stage.

## LINKS

[America's Engineering Hubs: Forbes](#)

[Canada's Oil Sands Innovation Alliance](#)

[Canada's Next Green Energy Hub](#)

## Questions or comments?

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## The Relentless March of Technology: How it Affects You, How it Affects APEGA

BY **JAY NAGENDRAN**, P.ENG., QEP, BCEE, FEC, FGC (HON.)  
*APEGA Registrar and Chief Executive Officer*

Technology surrounds us and dictates our day-to-day lives far more than pioneers like Bill Gates and Steve Jobs ever envisioned. The youth of today were born into this technological age and live within it effortlessly.

As engineers and geoscientists, we are as tied to technology as everyone else is—perhaps even more so, because, along with relying upon it, many of us are developing it, improving it, and finding new applications for it. Some of you may even monitor pipelines from the comfort of your homes. Many of you review and approve documents far away from the traditional office, without ink touching paper. This is both freeing and challenging.

So much of what we do intersects through information technology that, without forethought and willpower, few of us would escape screens, memes, news alerts, and tweets for more than a few waking hours a day. We embrace information technology to put food on our tables and stay connected to friends and family, albeit while developing strategies to cope with its side-effects.

APEGA is not immune to this. With 2020, our centennial year, looming large, we are on the same technological march as you are. I wonder what our self-regulatory world must have been like in 1920. Obviously, the challenges were huge then, too, because the public had been harmed by unregulated practitioners. The ethical engineers of the day knew something had to be done, so they devised and proposed the self-regulation model still used throughout Canada.

All these years later, APEGA faces challenges our predecessors could not imagine. Operating the association, interacting with members, advancing our regulatory processes, analyzing and protecting data—these are but a few of APEGA's IT buckets. Many of our lessons learned and improvements made within these areas have been mentioned before in this column, elsewhere in *The PEG*, and on other APEGA platforms.

Let's focus this time on how we manage our practice standards and guidelines: their review process, content, and future, and how the information age affects them. These critical documents build upon and clarify the professional practice and ethical considerations found in the *Engineering and Geoscience Professions Act* (the *EGP Act*), the *General Regulation*, our bylaws, and other legislation.

Practice standards and guidelines are where the proverbial rubber hits the road. APEGA needs to get them right, so APEGA needs to make sure subject-matter experts, members, and permit holders are properly engaged, consulted, and informed.

Spurred on by the advancement of social media, the public has more information—and more misinformation—at its fingertips than ever before. The relentless bombardment of data, facts, figures, images, and news is contributing to the public's growing distrust of individuals and institutions that present themselves as authorities, including regulatory bodies. With access to so many conflicting facts and alternative views, it is increasingly difficult for people to navigate news and wholly trust the information



Practice standards and guidelines are where the proverbial rubber hits the road. APEGA needs to get them right, so APEGA needs to make sure subject-matter experts, members, and permit holders are properly engaged, consulted, and informed.

Members today expect a more transparent, thorough, and consistent updating and review process. The information age allows us to meet these expectations like never before, so that's what we're doing.

We developed much of this approach through our legislative review process. As you may know, we recently concluded this multi-year, deep dive into the *EGP Act* and *General Regulation*. The 80 legislative changes we proposed are now before the Government of Alberta (GOA). Some 6,000 stakeholders took part in our various calls for comment and participation, by meeting with APEGA staff and volunteers face-to-face, by taking part in surveys, video conferences, and webinars, and by exchanging emails with us.

Volumes of supporting material, their contents heavily influenced by members and other stakeholders, are now in the hands of the GOA. The member engagement we generated continues, and the ways we accomplished that engagement inform, where appropriate, our next steps.

Another example is the development work in creating the new *Practice Standard for Authenticating Professional Work Products*, which will replace the existing *Practice Standard for Authenticating Professional Documents*. What's particularly interesting, in the context of this column, is that this standard reflects new technology in three ways: the way authentication operates in the digital space, the way our licensed

sources that battle for their attention. As a result, regulators need to demonstrate their relevance and value by removing doubts and proactively tackling antagonistic attitudes.

We are keenly aware that we have much to do, as we begin updating a big cross-section of professional standards and guidelines. For major updates, it is not enough for a few committee members, staff, and experts to collectively create a document, then share a draft for member comment before we present it to Council for consideration and finalization. We need to work together to develop standards and guidelines that best position our professional members to serve—and make paramount—the public interest.

professionals and permit holders use technology to facilitate their practices, and the way APEGA used the digital space to engage members and permit holders in the update of the standard.

Through the summer and fall, we informed and listened to members via face-to-face meetings, videoconferences, and webinars, just as we had during the legislative review. We created videos and infographics explaining the new approach to authentication that the new standard will require. We posted information on social media.

Our hope is to publish the new standard mid-year, following Council approval. The draft is being improved first, thanks to the input we received. After it's published, a transition period will allow members and permit holders to continue learning the standard's new requirements before they are expected to fully adhere to it.

Some of the coming updates to standards and guidelines are administrative in nature, so wide consultation won't be necessary. Some are not as complicated as the most recent one, so they won't require as many information and consultation sessions.

Two additional updates of practice standards, however, are wide-reaching. One will cover outsourcing and relying on work prepared by others. In our digital world, the oversight we exercise of outsourced work and how we use due diligence in accepting it are things the public and elected representatives are very interested in. The second is the guideline for Professional Practice Management

Plans (PPMPs). PPMPs are the critical documents that help ensure the professionalism we expect of engineers and geoscientists is also part of your entire workplace culture.

As I'm sure you can imagine, the march of technological change will influence the content of these documents and the way in which we inform and consult with members—just as it has the *Practice Standard for Authenticating Professional Work Products*.

## 'TIS THE SEASON

And now, with the year winding down, we are all marching into the Christmas season. I wish all of you a wonderful holiday season, regardless of your faith or belief system. It's a great time to connect with family and friends, and recharge and ready ourselves for the challenges ahead in 2019!

For those members who found a way to volunteer or engage in the business of the association in 2018, thank you. For those who didn't, please make it a resolution!

I must also thank my Executive Leadership Team and the entire APEGA staff for supporting our operational goals and the continuous improvement of this great organization. My job is challenging—but it's also extremely rewarding, largely because of you. I feel well supported by dedicated, smart, and knowledgeable people.

And finally, a special year-end thank-you to President Nima Dorjee, P.Eng., the other members of the Council Executive, and the rest of Council. Your support and thoughtful oversight are invaluable and very much appreciated.

Merry Christmas!

### LINKS

[Proposed Updates to the Authentication Standard](#)

[APEGA Legislative Review](#)

### Questions or comments?

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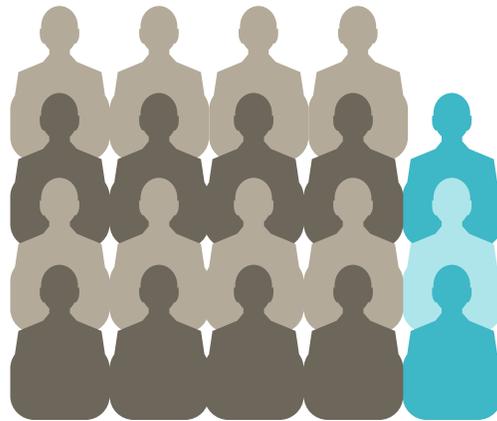
# Why Vote?

Everything you do as a professional member is informed by a **COUNCIL** that oversees the APEGA professions. Council is a critical element in maintaining and enhancing self-regulation, and your vote demonstrates that you want the right people making decisions on your behalf.

The **2019 APEGA ELECTION** takes place February 11 to March 14, 2019. Will you be ready to cast an informed vote? The content that follows should help get you there.



APEGA Council Election



APEGA's Council is made up of **16 professional members** and **3 public members**.



All professional members are elected by you!



All public members are appointed by the Government of Alberta.

## Council's Role

*"[To] manage and conduct the business and affairs of the Association." -Section 12(2), the Engineering and Geoscience Professions Act*

To ensure responsible use of resources to effectively execute APEGA's strategic plan



To develop and drive APEGA's strategic direction

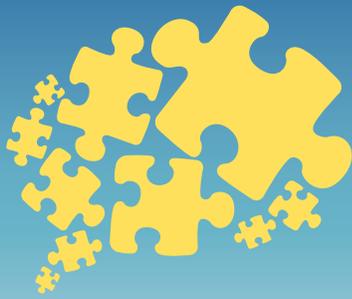
To provide ongoing oversight of APEGA's function and activities



To make decisions that affect the professions and the membership



To provide financial oversight



You can learn more about candidates and decide which ones you would like to see on Council. ▶

### 1. Candidate materials



Online late January 2019

### 2. Follow APEGA and candidates on social media



### 3. Networking event

During the election. Details soon.

#### CANDIDATES FOR PRESIDENT (2020-2021 Term) 3 running



You have up to 1 vote  
Most votes: President-Elect  
2nd-most votes: Vice-President



#### CANDIDATES FOR COUNCIL (Term Beginning 2019) 10 running



You have up to 4 votes  
Elect 4



Starting February 11  
and continuing until  
March 14, 2019



# A Brief Introduction to the Candidates

It's time to start getting to know your candidates. This edition contains bullet points on each of them, and in the next edition, we'll provide small biographies and candidate answers to identical sets of questions. You'll also be able to watch candidate videos online.

Of course, you can do your own research. Follow candidates on social media. Reach out to them and engage them in discussions on the regulatory issues that matter to you.

All told, that should give you plenty of information to decide which candidates will get your vote. APEGA's online election takes place from February 11 to March 14, 2019. You'll be able to place up to five votes in all: one for President, four for Council.

The candidate for President who receives the most votes will serve in 2019-2020 as President-Elect. The second-place finisher will serve as Vice-President.

*Note: the President for the 2019-2020 term was elected earlier this year, in APEGA Election 2018. Your incoming President is George Eynon, P.Ge., FGC, FEC (Hon.). Mr. Eynon officially advances from President-Elect to President at the APEGA Annual General Meeting, April 26, 2019, in Calgary.*

In the Council portion of the election, the top four will join Council. Sometimes, to make sure there's a full complement of elected members on Council, more than the top four are elected.



## Candidates for President (2020-2021 Term)

### Dr. Tim Joseph, P.Eng.\*

- Recently appointed as Associate Dean (Student Conduct) for the Faculty of Engineering at the University of Alberta, meaning he is responsible for all discipline decisions for the more than 6,000 engineering students attending the university
- Awarded the Distinguished Service Medal from the Canadian Institute of Mining, Metallurgy and Petroleum in 2011, for his contributions to the global mining industry and to mining engineering education
- An expert in mine equipment, having a principal role in the innovative design of a number of major pieces of mining equipment and delivering industry professional development through training programs worldwide on mastering mining operations and decisions

- Experience on APEGA Council, 2017 and 2018, including current Vice-President and service as chair of the Policy & Standards Task Force

### Shawn Morrison, P.Eng.\*

- More than 38 years' experience in engineering and project management
- Director of Mechanical Engineering and CEO of M5 Engineering Inc. in Calgary
- Active volunteer, volunteering at APEGA life member events, APEGA Member Induction Ceremonies, and Iron Ring ceremonies
- Experience on APEGA Council, 2000-2003 and 2008 to 2011, including service on Finance Committee and Governance Committee

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## Candidates for President (cont'd.)

### John Van der Put, P.Eng.\*

- Energy industry executive with 35 years of experience, whose accomplishments span the Americas in upstream oil and gas, and pipeline development
- Extensive knowledge of process engineering and project executive leadership
- Contributor, for more than 20 years, to boards focused on human development and technological advancement, including Athabasca University Governing Council, and, most recently, the Engineering Research Advisory Board of the University of Calgary
- Experience on APEGA Council, 2007-2010 and 2012-2015, including service on Act, Regulations, and Bylaws Committee, Audit Committee, and Finance Committee, and further APEGA volunteer experience on Discipline Committee, Professional Development Committee, and in mentoring and student outreach

## Candidates for Council

*(Term Beginning 2019)*

### Iyub Adam, P.Eng.

- More than 20 years of experience in engineering, design, and project management of power projects, including 10 years of leadership experience as engineering manager/team lead with ABB Inc.
- Obtained knowledge of the *EGP Act* and its administration through the lens of a permit holder at ABB, and obtained knowledge of working within other organizations through IEEE and others
- Robust awareness of case management, document management, and investigation practices within the power industry, considers himself a strong and innovative team player

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**APEGA Council Election**

# Your Vote. Your Council. Your APEGA.

## Have your say in how APEGA is governed.

The 2019 APEGA election runs from Monday, February 11, 2019, at 9 a.m. to Thursday, March 14, 2019, at 4:30 p.m.

To send you a link to your electronic ballot, we need your current email address. Please check it now: [Member Self-Service Centre](#).



## Candidates for Council (cont'd.)

### Dr. Ali Chamanara, P.Eng.\*

- Lead engineer in mine engineering at Canadian Natural Resources Limited, leading a large team based in Calgary and at Muskeg River and Jackpine mines
- Active supporter of advanced education, giving guest lectures at the University of British Columbia and supporting research at the University of Alberta with a specific focus on applied skills
- Advocate for diversity and inclusion as a building block of strategic strength in our professional and social communities

### Dr. Swapan Das, P.Eng.

- 34 years of experience in the oilpatch and has mentored and trained many junior engineers
- Vice-President, Reservoir Productivity Management, at Value Creation Inc., Calgary
- Has his PhD from the Department of Chemical and Petroleum Engineering at the University of Calgary (1995)

### Dr. David Johnson, P.Geo.\*

- Geoscientist with more than 30 years of global, Canadian frontier, and Western Canadian exploration and production experience in roles of progressive responsibility with super-majors, majors, and independents, including the leading of teams to significant discoveries in Canada and China
- Combines technical and operational leadership with a proven ability to deliver results, drawing on core strengths that include a passion for geoscience, exploration, project management, and risk assessment
- Currently a senior advisor with Petrel Robertson Consulting Ltd., focusing on helium and natural gas in Alberta, and international opportunities

### Geoffrey Kneller, P.Eng.\*

- Senior engineer specializing in municipal and land development projects, with more than 20 years of engineering experience in oil and gas, high-tech, and public-sector municipal engineering
- 22 years' experience as Canadian Armed Forces Reserve Force Officer providing planning, leadership, training and public engagement for cadet programs in Southern Alberta
- Volunteers as Chair of the APEGA Enforcement Review Committee, providing guidance to Council and administration on the enforcement of title and practice provisions of the *EGP Act*

### Jonathan Matthews, P.Eng.\*

- Proven track record in conceptualizing, developing, and deploying technologies in the resource sector that enhance sustainability and respond effectively to stakeholder concerns
- Offers exceptional skill in ideation, collaboration and engaging communications to build trust
- Currently the Innovation & Collaboration Advisor/ President at Magpie Consulting Inc. in Calgary

### Manon Plante, P.Eng.\*

- Bilingual executive level leader and manager (and former Canadian Forces military engineer) with more than 25 years of experience, demonstrating solid achievements in leadership, policy development, governance, and decision-making
- Assistant Deputy Minister in the Government of Alberta in the Freedom of Information and Protection of Privacy (FOIP) Transformation and Review Division
- Experience on APEGA Council, 2016-2018, including service on Audit Committee

CONTINUED NEXT PAGE >>

## Candidates for Council (cont'd.)

### Melanie Popp, P.Eng.\*

- Among awards she has won during her career is the Women in Energy Community Champion Award in 2017
- Currently the Director of Engineering at geoLOGIC Systems in Calgary, she prides herself for being able to engage individuals and teams with excitement while establishing value for all stakeholders
- Vice-Chair of the programs committee for Women in APEGA, 2014-15

### Jason Vanderzwaag, P.Eng.\*

- With engineering experience totalling 15 years, currently leads the Associated Engineering office in Fort McMurray, providing project management, technical leadership, and mentorship
- Experience includes Water System Recovery following the 2016 Fort McMurray wildfire, municipal and First Nations projects, and international community development projects

- APEGA experience includes current APEGA Councillor (2017-2019), with service on Governance Committee and as CEA Liaison, and other APEGA experience includes Fort McMurray Branch, mentor volunteer, and legislative review champion

### Dr. Lian Zhao, P.Eng.

- More than three decades of work experience in the upstream oil and gas and environmental consulting industries
- Principal at CEPro Energy & Environmental Services Inc. and President of CEPro Foundations Inc.
- Awarded a PhD in petrology at the Geology and Geophysics Institute in Chinese Academy of Sciences in 1995 and a PhD in Environmental Engineering at University of Guelph in 2007

*\*Candidates recommended by the APEGA Nominating Committee*

## NOTICE



## 2019 Annual General Meeting

**Friday, April 26, 2019 | 2 p.m.**  
**TELUS Convention Centre | Calgary, Alberta**  
**Luncheon 12:00 p.m. – 1:40 p.m.**

Attendance Qualifies for CPD credit

**[apega.ca](http://apega.ca) for more details.**

In accordance with APEGA Bylaw 16(20) of the Engineering and Geoscience Professions Act, official notice of the 2019 APEGA Annual General Meeting is hereby given.



# APEGA PD Events: With Your Help, They Keep Getting Better

APEGA Career Services is evolving to ensure that professional engineers and geoscientists receive top-notch professional development. By focusing on seven categories of competence, we strive to deliver affordable sessions to support your self-improvement—and your professional obligation to meet the requirements of APEGA’s mandatory Continuing Professional Development program.

A recent professional development survey we distributed suggests that APEGA Career Services is delivering much of the PD you’re looking for. That gives us confidence that we’re headed in the right direction, and we continue to be committed to offering relevant and useful sessions. Even though our survey has closed, we welcome ongoing feedback.

Here are few of things we’ve learned from you so far:

- CPD and how to meet its requirements continue to be a hot topic.
- Members continue to be interested in learning about APEGA’s regulatory functions.

- Some of you like the idea of PD sessions that dig deep into historical engineering failures, with a view for sharing the learnings that arise from them.
- Can APEGA offer sessions that encourage diversity in the engineering and geoscience workspace?

These items and many more are always on our radar. Please contact us at [pd@apega.ca](mailto:pd@apega.ca) anytime with your suggestions.

## PRESENTERS NEEDED

Even though Alberta is still deep into winter, we’re deep into planning our spring 2019 PD schedule, which includes PD sessions held in conjunction with the APEGA Annual General Meeting & Conference.

If you’re interested in helping us deliver quality, relevant PD, we’d like to hear from you.

Are you an experienced presenter interested in sharing relevant insights with APEGA members? Are you interested in becoming a presenter at the AGM & Conference this year? [Fill out a PD session proposal form now.](#)

# Extend Your Reach

## APEGA Professional Development

### FEATURED EVENT

#### The Timeless Secrets of Influential Leaders



**Corey Poirier** is a multiple-time TEDx, MoMondays, and PMx speaker. He also hosts the top-rated radio show *Conversations with PASSION*, is the founder of The Speaking Program, and has been featured in multiple television specials. Presenting and training weekly across North America to hundreds of clients each year, this columnist with *Entrepreneur* and *Forbes* magazines has been featured on CBS, CTV, NBC, and ABC. He's a Forbes Coaches Council member and is one of the

few leaders featured twice on the popular *Entrepreneur on Fire* show. He has interviewed over 5,000 of the world's top leaders in search for success secrets he can share.

Join Corey as he teaches you how to be indispensable in your careers. Find out what sets the top leaders apart from the rest. Learn about the habits and traits they rely on to reach their own career heights, and how to begin leveraging this knowledge immediately.

February 14, 2019 | Calgary

February 19, 2019 | Edmonton

Visit [apega.ca/members/events](http://apega.ca/members/events) often for full, regular updated listings

Register Now

### MORE PD

#### Thinking Outside the Box: Creative Thinking Skills

February 5, 2019 | Calgary  
February 26, 2019 | Edmonton

#### Leading Major Capital Projects

March 7, 2019 | Calgary  
March 20, 2019 | Edmonton

#### Painless Public Speaking

March 26, 2019 | Edmonton

#### Catching the Current Wave: What Job Seekers Need to Know in Today's World

March 27, 2019 | Calgary  
March 28, 2019 | Edmonton

#### Advanced Project Management

April 8, 2019 | Calgary  
April 30, 2019 | Edmonton

#### Building Better Work Relationships

May 1, 2019 | Calgary  
May 16, 2019 | Edmonton

#### Mental Health at Work Lunch 'n' Learn

Date TBD | Edmonton

# Movers & Shakers



**PEER SUPPORT**  
Chris Newcomb, P.Eng., is held aloft at the Canadian Consulting Engineering Awards, in celebration of his acceptance of the Beaubien Award. The award recognizes his contribution to engineering consulting in Canada.

-photo courtesy  
McElhanney

## CANADIAN CONSULTING COLOSSUSES: APEGA MEMBERS AND PERMIT HOLDERS CELEBRATE SUCCESS AT NATIONAL AWARDS GALA

Canada's best projects in the consulting engineering game rose to the top in Ottawa in October. The annual Canadian Consulting Engineering Awards allowed some high-achieving APEGA members and permit holders to join their peers from across the country to accept accolades.

The awards are a joint program of the Association of Consulting Engineering Companies | Canada (ACEC) and *Canadian Consulting Engineer* magazine. This year, three APEGA permit holders took home Awards of Excellence for five Alberta projects.

## Shane Homes YMCA

When it comes to designing a building Calgarians can be proud of, **RJC Engineers** delivered with the new Shane Homes YMCA at Rocky Ridge. Its design inspired by rolling foothills, this play palace of the prairie commands a spectacular 284,000 square feet of area. The building is more than just striking—it's the largest YMCA in the world.

Under a **City of Calgary** directive to create a space that was cost-effective, practical, and eye-catching, RJC collaborated with GEC Architecture to come up with the building's irregular shape. An impressive, 186,000-square-foot, single-wood roof is the largest of its kind in North America. The design was also budget-sensitive: every main roof beam is the same shape, improving efficiency and cutting costs.

The building's unique shape created some problem-solving opportunities, such as compensating for an increased risk of falling ice and snow (solution: a continuous parapet around the roof) and for long, open spaces throughout the building and widely spaced interior columns (solution: perimeter bracing columns). Even the very ground the building sits on provided challenges: differing soil layers meant that spaces had to be strategically positioned to take advantage of natural slopes and differing bearings.

The Shane Homes YMCA has a practical, community service side, of course, featuring ice rinks, a competition pool, a wave pool, several gymnasiums, a fitness centre, a library, a theatre, and an art studio.

### Calgary Compost Facility

Calgary has a new way to process its waste, thanks to **Stantec** and the Calgary Compost Facility. Processing more than 145,000 wet tonnes of biosolids and organic waste, the facility diverts 85 million kilograms of organic material from the dump every year by converting it into compost. This future-focused facility leans heavily on automation, keeping operators separated from hazardous material.

Other building innovations include using high temperatures reached during decomposition to warm ventilation air that heats the building. Odour is managed by routing the air from vessels, the processing building, and the curing building through an extensive biofilter. Ammonia released during the exhaust process is converted into ammonium sulfate, which is then neutralized and crystalized. After crystallization, it can be used or sold as fertilizer.

Stantec's project had the added challenge of a tight timeline, with just two years between the company's receipt of the contract and substantial completion. Driven steel piles and shallow foundations were used, allowing two foundations crews to work independently, which minimized excavation.

An added feature of the compost facility is its water routine—stormwater is reclaimed, stored, and reused, saving 40 million litres of potable water each year. And the Calgary Compost Facility's Administration and Education Building has an honour of its own: along with a LEED Gold certification, it is Canada's first LEED v4-rated commercial building, in terms of design and construction. (LEED stands for Leadership in Energy and Environmental Design and is the most widely used green building rating system in the world).



NOT YOUR FATHER'S YMCA  
The dramatic design of the Shane Homes YMCA at Rocky Ridge riffs off the landscape—and admirably adapts to it, too.  
-photo by dsTroyer Photography

### Terwillegar Park Footbridge

Stantec's second project to receive an Award of Excellence at the gala is the Terwillegar Park Footbridge in Edmonton. The first stressed-ribbon bridge in the city (and Canada's longest), the three-span bridge stretches 262 metres across the North Saskatchewan River, connecting Terwillegar Park to the River Valley trail system. Like a suspension bridge but with the cables inside the deck, the bridge's slender appearance adds to its allure. Only 60 such bridges exist worldwide.

Each end of the bridge is anchored to bedrock using 77 corrosion-protected ground anchors, making it strong enough to support the weight of 16 Boeing 747s. Bridge

panels are made from pre-stressed and pre-cast concrete, allowing the deck to be cast ahead of time, lessening the project's environmental impact, and making the bridge sturdy enough for its full lifecycle.

The rope-like profile of the bridge means that it sags slightly between piers. The long-term effects of creep and shrinkage due to various load weights and different temperatures were predicted during the various stages of construction. Not only does the bridge serve its intended purpose—getting you from one side of the river to the other—but it also provides something different for pedestrians, who will notice the undulation while taking in the view.



LOOKS (AND SMELLS) LIKE A WINNER—GREAT AIR AND A NEW ENVIRONMENTAL STANDARD

Its diversion numbers are big, its technology cutting-edge, and its environmental rating impressive. The Calgary Compost Facility includes Canada's first LEED v4-rated commercial building. Hot air from decomposition helps heat the building, but that's a fact noses won't notice.

-photo courtesy Stantec

### Drayton Valley Water Treatment Plant

The Drayton Valley Water Treatment Plant, developed by **ISL Engineering and Land Services**, is the town's answer to a community that had outgrown its water solution. Able to treat 18 million litres of water per day and to hold 2,800 cubic metres of potable water, the new plant is certainly meeting demand. It's also the first plant of its kind to use fibre-reinforced membranes in treating potable water, whose strength made them an appealing addition.

Other features include translucent panels and light sensors to detect natural light, a solar wall to help heat



A LITTLE UNDULATION IS A GOOD THING

Edmonton's first stressed-ribbon bridge is the Terwillegar Footbridge, and pedestrians may notice the designed-in undulations. There's nothing to fear, though—it's well anchored and built to last.

-photo courtesy Stantec

incoming air and reduce the energy needed to heat the plant, and windows specially coated to reflect heat. It has a cooling system with heat-exchange piping to use North Saskatchewan River water to cool the building's air. Shade and additional cooling come from a green roof design.

The facility's Centre for Water Intelligence offers information on how Drayton Valley manages water, making water treatment information accessible to the public it serves.



## EDMONTON ADOPTS LATEST TECHNOLOGY TO GET AT THE GRIT

The Sanitary Grit Treatment and Recovery Facility is the first of its kind in North America to use equipment from HUBER Technology.

-photo courtesy Stantec

### Sanitary Grit Treatment and Recovery Facility

Rounding out Stantec's Alberta project contributions is Edmonton's Sanitary Grit Treatment and Recovery Facility. Collaborating with **EPCOR**, Stantec designed the facility to provide a sustainable way of disposing of smelly debris from Edmonton's wastewater sewer system. The facility is the first of its kind in North America to use the high-performing technology from a company called HUBER Technology. Because no North American facilities currently use the technology the same way Stantec proposed, the team visited facilities in Europe to learn about the system and its design.

Grit is made up of the solids in wastewater that can clog and damage the system, such as asphalt, limestone, coffee grounds, and eggshells. After it is cleaned, it is separated by size. Fine material can be reused for filling trenches or building roads, and the water used to clean it is recycled.

Conscious of the plant's proximity to residential communities, Stantec installed various top-of-the-line systems to control noise and reduce odour.



## PLANT OFFERS RESIDENTS LEARNINGS IN WASTEWATER

The Drayton Valley Wastewater Treatment Plant includes the Centre for Water Intelligence, an educational add-on to let the locals in on the process. It's also the first plant of its kind to use fibre-reinforced membranes in treating potable water.

-photo courtesy ISL Engineering and Land Services

### Beaubien Award

Another APEGA member walking away happy from the Canadian Consulting Engineering Awards gala was **Chris Newcomb, P.Eng.**, who received the annual Beaubien Award. It goes to individuals demonstrating second-to-none service to the ACEC and helping advance consulting engineering through their professional successes.

Mr. Newcomb, a Surrey, B.C., resident who keeps up an APEGA licence, spent five years as a design engineer in Canada before jetting off to eastern Africa and Ecuador. There, he brought his expertise to various projects. He returned to Vancouver, where he accepted a position as project manager with **McElhanney** and left his mark on many projects, including the Southwest Calgary Ring Road, the Sea-to-Sky highway improvements between Vancouver and Whistler, and Golden Ears Bridge in Metro Vancouver. After being promoted to President of the company, a seat he filled for 16 years, he helped it diversify, quadruple in size, and expand geographically.

Humanitarian efforts are big for Mr. Newcomb. He has donated his time and engineering expertise to rebuilding places torn apart by war and natural disaster, such as land-mine-heavy areas of Cambodia and tsunami-damaged areas of Indonesia. On the home front, Mr. Newcomb has served on various boards and committees.

## APEGA MEMBERS RISE TO TOP AVENUE'S TOP 40 UNDER 40

Rising stars, movers and shakers, champions of industry. The doers within the APEGA professions are labelled in many ways. And in *Avenue* magazine, it is this: the Top 40 Under 40. Each year, the magazine curates a list of the top 40 young professionals in each of its cities, Calgary and Edmonton. Those so named are chosen for their ages (the under 40 part), along with their contributions to their city and community, and their other accomplishments.

The combined Edmonton and Calgary Top 40 Under 40 Class of 2018 includes four hardworking APEGA members—one professional geoscientist and three professional engineers. Are we surprised? Not one bit.

**Jil Macdonald, P.Geo.**, of the Alberta Energy Regulator, is her employer's youngest-ever vice-president. The Calgary geophysicist joined the regulator as Director of Operations before being promoted in 2015 to Vice-President of Closure and Liability. In that position, she oversaw the closing of abandoned or decommissioned energy infrastructure, including nine oil sands mines, 800 gas-processing plants, 430,000 kilometres of pipelines, and more than 450,000 oil and natural gas wells.

Coming back from an eight-month break after welcoming her son to the world, Ms. Macdonald jumped right into the thick of things and was appointed the Vice-President of Science and Evaluation, her current position. Ms. Macdonald and her team plan the



-photo courtesy Peter Oliver



-photo courtesy Tim Coldwell

### EARLY RISERS

Some of us are just getting started by the age of 40. But as *Avenue* magazine in Edmonton and Calgary demonstrates every year, that isn't always the case. Making the two lists of Top 40 Under 40s this year are, from left, Peter Oliver, P.Eng. and Tim Coldwell, P.Eng., plus two more members on the following page.

development and export of coal, oil, and natural gas reserves in Alberta.

Alberta's future is firmly in her sights, as she leads 75 fellow scientists in data analysis and computer modelling to approximate the province's future energy reserves. From there, the team develops plans to bring resources to market. Ms. Macdonald also uses data to increase the regulator's transparency, educating the public and informing industry and the government about the condition of Alberta's energy resources. And after all that, she finds time to volunteer with the Bridgeland Riverside Community Association, helping plan what the community hall is used for and where money goes.

Edmonton's **Tim Coldwell, P.Eng.**, joined Chandos Construction

as a project coordinator during his first year of engineering at the University of Alberta. With its philosophy of innovation and collaboration and its people-driven focus, the company was a good fit for a professional who believes business has a responsibility to serve its community.

Twenty years later, the job has become a career, the company has become home—and Mr. Coldwell has become its President. In 2015, as Mr. Coldwell was moving up the company's ranks and the Alberta construction industry was in flux, Chandos had to find a way to stay afloat. Rather than squeezing margins and laying off staff, the management team opened offices in Vancouver, Toronto, and Ottawa, and relocated many employees.



Jil Macdonald, P.Geo., left -photo by Katherine Calnan Photography  
 Ryan Roberts, P.Eng., right -photo courtesy Stantec

Three years later, the fruits of their labour have become obvious, with the company continuing to hum along.

Mr. Coldwell is determined to continue proving his dedication to the community, working with the Boys & Girls Clubs Big Brothers Big Sisters (yes, that's the full name) of Edmonton to hire kids at risk, give them the opportunity to work in the trades, and eventually own stock in the company as employees. He's also committed to increasing diversity in the workforce, working with NorQuest College's Alberta Indigenous Construction Career Centre to hire Indigenous professionals.

**Peter Oliver, P.Eng.**, is a Calgarian through and through, having lived in the city for much of his life. But while dedicating his time as a community volunteer, something stood out for him. As he moved around the city, everything seemed disconnected. "People sort of drove home and rolled up their driveway and shut the garage door behind them," he told *Avenue*. So Mr. Oliver began dreaming of a Calgary where people were less isolated.

During the day, he's lead product design engineer at **General Dynamics Mission Systems**—Canada, but in his

free time, he promotes and pursues new and improved urban development projects. He has co-founded several groups responsible for driving the approval and support needed for such things as a 6.5-kilometre cycle track downtown, a bus rapid transit line, and better regulated secondary suites. As a founding member of the Beltline Neighbourhoods Association, Mr. Oliver helped pave the way for the Beltline Urban Murals Project and the Beltline Bonspiel, providing Calgary with two new festivals and showcasing art, promoting local businesses, and fostering community spirit.

The success of those projects relied on thousands of his own volunteer hours, a donation Mr. Oliver was happy to make. "What we found was once we put our names out there and stuck our necks out, all these other people just came out of the woodwork and were in support of it all. You just needed someone to lead the marching band."

As Senior Vice-President of Water Project Delivery at **Stantec, Ryan Roberts, P.Eng.**, knows his H<sub>2</sub>O. But it wasn't always that way. When he first interviewed with Stantec for an engineering position almost two decades ago, he noted that he was still wet behind the ears, water-wise. But he showed such a willingness to learn that he was offered the job, and he's been climbing the corporate ladder ever since. Now, he helps keep clean water running across North America, leading around 2,200 employees through hundreds of projects a year.

But his work is about more than personal success. Climate change and population issues are opening the doors to catastrophe, he says. "We're definitely into a kind of age here where it's a water crisis," he told *Avenue*. "Either there's too much, there's not enough, or it's not in the right place." During the 2013 flood in Calgary, the Bonnybrook Wastewater Treatment Plant, responsible for treating the sewage of almost one million people, was flooded. Mr. Roberts spent the next six weeks in a trailer on site as he and his crew worked overtime to get the plant up and running.

He's committed to supporting Stantec on the outside, speaking to students and encouraging them to consider water as a career path. But he also helps improve the company from the inside, as the executive sponsor for Stantec's Southern Alberta LGBTQ resource group.

## ANOTHER ENGINEERING STORY HITS THE BIG SCREEN

Regular *PEG* readers will already know about the movie-making exploits of **Natalia Lea, P.Eng.** Now, another Calgarian from the engineering ranks is getting big-screen recognition.

**Gillian McKercher, E.I.T.**, grew up in the oil and gas industry, making her experiences particularly relevant for a movie about Alberta's oilpatch in an economic downturn. So she made one. In parts funny and sad, *Circle of Steel* is a satire that draws on Ms. McKercher's experiences along her engineering path.

From her late teens to early 20s, she spent her summers

working in data entry for multiple petroleum companies. After receiving her bachelor of science degree in chemical engineering at the University of Calgary, she turned took a 16-month student engineering internship with a major industry player, emerging on the other side with a full-time job.

Then came the tanking of oil and gas prices. Ms. McKercher experienced first-hand the frustration, guilt, loneliness, fear, and heartbreak as layoff followed layoff, leading up to the disappearance of her own job.

But tough times can reveal new opportunities. While earning her engineering degree, Ms. McKercher had practised filmmaking with the Calgary Society of Independent Filmmakers. Her experiences in oil and gas, she decided, gave her some great material for her first feature film as director.

*Circle of Steel* is a dark comedy about personal ethics and corporate interests. The experiences of her friends and colleagues are woven with her own, so it is based on true events. Field life is revealed unflinchingly: its loneliness and boredom, but also its camaraderie, humour, and compassion.

The movie struck a chord in the director's city, with attendees of the 2018 Calgary International Film Festival choosing it as Audience Favourite, Alberta Feature.

Ms. McKercher has put real-life engineering on hold while she wears a filmmaker's hat, but she's certainly far from done with her new adventure. In 2017, she was a recipient of the Alberta Foundation for the Arts Young Artist Prize. She directed the web series *The Calgary Collection*, the short documentary *Where the Sage Brush Grows*, and music videos for Calgary musician Amy Nelson.

### FROM THE OILPATCH TO THE MOVIE SET

In her feature film directing debut, Gillian McKercher, E.I.T., translated tough times in the oilpatch into award-winning humour.

-photo by Elyse Bouvier



## WHAT DO YOU MEAN, RETIRE?

Semi-retirement means different things to different people. To **Ken Kozakewich, P.Eng.**, it means stepping away from 27 years with **Wood Environment & Infrastructure Solutions** and its legacy companies to dive into a new and, arguably, equally challenging role. Mr. Kozakewich is, it turns out, the new CEO of the Consulting Engineers of Alberta (CEA). The CEA's retiring CEO, **Ken Pilip, P.Eng.**, will continue as Registrar.

Working with the Board of Directors, Mr. Kozakewich is committed to supporting CEA's strategic initiatives and advocating for the engineering consulting industry. With a bachelor's degree in civil engineering from the University of Saskatchewan and a master's degree in business administration from Athabasca University, Mr. Kozakewich has already had a storied 38-year engineering career in Alberta. In addition to his many years with Wood Environment & Infrastructure Solutions, he has worked with Alberta

Transportation and the Canadian Portland Cement Association.

An experienced executive manager who's been involved in challenges here, in the U.S., and elsewhere in the world, Mr. Kozakewich has worked for public- and private-sector clients. And he's no stranger to CEA, having served two terms on the Board of Directors and on several CEA committees over the past two decades.

CEA's 80 member firms employ more than 8,000 professional engineers, technologists, and support staff, contributing more than \$2 billion annually to the province's economy.



KEN KOZAKEWICH, P.ENG.  
Consulting Engineers of Alberta attracts a new leader—from retirement.  
-photo courtesy Ken Kozakewich, P.Eng.

## SCIENCE AND TECHNOLOGY ACHIEVEMENTS UNLOCKED

Every year, the Alberta Science and Technology Leadership Foundation (ASTech) officially recognizes individuals, teams, and companies involved in product development and research, especially for their inspiring innovation, demonstrated leadership, and significant advancement. Accolades are given and awards are handed out, in the name of outstanding achievement in science and technology. This year, several APEGA members and permit holders left the venue (on the NAIT campus in Edmonton) with hardware.

Picking up the award for Outstanding Achievement in Applied Technology was the Automated

Monitoring and Control System Group from the University of Calgary, led by APEGA members **Derek Lichti, P.Eng., PhD**, and **Janaka Ruwanpura, P.Eng., PhD**, along with non-member Reza Maalek, PhD. The group developed the technology needed to provide a framework for the automatic process monitoring of construction projects by using data points from construction sites.

**SSI Artificial Lift** snagged the award for Outstanding Commercial Achievement in Science & Technology for its innovative work in the oil industry. The company uses nitrogen as a counter

balance when extracting crude oil from reservoirs, decreasing the energy required. This has resulted in benefits such as increased production, lower operating costs, and improved safety.

ASTech's Outstanding Leader of Tomorrow Award winner is **Emily Marasco, E.I.T., PhD** at the University of Alberta. She's a leader in innovation whose research has gravitated towards finding ways to increase the creativity of engineers. She's also as an education specialist with EZ-Robot, chair of the Engineering Students Education Society, and a board member for the University of Calgary Academic Women's Association.



**HOLD THIS AND SMILE**  
 Winners in ASTech's Outstanding Achievement in Applied Technology category are (top photo, from left): Dr. Derek Lichti, P.Eng., Dr. Reza Maalek, and, Dr. Janaka Ruwanpura, P.Eng., from the University of Calgary's Automated Monitoring and Control System Group; (right photo) Dave Kennedy, CEO of SSI Artificial Lift, accepts the award for Outstanding Commercial Achievement in Science & Technology; and (far right photo) Emily Marasco, E.I.T., claims the award for Outstanding Leader of Tomorrow.



-photos courtesy the ASTech Foundation

## THREE APEGA E.I.T.S RECEIVE VANIER SCHOLARSHIPS

Three APEGA E.I.T.s are breathing a little easier after earning prestigious Vanier Canada Graduate Scholarships, allowing them to focus on their research projects. The three PhD students, one from the University of Alberta and two from the University of Calgary, represent Alberta's high-quality, skilled, and innovative new generation of engineering students.

Passionate about geotechnical engineering, **Haley Schafer, E.I.T.**, holds an undergraduate degree in civil engineering and a master's degree in geoenvironmental engineering. She's working towards her PhD at the University of Alberta.



-photo courtesy Haley Schafer



-photos by Riley Brandt/University of Calgary



HARD WORK, GREAT REWARDS (From left) Haley Schafer, E.I.T., Breanna Borys, E.I.T., and Leanne Dawson, E.I.T., represent the future of engineering in this year's Vanier scholarship pool.

"One of the things about geotechnical engineering is that it's very unpredictable. What you have under the ground right here might be completely different from over there. It's an interesting engineering problem, and I really like that," she says in a University of Alberta story.

Ms. Schafer will use the scholarship to further her research and understanding of the long-term implications of the liquid waste created by mines, including the ones linked to Alberta's oil sands. "Mines create liquid waste called tailings, which are contained in tailings dams. After a mine closes, these structures are left onsite forever. This is a problem because we don't know how they behave long term." The knowledge she gains from her research will go a long way in aiding tailings risk management.

**Breanna Borys, E.I.T.**, is a biomedical engineering graduate student at the University of Calgary with an undergraduate degree in chemical engineering. She's

interested in stem cell and tissue engineering and the ways it can improve lives.

Cells experience many different forces as they interact with one another and travel through the human body. But when the same types of cells are grown in dishes in a lab, they aren't subjected to the same external forces, making them a poor alternative for the real thing in studies and testing. The Vanier scholarship will support Ms. Borys's thesis, focusing on finding a way to accurately simulate a cell's environment outside of the body using stirred suspension reactors. Success will bring society closer to the effective use of stem cells in genetic studies, drug testing, and organ transplantation.

With bachelor's and master's degrees in electrical engineering, **Leanne Dawson, E.I.T.**, has been putting in the hours to get her PhD at the University of Calgary. She's working towards finding low-cost solutions to bring renewable energy to consumers. Her research centres around using weather conditions to boost the capacity of existing power lines.

The ability to use current lines to support new energy demands will decrease industry and customer costs and be better for the environment. The Vanier scholarship will support Ms. Dawson's investigation of the risks and challenges in implementing such a method, called dynamic line rating, in Alberta.

Vanier Canada National Scholarships are awarded annually to doctoral students showing academic excellence, leadership, and research potential in the social sciences and humanities, natural sciences and engineering, and health. Recipients get \$50,000 to support their academic endeavours.



TOWARDS A  
CLEANER RIVER  
Among the many  
benefits of a new  
nutrient recovery  
plant at Clover  
Bar is algae  
bloom reduction  
in the North  
Saskatchewan  
River.



## LESS WASTE-FILLED THAN YOU MIGHT THINK

An EPCOR facility in north Edmonton is finding treasure in wastewater. Located at Clover Bar, the \$18-million plant—built by APEGA permit holder EPCOR and Ostara Nutrient Recovery Technologies from B.C.—reclaims phosphorus and nitrogen from Edmonton wastewater. The facility then transforms the valuable nutrients into slow-release

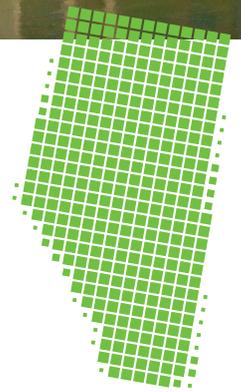
fertilizer pellets known to increase yields for canola, potatoes, and wheat.

Over the next year, the plant will produce about 1,000 one-tonne bags of high-quality fertilizer. That's about three bags each day, available to sell to farmers.

The facility, unveiled before the media in September, generates some positive side effects, too. For the Clover Bar water treatment plant itself, removing phosphorus from the water means less build-

up of struvite crystals inside pipes, and therefore fewer clogs to deal with.

Also, since phosphorous contributes to algae blooms in rivers, extracting it from the North Saskatchewan makes it a healthier place for critters and humans.



## THE NOT-SO-VISIBLE COSTS OF NOT-SO-VISIBLE CURRENCIES

Cryptocurrencies like Bitcoin are certainly more abstract than the bills, coins, and other things you can wrap your hands around. But research shows that they have very tangible impacts on the world around us.

The process of digital currency mining has computers around the world solving mathematical puzzles, 24 hours a day, seven days a week. The process adds security and validation for digital currency transactions, which is critical to the industry.

A recent study reported in the online journal *Nature Sustainability* found that the activity consumed

more energy—and produced more carbon emissions—than many types of traditional mining.

Canada’s biggest bitcoin mining operation is in Medicine Hat, where 180 computer servers in 56 shipping containers use as much electricity as the entire rest of the city of 60,000 people. Toronto-based Hut 8 began its operations in the Hat earlier this year, after building a \$100-million facility on a 4.5-hectare site next to a new natural-gas-fired power plant.

City council for Medicine Hat, an APEGA permit holder, has been happy to attract the

industry to town with affordable power, because of the economic spinoff. However, some other municipalities, here and elsewhere, are raising the price of electricity charged to crypto-miners. Their fear? Higher demand will create a spike in rates for residential users.

The industry itself notes that misconceptions about digital currency persist. Mining helps keep billions of dollars in transactions safe every day. Some articles say 80 per cent of bitcoin mining uses electricity from renewable resources. Work done in the sector is also helping prompt the innovation of more efficient ways to use energy, regardless of what it’s for, proponents say.

## SOCCER GOES BIG IN EDMONTON

Just how big is the new Edmonton Soccer Dome? Well, there’s enough space to park two 747s there—that’s 84 feet of height to cover an area of 135,000 square feet. The largest structure of its kind in Canada, the megadome was conceived and brought to life by the Edmonton Scottish Society.

During the summer, the dome was shipped to Edmonton from Arizona in 10 pieces, then assembled on the society’s sprawling grounds in southwest Edmonton. The facility supports three different soccer game models—four seven-aside or three nine-aside pitches, or one full-sized, international-standard, 11-aside pitch. That adds up to some serious supply relief for soccer in Edmonton.



### SOCCER—IT’S A BIG DEAL

Supply relief for soccer moms, dads, and their kids is now available in Edmonton, thanks to the Edmonton Scottish Society’s new dome.

—photo courtesy Edmonton Scottish Society

At \$7 million, the project wasn’t exactly inexpensive for the society, but grants of nearly \$3 million from the city and province have helped offset costs. The society, which owns and operates the dome, plans to rent space not only to soccer

leagues, but also to other organized sports groups in need of indoor playing fields, like rugby or lacrosse.

The *Edmonton Journal* quotes the dome’s general manager Antony Bent saying: “I’m just proud. Every time I drive past it, I smile.”

## LITTLE PLANES ON THE PRAIRIE: CALGARY CREATES DRONE TEST SITE

The City of Calgary, an APEGA permit holder, is among the first North American cities to create an urban test site for drones. After a successful pilot project last year, the city has set aside 125 acres of open prairie in its industrial southeast area for the testing of drones, autonomous vehicles, and similar technologies.

The Point Trotter Autonomous Systems Testing Area was created in response to increasing requests from Calgary businesses, industry, and researchers, all of them in need of an accessible, low-cost area to test technologies within city limits.

Mayor Naheed Nenshi told Calgary media that the testing site will help oil and gas, film, financial services, and other sectors.



### DRONE ON

The drone rage is still in full flight, as society figures out how to safely use—and therefore test—the humanless aircraft.

-photo by Ricardo Gomez Angel on Unsplash



## PLEBISCITE TORCHES DREAM OF A SECOND WINTER OLYMPICS IN CALGARY

The 1988 Winter Olympics, many have said, put Calgary on the world map. Major venues built for the international sporting extravaganza are still in use more than a quarter-century later. The city is forever linked to enduring Olympics stories

and personalities, like Eddie the Eagle and the Jamaican bobsled team.

But after more than two years of council debates, committee work, and public education, Calgarians voted to scrap a bid for another Calgary installment in Winter Olympics history, this time in the form of the 2026 Games. A turnout nearing 60 per cent voted 56 per cent on the no side, demonstrating clear public opposition to a bid that would have required \$5.1 billion from the three levels of government. The city's share would have been \$390 million.

The plebiscite isn't legally binding, but council has voted to respect public opinion and lay down the

torch. Moving forward would have meant no provincial funding at all, which required the yes side winning the day.

The decision is a heartbreak for supporters, who argued that the games would revive the city's depressed economy and continue the legacy begun in 1988. Opponents, however, cited high costs, poor return-on-investment from previous host cities, and well-documented corruption within the International Olympic Committee.

If Calgary, through some bizarre twist, were to submit a bid in early 2019, it would be up against Stockholm and an Italian partnership of Milan and Cortina d'Ampezzo.



**OFFICIALS, START YOUR SHOVELS**

Dignitaries do their requisite building site duties in Coleman in Crowstnest Pass. From left are Elena Salikhov of the Canadian Mortgage and Housing Corporation, Crowstnest Pass Senior Housing Chair Joanne Drain, Crowstnest Pass Mayor Blair Painter, and Banff-Cochrane MLA Cam Westhead.

**A BOOM IN ALBERTA'S ELDERLY POPULATION SPURS HOUSING AND CARE PROJECTS**

Alberta's population of seniors continues to grow faster than any other age group. Back in 2005, the province hadn't even crossed the 350,000 threshold in the plus-65 crowd. As of April 2018, 575,000 Albertans were senior citizens. And that number is expected to double within the next two decades, says the Government of Alberta.

Many of those seniors, obviously, are going to need dedicated housing in their province of choice. Much of that exploding demand will have to be met by new housing and care projects, and some significant ones are currently planned or underway in the public and private sectors.

In northeast Alberta, for instance, construction has begun on the \$110-million Willow Square

Continuing Care Centre. The public facility in Fort McMurray, designed by S2 Architecture and being built by Pomerleau Inc., will create 108 badly needed spaces for seniors who require supportive living, long-term care, and palliative care.

About four and a half hours south as the car drives, the province is moving ahead with redeveloping CapitalCare Norwood, a \$364-million reinvention of an existing public facility in Edmonton for continuing and palliative care. The project, expected to wrap up in 2022, will increase the number of post-acute, complex, long-term care beds and palliative care beds to 350 from 205.

In Calgary, construction has started on a 240-unit seniors' residence in the University District.

For the 240,000-square-foot private facility, West Campus Development Trust has partnered with the Brenda Strafford Foundation, a not-for-profit that supports dementia care and research. Estimated construction cost is \$38 million.

In the southwest corner of the province, construction has begun on a \$17.1-million seniors' lodge. This one is part of the federal government's \$40-billion, 10-year plan to create 100,000 new housing units and 300,000 new rehab units for seniors across Canada. The lodge, in Crowstnest Pass, will provide 61 supportive-living units and 24 units for seniors needing specialized dementia care. The Government of Alberta's share of the project is \$6.4 million.

## FORT HILL PARTNERS HOLD GRAND OPENING OF MUCH-DELAYED OIL SANDS MINE

A long-awaited oil sands mine the size of Cleveland, Ohio, continued to ramp up production in northern Alberta. But for how long? Just as *The PEG* was being completed, the province announced a production

cap to address a massive price differential in Alberta.

Suncor Energy, an APEGA permit holder, got the go-ahead to begin mine construction in 2002, but a long string of events—

including falling oil prices, increased development costs, and the 2016 Fort McMurray fire—caused numerous delays.

First oil was finally seen in January of this year and since then production at the open-pit, truck-and-shovel mine has

increased steadily.

After achieving continuous production in the fall, Suncor and its partners in the project, Total E&P Canada Ltd. and Teck Resources Ltd., held a grand opening. The mine was expected to reach 90 per cent capacity by year end. At full capacity, it will produce 194,000 barrels per day.

### LONG-AWAITED MINE GETS TO WORK

The Fort Hills ore preparation plant accepts raw bitumen and prepares it for further processing. Shown here are sizer conveyors and the surge bin.

—photo courtesy Suncor Energy Inc.



## CALGARY CRASH SITES GET THEIR OWN MAP

Icy corners, hidden intersections, traffic bottlenecks, and other hazards—these result in fender-benders and much more serious accidents in a lot of the cities we drive. All it takes is a near-miss on your morning commute to remind you that it's not always obvious where the biggest danger zones lie.

To make driving safer, a Calgary Transit project engineer has mapped out the city's riskiest spots,

using city statistics about car crashes. Saadiq Mohiuddin, P.Eng., dedicated his spare time to digging through the city's open data portal. There, he found stats on 10,000 crashes that occurred between December 2016 and September 2018.

To visualize the information for his fellow citizens, he used machine learning to create an interactive map that identifies where crashes occurred, how often they occurred, and when they occurred (time of day, day of week).

You can find Mr. Mohiuddin's map [on his blog](#).

# The Watch

## BIG DRAW FOR A BIG MUSEUM: EDMONTON WELCOMES ADDITION TO DOWNTOWN

Since the 2015 closing of its old building in Glenora, Edmontonians and others have eagerly anticipated the reopening of the Royal Alberta Museum, this time in fancy new downtown digs. Predictably, visitors poured through the doors of the new museum on opening day in October. When the museum issued 21,500 free tickets, they were snatched up within six hours. A second batch released the next day, this time of just 8,000 tickets, was gone in a mere two hours.

At twice the size of its predecessor, the \$375.5-million museum is the largest in Western Canada, with floorspace of 127,700 square metres. On the edge of Edmonton's Ice District and a short walk from City Hall, the museum boasts a sleek exterior made from limestone—sourced, by the way, from the same quarry used for the Empire State Building.

The building was designed by APEGA permit holder DIALOG and Toronto's Lundholm Associates, which specializes in cultural facilities. Permit holder Ledcor



### WHAT THE LIGHT REVEALS

A children's gallery at the new Royal Alberta Museum features a light table and much more for hands-on learning.

—photo courtesy Royal Alberta Museum

built the museum over four years. Because of the museum's design and sheer size, construction required more than 18,000 cubic metres of concrete (that's enough to fill seven Olympic-sized swimming pools) and more than 2,500 tonnes of steel reinforcement (that's the weight of more than 500 elephants).

Inside the building lie 9,099 plumbing pipes, 6,505 hydronic pipes, and 9,819 ducts. Put them end to end, and you've got about 16 kilo-

metres of such tubular circuitry—or four times the distance between the old and new museums.

Inside the museum, you'll find expansive exhibit halls chronicling the province's natural and human histories, including the history of Alberta's Indigenous peoples. There's also a children's gallery for hands-on learning, an expanded bug gallery (hands-on, too, if you're so inclined) and plenty of space for visiting exhibitions.

## IS YOUR BUILDING PRODUCING MORE ENERGY THAN YOU CAN USE? ENMAX HAS A PILOT FOR THAT

A growing number of Albertans are using technologies like solar panels to produce their own renewable energy at home. And some households produce more energy than they can use. ENMAX, an APEGA permit holder, already

allows two-way flow for Calgary residential customers, meaning they can feed the grid when they generate more than the use.

But what about the specialized system that serves the downtown Calgary core?

A pilot project being developed by ENMAX will stop energy from being wasted there, too. Through its Green Infrastructure Program, Natural Resources Canada has invested \$1.4 million in the smart-grid system, which will decrease carbon emissions while improving grid reliability.

## BEAUTY AND THE BOOKS

With its sleek, hexagonal exterior rising above an LRT line, Calgary's new Central Library has a commanding and futuristic presence in the city's downtown. But you might argue that the most impressive elements of this 240,000-square-foot structure lie within. Take a look, for example, at the archway made from planks of B.C. western red cedar that greets visitors at the entranceway—before spiraling 85 feet upwards to a sixth-floor skylight.

The library offers four floors of learning spaces, 30 meeting rooms, 450,000 new books and other items (including board games and video games), two cafes, and a performance hall for author readings and lectures.

The \$245-million library opened on time and on budget in early November, allowing Calgarians and others to start using the city's largest public investment since the 1988 Winter Olympics. Constructed by APEGA permit holder Stuart Olson, the project was designed by the world-renowned architect Craig Dykers of the U.S.-Norway architectural firm Snøhetta, and Calgary architect Rob Adamson of permit holder DIALOG.

How gorgeous and utterly awesome is the new library? A *Calgary Herald* columnist wrote that it's literally bringing users to tears. "This library is a community centre on steroids. It's so much more than book storage," wrote Licia Corbella.



### THE WOW FACTOR

It's easy to see why Calgarians love their new Central Library. Experiences like the one depicted here are drawing folks into a new chapter in libraries.

-photo by Michael Grimm

## NEW TOOL EXPLORES THE DOLLARS AND SENSE OF INFRASTRUCTURE

PEG readers are aware of society's reliance on good, safe infrastructure. Modern economies and modern life itself thrive on public and private investment in roads, bridges, pipelines, solar farms, hospitals, schools, powerlines, water treatment plants—it's a very long list. But many Canadians aren't sure how variables like infrastructure investment, existing infrastructure stock, job creation, and various value-added benefits all fit together.

A real-life example? Look no further than the smothering effect on the price of Alberta oil that a lack of pipeline capacity is having. That's an infrastructure



stock problem whose effect ripples across the province and the country.

Now, a website exists that looks at the complex interplay between us, our country, and our infrastructure.

In the 2017 budget, the federal government committed itself to a more evidence-and-results-based approach to infrastructure development, and the website, the Infrastructure Statistics Hub, arose from that.

Canadians can use the hub to see how public and private spending on infrastructure impacts various aspects of the economy. The site shares detailed information on Canada-wide projects completed between 2009 and 2017, relying on easy-to-read charts and graphs, and clear explanations of the concepts at play.

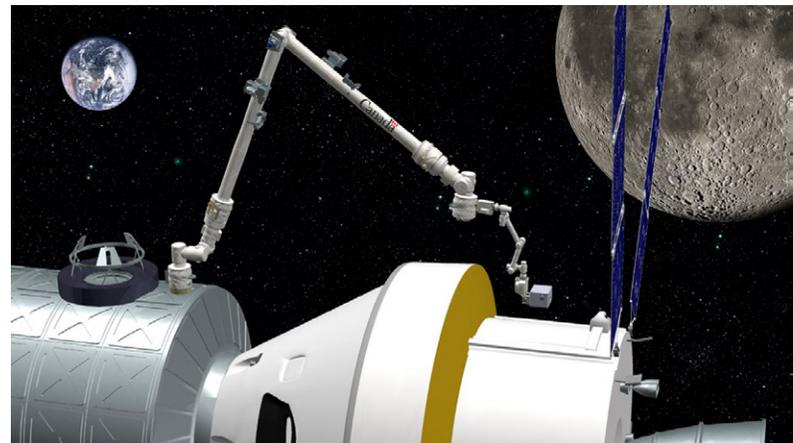
## EXTENDED REACH: CANADA IS STILL THE GO-TO COUNTRY FOR ROBOTIC SPACE ARM DEVELOPMENT

The U.S.-led Lunar Gateway—an international space station planned for launch in 2024 to orbit the moon—could be equipped with Canadian technology. NASA has asked Canada to contribute a new Canadarm, but this version would differ from its predecessors by relying on artificial intelligence instead of humans to guide its movements.

If the Canadian government decides to invest, this would be the third Canadarm in the NASA space program. The first debuted in 1981 and flew on 90 space shuttle missions before its retirement in 2011. Canadarm2 was installed on the International Space Station (ISS) in 2001, where it helped assemble the orbiting laboratory. The device continues being used there to perform station maintenance, move supplies and equipment, and help dock visiting vehicles.

Since the company that designed and built Canadarm2, Maxar Technologies (formerly MDA), is likely to get the contract for Canadarm3, the Canadian Space Agency recently commissioned the company to conduct preliminary studies on how the new robotic system might work. The AI functionality, of course, would add a new level of sophistication to Canadarm.

As the federal government mulls over the project, the Canadian aerospace industry and Maxar Technologies are running a public awareness campaign called #dontletgocanada. They want Canada to commit before the opportunity is grabbed by another space agency.



THIRD TIME'S ANOTHER CHARM?

Will a third Canadarm make its name in space? If so, it might look something like this, as it orbits the moon with the Lunar Gateway.

-image courtesy Maxar Technologies

## FEDERAL GOVERNMENT RESPONDS TO THREAT TO ORCAS

Earlier this year, news outlets worldwide told the story of a mourning orca mother that carried her deceased calf for 17 days across 1,600 kilometres of ocean. The story drew attention to the plight of the country's whales, especially the endangered orcas of the Salish Sea, an intricate network of coastal waterways in southwestern B.C. and northwestern Washington.

To help this struggling population of an iconic mammal, the federal government is working with the Vancouver Fraser Port Authority to collect information on underwater noise pollution. Noise has been shown to interfere with the whales' use of echolocation to find food, communicate within pods, and find mates. A listening device called a hydrophone has been installed in the waters of Boundary Pass in the Salish Sea to record underwater noises made by marine vessels and mammals.

The government has also announced a four-year project, through National Research Council of Canada, on propeller noise and hull vibration. This could eventually help spur the creation of quieter propellers.

This isn't the only time, of course, that the federal



### WHAT THE ORCAS HEAR AND FEEL

The federal government is putting science to work to help orcas in the Salish Sea, by collecting data on underwater noise and looking for ways to reduce it.

government has taken measures to protect whales. On the other side of the country, speed restrictions have been in place for periods in 2017 and 2018 in the Gulf of St. Lawrence. Applying to vessels 20 metres or longer, the restrictions are designed to prevent collisions with right whales and their entanglement in fishing nets.

## WHERE THERE'S LEGAL SMOKE—THERE MAY NOT BE LEGAL SMOKE

Cannabis legalization has arrived, but the reality is that many regular users may well be considering a call to their neighbourhood dealers. The novelty of lining up at a dispensary for limited supply, unsurprisingly, has worn off. Product shortages have plagued the industry countrywide—exactly as Canada Health-commissioned analysts predicted prior to October 17.

Alberta boasts 65 licensed retail cannabis stores, but some aren't open yet. That's because of shortages with the only provincial wholesaler, Alberta Gaming, Liquor

& Cannabis (AGLC). And although consumers can order recreational weed directly from the agency via [albertacannabis.org](http://albertacannabis.org), most of the 85 strains were out of stock for weeks.

The reason? A combination of public enthusiasm and supply chain issues. AGLC says it ordered enough product from suppliers to last six months, but only received a portion of what it expected. Suppliers themselves simply didn't have enough. The Alberta agency has been looking for additional suppliers to top up its stock, saying it contacted all the country's licensed producers—to no avail.

Pot users should not expect a short-term improvement. Experts say the shortages will persist for the

next couple of years. Causes include Health Canada's rigorous licensing requirements for producers, the steep learning curve faced by new producers, and the supply-and-demand challenges that any new industry faces. While ganja giant Aurora plans to bump up annual production to 150,000 kilograms per year from 70,000, many producers lack the skilled workers to respond quickly.

For most Canadians, the shortage is at best a punchline and at worst an annoyance. But for medical marijuana patients, no pot means a return of the symptoms they treat it with. Some advocates are calling on the federal government to create regulations to protect the supply of medical marijuana.

# The Watch

## THE BRITISH ARE LAUNCHING, THE BRITISH ARE LAUNCHING

While it's unlikely that Brits will be taking high tea above the stratosphere anytime soon, the U.K. is setting itself up for a bigger piece of the space pudding. The U.K. Space Agency (UKSA) wants to improve its stake in the \$350-billion space economy to 10 per cent from the current 6.5 per cent within the next 12 years.

This may sound lofty, but the country can build on existing strengths in the industry, namely the creation of small satellites—a rapidly growing sector, regular



readers of *The PEG* already know. Right now, the U.K. produces 44 per cent of the world's small satellites and has the infrastructure to operate the devices once they're up and running.

But there's more. The UKSA wants to begin launching small satellites from its own soil within the next few years. It will be building spaceports and launchpads, and acquiring rockets, to do just

that. The first launch pad will be built on the north coast of Scotland by American firm Lockheed Martin, which also has a contract to develop a system to deploy small satellites from the town of Reading, England.

Other launchpads are being planned for Cornwall, North Wales, and Glasgow. By the way, Glasgow produces more small satellites than any other city outside the United States.

"We've already got a great reputation and we're building on that," Greg Clark, the agency's business secretary, told Sky News. "It's really good news for everyone right across the United Kingdom."

### WE'LL ALWAYS HAVE SPACE

The U.K. may be on its way out of the European Union, but its space program is certainly ramping up. Actual launches from U.K. soil are coming—not necessarily of any satellites that look the one depicted here.

-image courtesy NASA





-photo by Torsten Dederichs on Unsplash

## UPS AND DOWNS IN ANTARCTICA

The bedrock underneath Antarctica is rising faster than ever recorded, at 41 millimetres per year, new research has found. We don't think the penguins have noticed, but this is not exactly uplifting news for the continent: thinning ice (thanks, global warming) is likely responsible.

Melting ice reduces the weight of the ice cap, allowing the bedrock below to be pushed up by the viscous mantle in a rebound effect.

There's one upside to this, however, says a story about the research, on the site *Live Science*. Rising bedrock may help stabilize remaining ice sheets. But it's also likely the rising earth has skewed satellite measurements and resulted in scientists underestimating the ice loss at Antarctica by as much as 10 per cent.

The study suggests that major changes to bedrock caused by vanishing ice happen far faster than previously thought—as quickly as centuries or even decades, rather than many thousands of years.

The research comes out of DTU Space, which is the National Space Institute at the Technical University of Denmark.

THE UPS, THE DOWNS, THE DISAPPEARANCES  
Research in Antarctica keeps uncovering new mysteries.

## THE MYSTERY OF THE MISSING ANTARCTICA LAKES

In other Antarctic news, a new study suggests that large lakes thought to flow beneath the continent's Recovery Glacier have mysteriously disappeared. *Live Science* reports that a network of lakes was thought to exist between the base of the ice and the bedrock below, helping explain changes to the ice surface and how the glacier flows to the sea.

Scientists from Germany discovered the apparent absence of the lakes while conducting aerial studies to better understand the area's topography. Using radar, the team measured different aspects of the glacier and were stymied when their data suggested the lakes were gone, contradicting satellite evidence. "They're probably not there," said study leader Angelika Humbert of the Alfred Wegener Institute's Helmholtz Center for Polar and Marine Research.

Since the technology has some limitations, researchers plan to trek to the site—which is 800 kilometres from the nearest scientific outpost—to gather more evidence. There, they will detonate small batches of explosives in the ice, to use seismic waves to measure the structures below.

## LATITUDE LINKS

The following list of links related to the preceding Latitude section.

### Movers & Shakers

[Canadian Consulting Colossuses](#)

[APEGA's Top 40 Under 40](#)

[Engineering Story Hits the Big Screen](#)

[New CEO for CEA](#)

[Science and Technology Achievements: ASTech Awards](#)

[APEGA E.I.T.s Receive Vanier Scholarships](#)

### The Watch

#### ALBERTA

[Treatment Facility Turns Waste into Fertilizer](#)

[Medicine Hat is a Currency Mining Player](#)

[Soccer Goes Big in Edmonton](#)

[Little Planes on the Prairie: Calgary Creates Drone Test Site](#)

[Plebiscite Torches Dreams of Winter Olympics](#)

[Housing for Seniors I: Fort McMurray](#)

[Housing for Seniors II: Edmonton](#)

[Housing for Seniors III: Calgary](#)

[Housing for Seniors IV: Crowsnest Pass](#)

[Fort Hills Partners Open Much-Delayed Mine](#)

[Calgary Crash Sites Get Their Own Map](#)

[Big Draw for Big Museum: A Royal Alberta Move is Complete in Edmonton](#)

[ENMAX Pilots Downtown Grid-Feeding Scheme in Calgary](#)

[Beauty and the Books: Calgary's New Library](#)

#### CANADA

[The Dollars and Sense of Infrastructure Supply and Demand](#)

[Extended Reach: A Canadarm3 May be Coming](#)

[Federal Government Responds to Orca Threats](#)

[Not Enough Smoke Where There's Smoke: Cannabis Faces Supply Shortage](#)

#### WORLD

[The British are Launching, the British are Launching](#)

[Ups and Downs in Antarctica](#)

[The Mystery of the Missing Antarctica Lakes](#)

# Advancing Our Professions— Impacting Our Communities

VOLUNTEER WITH APEGA

## K-12 Classroom Expert

Ready to have some fun? Hang out with the engineers and geoscientists of the future. We need experts on a wide variety of topics, from astronomy to wind turbines and everything in between.

## University Rapid Resume Reviews, Speed Mock Interviews, and Student Industry Mixers

School is out and the job hunt has begun. You've been there, and you know what employers are looking for. By volunteering for our Rapid Resume Reviews, Speed Mock Interviews, and Industry Mixers, you'll help new graduates prepare to land their first jobs in their chosen professions.



## Science Olympics

Share your passion for engineering and geoscience with students at the APEGA Science Olympics! This event is a great opportunity to foster enthusiasm for engineering and geoscience, to promote your profession in the community, and to log professional development hours with APEGA. Volunteers are needed as judges, event assistants, and challenge managers in the Edmonton, Calgary, and other branch locations.

**“As a relatively new mom with small children and a husband who is a professional engineer, I was proud and excited to have the opportunity and resources available to raise my kids in an environment that supports and encourages science-based imaginations!” – Holly, P.Geo., APEGA Volunteer**



### National Professional Practice Exams

Do challenges excite you? Do you have strong writing and English language skills? If the answer is yes and you are a professional engineer or professional geoscientist, we encourage you to volunteer to write high-quality exam questions for the National Professional Practice Exam. This position is a great fit for anyone wanting to volunteer remotely while still contributing to the professions in a meaningful way.

### Branch Members-at-Large

Help advance APEGA’s strategic plan by helping Council and staff carry out their responsibilities, primarily in communications, outreach, and professional development. This volunteer opportunity will focus on policy and engagement, organizational renewal and continuity, and attraction, retention, and advancement of individuals in the professions. With 10 branches across Alberta, branch-specific needs for volunteering can vary. Watch our website’s volunteering section to see if there is a current need for volunteering at your branch.

### Registration Committee—Subject-Matter Expert

Help ensure public safety and protect the public interest by reviewing registration applications. Ensure applicants meet the requirements for registration as a professional member, a licensee, or a professional licensee.

### Discipline Committee

Are you interested in gaining governance experience and learning about the profession’s regulatory obligations and legal authorities? If you are an active professional member licensed with APEGA as a P.Eng., P.Geo., P.Geol., P.Geoph., or P.L., consider applying to volunteer on the Discipline Committee. This volunteer commitment involves a three-year renewable term and requires participation in orientation and training.



### Mentoring

Make a valued impact on the next generation of professional engineers and professional geoscientists by volunteering with the mentoring program. Each mentoring partnership lasts for one full year and can be conducted in person or online. The time commitment throughout the year is flexible. We encourage you to embark on this leadership journey, and contribute to your mentee’s career and professional growth.

For further information on any of the opportunities listed here—or other APEGA-related volunteer opportunities—please contact:

**APEGA Volunteer Management**  
**1-800-661-7020**  
[volunteer@apega.ca](mailto:volunteer@apega.ca)

You can also check out the [volunteer section of the APEGA website](#).

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## Nominations open for the Ivan Finlay Leadership Award!

For more information, visit  
[apega.ca/educators/ivan-finlay-award](http://apega.ca/educators/ivan-finlay-award)

Nomination deadline is February 15, 2019



# Asked and Answered: APEGA Foundation Jams a Path To New Social Innovation Prize

BY **PETER MYERS, P.ENG.**  
*APEGA Foundation President*

For almost 20 years, the [APEGA Foundation](#) has been a conduit for engineers and geoscientists to give back to their professions, allowing them a direct way to support deserving students in engineering and geoscience programs. The organization, known for most of that time as the APEGA Education Foundation, created and awarded scholarships, bursaries, and endowments. We also donated hundreds of thousands of dollars to outreach programs promoting the applied sciences to K-12 students across Alberta.

We're very proud of the work we've done. But a few years ago, we started to ask ourselves, how could we have more impact? How could we inspire, empower, and support engineers and geoscientists to make more of a difference in our world?

At that time, we worked with a consultant to craft a new mission and vision:

## MISSION

*The APEGA Foundation instills pride in APEGA members by investing in engineering & geoscience related initiatives in Alberta for the benefit of the professions and society.*

## VISION

*Strong, diverse, sustainable professionals that are understood and valued.*

Late last year, we committed to bringing these words to life by embarking on a process called the Idea Jam. Our goal was to create one or two key initiatives to move the needle on an issue and give applied

scientists a reason to celebrate.

In November 2017, we held Phase 1 of the Idea Jam, a question-storming session. This phase tasked the board of directors of the foundation with, as you may have gathered, asking questions—and questions only. No challenges or justifications allowed. We simply put forth questions that puzzled us about the professions.

Much came to the fore. We asked questions about:

- the education system
- adaptation to climate change
- new technologies
- diversity in the professions
- culture
- our willingness to engage in the political process and policy-making

“From our questions, we realized our reason for existence: to build a stronger engineering and geoscience community—one that connects, empowers, and inspires APEGA members to be leaders in the creation of sustainable solutions to the province’s and the world’s greatest challenges.”

## IDEA GENERATORS

Calgary members take part in the second phase of the Idea Jam—arriving at more than 100 ideas to guide the APEGA Foundation in creating a new initiative.



From our questions, we realized our reason for existence: to build a stronger engineering and geoscience community—one that connects, empowers, and inspires APEGA members to be leaders in the creation of sustainable solutions to the province's and the world's greatest challenges.

In June, we were ready to ask our membership to join us in an ideation process. A group of 25 professionals came together in Calgary and captured more than 100 ideas in the half-day session. In the end, we identified the most meaningful and unique ideas we'd come up with.

Then in September, we reached out to Edmonton members, asking them to narrow the field to a single, cohesive idea we could action in the next 12 months. Participants merged the four ideas that came out of Calgary into one, to form the nucleus for our new initiative—an initiative we hope all engineers and geoscientists can get behind and be proud of.

The idea that emerged was to create the Social Innovation Prize. It will be awarded annually to a diverse team of engineers, geoscientists, and students, working together to solve our most pressing social challenges in

a sustainable way. They'll be using an engineering and geoscience approach to problem solving. Each year, the competition will have a different theme.

The inaugural theme, we've decided, will focus on the social needs of a rural Alberta community.

The whole initiative will be preceded by a thought-provoking public speaker series, designed to delve into rural issues and the roles applied scientists can play in solving some of our community's most persistent challenges.

Help us create a meaningful and unique way to inspire more engineers and geoscientists to make a difference. Help us become even more impactful as a conduit for giving back. Help us make a world of difference.



## LINKS

[APEGA Foundation](#)

**Would You Like to Get Involved or Donate Money?**  
[socialinnovation@apegafoundation.ca](mailto:socialinnovation@apegafoundation.ca)

## EDMONTON BRANCH CALENDAR

### AGM & LUNCHEON

**TUESDAY, JANUARY 22**

#### Qualifications-Based Selection

*Sheldon Hudson, P.Eng., MBA, Al-Terra Engineering and Consulting Engineers of Alberta*

### PD EVENING

**WEDNESDAY, FEBRUARY 6**

#### Pipeline Leak Detection

*Ian Butterworth, P.Eng.*

### LUNCHEONS

**WEDNESDAY, MARCH 13**

#### TTEC Edmonton

**WEDNESDAY, APRIL 10**

#### Refining Bitumen in Alberta

Luncheons held at: APEGA Edmonton Office, Lindberg Conference Centre, 10060 Jasper Ave. NW

**Schedule:** 11:30 a.m. Registration      12 p.m. Lunch

**Cost:**      Members—\$35      Non-Members—\$40  
               Students—\$20      Webinar—\$10

To register: [apega.ca/events](http://apega.ca/events)

### SPONSORS

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## CALGARY BRANCH CALENDAR

### 2019 AGM & LUNCHEON

**THURSDAY, JANUARY 24**

#### Energy Outlook for Oil Sands

*Ben Brunnen, Vice-President, Oil Sands and Fiscal Policy, Canadian Association of Petroleum Producers*

### LUNCHEONS

**THURSDAY, FEBRUARY 28**

#### Electricity and Regulatory Challenges

*Gary Hart, P.Eng., AltaLink*

**THURSDAY, MARCH 28**

#### Robotics

*Dr. Alejandro Ramirez-Serrano, P.Eng., University of Calgary*

**WEDNESDAY, APRIL 17**

#### Geophysical Exploration

*Paul Bauman, P.Eng., P.Geoph., WorleyParsons*

Luncheons held at: Fairmont Palliser Hotel, 133 Ninth Ave. SW

**Schedule:** 11:15 a.m. Registration      11:45 a.m. Lunch

**Cost:** Members—\$50      Non-members—\$60  
               Students—\$25

To register: [apega.ca/events](http://apega.ca/events)

### SPONSORS



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# MEMBER BENEFITS

Eligible APEGA members can take advantage of the following discounts. Complete details of these group benefits can be found at [apega.ca](http://apega.ca) under [Member Benefits](#) and Member Insurance. Due to seasonal or other limited-time promotions, the member discount may not be the lowest price—you are advised to compare. APEGA does not hold any member insurance profile or policy information.

To inquire about these benefits, check your eligibility, or provide service feedback, please email [memberbenefits@apega.ca](mailto:memberbenefits@apega.ca).

## TRAVEL



Hotel and car rental travel search engines  
Below-market travel discounts



10% off current Alberta rates



10% off current national rates



10% discount value with valid APEGA Member card



Fuel discounts through Esso service stations

## FINANCIAL



Financial Planning Services: 20% discount for APEGA members

## PERSONAL



10% off select regular priced items



15% off on resume services



Market-leading, bring-your-own-device rate plans



10% off admission, IMAX, and annual membership

## INSURANCE DISCOUNTS



Professional Liability Insurance

Pro-Form Sinclair Professional, A division of



Secondary Professional Liability Insurance



GARRETT AGENCIES

Manulife Authorized Advisor



# Recommended Orders

Date: August 30, 2018

Case No.: 18-002 RDO

## IN THE MATTER OF THE ENGINEERING AND GEOSCIENCE PROFESSIONS ACT, AND IN THE MATTER OF THE CONDUCT OF [PROFESSIONAL MEMBER A], P.ENG.

The Investigative Committee of the Association of Professional Engineers and Geoscientists of Alberta (APEGA) has conducted an investigation into the conduct of [Professional Member A], P.Eng., (the “Member”) with respect to a complaint initiated by [Complainant B], (the “Complainant”), who submitted the complaint on August 21, 2017.

### A. BACKGROUND

The Complainant filed a complaint against the Member, alleging the Member did not report misconduct of another Professional Engineer (the “Other Professional Engineer”) to APEGA, therefore engaging in professional misconduct.

The Complainant stated that she had a verbal agreement with the Other Professional Engineer to apply his electronic stamp and signature to documents and send the documents to a home builder without the Other Professional Engineer having reviewed the documents. The Complainant further stated that the Member knew of this arrangement. The Other Professional Engineer is a close relative of the Member and the Complainant.

### B. THE COMPLAINT

The Investigative Committee conducted an investigation into whether the Member breached the *APEGA Guideline for Ethical Practice* (the “Guideline”) by failing to notify APEGA of improper authentication of documents procedures by another Professional Engineer.

### C. AGREED STATEMENT OF FACTS

1. The Member was a professional member of APEGA.
2. The Complainant had a verbal agreement with the Other Professional Engineer to authenticate documents on his behalf.
3. The Member became aware of the arrangement between the Complainant and the Other Professional Engineer beginning in 2010. The arrangement between the Complainant and the Other Professional Engineer to authenticate documents continued until August 2017.
4. The Member knew that the Complainant was applying the Other Professional Engineer’s electronic stamp and signature to two different types of documents, which were then sent to an Edmonton-area homebuilder without the Other Professional Engineer’s review. Both types of documents had an electronic image of the Professional Engineer’s stamp and signature.
5. The documents in question were:
  - a. *Manufactured Stone and Brick used in Exterior Wall Cladding System*; and
  - b. Cover letters confirming that [Company C] (the “Company”) will produce drawings such as stairwell opening detail, lateral bracing detail and tall wall detail.
6. The use of manufactured stone and brick in residential construction is not covered under the *Alberta Building Code* as an exterior finish. The City of Edmonton requires the *Manufactured Stone and Brick used in Exterior Wall Cladding System* document to be authenticated by a Professional Engineer.

**Case No. 18-002 RDO continued**

7. The Member attempted to mitigate the risk of improper authentication by installing the digital signature software approved by APEGA, Notarius, onto the Complainant's and the Other Professional Engineer's computer. The Complainant refused to use Notarius and the Other Professional Engineer refused to mandate that the Complainant use Notarius.
8. The Member believed there was nothing more he could do to correct the situation between the Complainant and the Other Professional Engineer and did not consider reporting the conduct to APEGA.

**D. CONDUCT**

9. The Member freely and voluntarily admits that he breached the *Guideline for Ethical Practice* by not reporting the Other Professional Member's conduct to APEGA.
10. The Member acknowledges that the conduct described above constitutes unprofessional conduct as defined in Section 44(1) of the *Engineering and Geoscience Professions Act*.
11. The Member also acknowledges that the conduct described above contravenes Rule of Conduct #1, #3 and #5 of the Code of Ethics:
  1. *Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety and welfare of the public and have regard for the environment.*
  3. *Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.*
  5. *Professional engineers and geoscientists shall uphold and enhance the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.*

12. The Member further acknowledges that he breached the Guideline, which states:
 

*"If a member determines, or has reasonable and probable grounds to believe that the professional conduct or the technical competence of another professional member is in serious question, he or she has a clear and definite duty to inform APEGA accordingly."*

**E. RECOMMENDED ORDERS**

13. On the recommendation of the Investigative Committee, and by agreement of the Member with that recommendation, and following a discussion and review with the Discipline Committee Case Manager, the Discipline Committee hereby orders that:
  1. The Member will receive a letter of reprimand to be maintained permanently on the Member's APEGA file.
  2. The Member will pay a fine of \$1,000 within 90 days from the date this order is approved by the Discipline Committee Case Manager. If the fine is not paid within 90 days from the date this order is approved, the Member shall be suspended from the practice of engineering.
  3. This matter and its outcome will be published by APEGA as deemed appropriate and such publication will not name the Member or the Company.

Signed,

**[PROFESSIONAL MEMBER A], P.ENG.**

**ALLAN YUCOCO, P.L. (ENG.)**

Panel Chair, APEGA Investigative Committee

**TOM GREENWOOD-MADSEN, P.ENG.**

Case Manager, APEGA Discipline Committee

*Date: August 30, 2018*

Date: June 6, 2018

Case No.: 18-005 RDO

## IN THE MATTER OF THE ENGINEERING AND GEOSCIENCE PROFESSIONS ACT, AND IN THE MATTER OF [PROFESSIONAL MEMBER A], P.ENG.

The Investigative Committee of the Association of Professional Engineers and Geoscientists of Alberta (“APEGA”) has conducted an investigation into the conduct of [Professional Member A], P.Eng., (the “Member”), of [Company B] (the “Company”).

The investigation was conducted with respect to a complaint initiated by [Complainant C], P.Eng., (the “Complainant”), who submitted a letter of complaint dated April 18, 2017. The complaint involved two members under investigation. The other member under investigation was the Member’s colleague.

### A. BACKGROUND

The Complainant filed a complaint against the Member alleging that the Member had critiqued the work of the Complainant and shared the critique findings without prior notice to and review with the Complainant.

### B. THE COMPLAINT

[Person D] of [Company E], (the “Owner”) hired the Complainant as the structural engineer for his development projects (the “Projects”). The Owner hired the Company to conduct a review of the structural designs that were developed by the Complainant. The Complainant did not receive notification from the Member before the Member commenced his review.

The Owner hosted a meeting at his office that included the Complainant, the Member, and other people associated with the Projects. The Complainant was unaware the Member was going to participate in the meeting until he and his colleague arrived. At the meeting, the Member proceeded to share his critique findings of the Complainant’s design work for the first time in front of the Owner and others.

The Investigative Committee conducted an investigation to determine if the actions of the Member contravened Section 44(1) of the *Engineering and Geoscience Professions Act* (the “Act”). Specifically, the

Investigative Panel considered whether the Member acted unprofessionally toward the Complainant when he critiqued the Complainant’s designs.

### C. AGREED STATEMENT OF FACTS

1. The Member was a professional member of APEGA.
2. During the second week of April 2017, the Owner contacted the Company to perform a review of the Complainant’s design work (the “Review”).
3. The Review was to be conducted by the Member and his colleague. The Member’s role was to technically review the Complainant’s design work and report to his colleague the items he found to be wrong or suspicious.
4. The Member’s colleague drafted a letter (the “Notification Letter”) dated April 17, 2017, to the Complainant regarding the Company’s forthcoming Review of both of the Projects. The Notification Letter advised the Complainant that the Company had been retained to review the Owner’s Projects.
5. The Review was to rely on a set of drawings provided by [Architect F] (the “Architect”).
6. On April 17, 2017, the Complainant was notified by the Owner that the Complainant would be contacted by another engineer who would be reviewing the Complainant’s design work at the Owner’s request. On the same day, the Architect provided the Member’s colleague with a copy of the Owner’s notice to the Complainant of the forthcoming Review.
7. On April 17, 2017, at 10:33 a.m., the Member’s colleague’s secretary sent the Notification Letter by email (the “Email”) from the colleague’s email account. The Email indicated that the Company’s Review would take a few days and that they wanted to sit down with the Complainant to review their findings with him prior to issuing their final conclusion.

**Case No. 18-005 RDO** *continued*

8. The Email was sent to an email address that does not exist.
9. Understanding that the Member's colleague sent the Notification Letter to the Complainant, the Member made no effort to contact the Complainant prior to conducting a review of the Complainant's design work.
10. Before noon on April 17, 2017, the Member and his colleague picked up the drawings from the print shop. Unbeknownst to the Member and his colleague, the set of drawings provided by the Architect were not the most current set of drawings for the Projects. The Complainant had released an updated set of drawings about four months after releasing the original set.
11. On April 17, 2017, at 6:30 p.m., the Architect informed the Complainant of the April 18 meeting at the Owner's office. The Architect had told the Complainant that it would just be the Complainant, the Architect, and the Owner at that meeting.
12. The Member knew that the Complainant was going to be at the April 18 meeting, but he was not aware of the Architect's inaccurate communications with the Complainant.
13. The Complainant, the Owner, the Member, his colleague, and the Architect attended the April 18 meeting.
14. At the beginning of the April 18 meeting, the Member became aware that the Complainant was surprised at his attendance in the April 18 meeting, and the Member became aware that the Complainant did not receive the Notification Letter from the Member's colleague.
15. The April 18 meeting was the first time the Complainant was aware that the Member was specifically reviewing the Complainant's designs.
16. The Member and his colleague asked the Complainant if he would continue with the meeting. The Complainant agreed to proceed with the April 18 meeting, but did not expect his work would be critiqued during the April 18 meeting. However, during the April 18 meeting, the Member and his colleague verbally discussed their concerns with the Complainant's designs.
17. Later during the April 18 meeting, the Complainant requested that a formal review letter be sent to him instead of proceeding further, and the Member's colleague indicated that such a letter (the "Review Letter") could be done for the end of the following day.
18. On April 19, 2017, the Member and his colleague sent a report outlining the findings of their Review (the "Report") to the Owner and the Architect. However, neither the Member nor his colleague sent the Report or the Review Letter to the Complainant.
19. On April 20, 2017, the Complainant received the Report from the Owner. On the same day, the Complainant responded to the Report via email to the Owner, and the Owner forwarded the Complainant's response to the Member. One issue raised by the Complainant was that the Review was performed on the outdated set of drawings. Later that same day, the Member received the updated set of drawings from the Architect.
20. The Member compared the two sets of drawings and determined there was no difference except for two drawings. The Member's opinion was not changed by the differences.
21. The Owner released the Complainant from the Projects within six days of the Report having been sent to the Owner. The Owner hired the Company to replace the Complainant as the structural engineering contractor on the Projects.

**D. CONDUCT**

22. The Member freely and voluntarily admits:
  - a. He critiqued the design work of the Complainant without assuring the Complainant was aware.
  - b. He provided his critique findings for the first time in front of the Complainant's client, thus preventing the Complainant the opportunity to defend his designs.
  - c. His conduct sufficiently questioned the technical competence of the Complainant in front of the Complainant's client that the client released the Complainant from employment.

*Case No. 18-005 RDO continued*

- 23. The Member acknowledges that his conduct is a breach of Section 44(1)(b) of the Act and therefore constitutes unprofessional conduct as defined in the Act.
- 24. The Member acknowledges that his conduct contravenes Rule of Conduct #3 and #5 of the *Code of Ethics*:
  - 3. *Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.*
  - 5. *Professional engineers and geoscientists shall uphold the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.*
- 25. The Member also acknowledges that his conduct contravenes the *Guideline for Ethical Practice (Reviewing the Work of Other Professionals)*:
  - 4.5.3. *Professionals should undertake an assignment to critique the work of another professional engineer or geoscientist that calls into question the professional conduct or technical competence of that individual only with the knowledge of and after communication with that individual, such that the review is fully apprised of all relevant information.*

**E. RECOMMENDED ORDERS**

- 26. On the recommendation of the Investigative Committee, and by agreement of the Member

and following a discussion and review with the Discipline Committee Case Manager, the Discipline Committee hereby orders that:

- a. The Member write a letter of apology to the Complainant within 30 days after the Discipline Committee Case Manager approves the Recommended Order.
- b. The Member shall pay a fine in the amount of \$1,000 within 60 days after the Discipline Committee Case Manager approves the Recommended Order.
- c. If the orders are not completed within the timelines above, the Member’s registration will be suspended until completion of such orders.
- d. This matter and its outcome will be published on APEGA’s website and in *The PEG* magazine without names, given that this matter did not put the safety of the public at risk and the risk to the public safety is not reduced by withholding names.

Signed,

**[PROFESSIONAL MEMBER A]**, P.ENG.

**ROY SUDIPTO**, P.ENG.

Panel Chair, APEGA Investigative Committee

**NASER RABBANI**, P.ENG.

Case Manager, APEGA Discipline Committee

*Date: June 6, 2018*

Date: June 5, 2018

Case No.: 18-004 RDO

**IN THE MATTER OF THE ENGINEERING AND GEOSCIENCE PROFESSIONS ACT,  
AND  
IN THE MATTER OF [PROFESSIONAL MEMBER A], P.ENG.**

The Investigative Committee of the Association of Professional Engineers and Geoscientists of Alberta (“APEGA”) has conducted an investigation into the conduct of [Professional Member A], P.Eng., (the “Member”), of [Company B] (the “Company”).

The investigation was conducted with respect to a complaint initiated by [Complainant C], P.Eng., (the “Complainant”), who submitted a letter of complaint dated April 18, 2017. The complaint involved two members under investigation. The other member under investigation was the Member’s colleague.

## A. BACKGROUND

The Complainant filed a complaint against the Member alleging that the Member had critiqued the work of the Complainant and shared the critique findings without prior notice to and review with the Complainant.

## B. THE COMPLAINT

[Person D] of [Company E], (the “Owner”) hired the Complainant as the structural engineer for his development projects (the “Projects”). The Owner hired the Company to conduct a review of the structural designs that were developed by the Complainant. The Complainant did not receive notification from the Member before the Member commenced his review.

The Owner hosted a meeting at his office that included the Complainant, the Member and other people associated with the Projects. The Complainant was unaware the Member was going to participate in the meeting until he and his colleague arrived. At the meeting, the Member proceeded to share his critique findings of the Complainant’s design work for the first time in front of the Owner and others.

The Investigative Committee conducted an investigation to determine if the actions of the Member contravened Section 44(1) of the *Engineering and Geoscience Professions Act* (the “Act”). Specifically, the Investigative Panel considered whether the Member acted unprofessionally toward the Complainant when he critiqued the Complainant’s designs.

## C. AGREED STATEMENT OF FACTS

1. The Member was a professional member of APEGA.
2. During the second week of April 2017, the Owner contacted the Company to perform a review of the Complainant’s design work (the “Review”).
3. After being asked by the Owner to perform this Review, the Member drafted two letters dated April 13, 2017, to the Complainant regarding the Company’s forthcoming Review of each of the Projects (the “Draft Notification Letters”). The Draft Notification Letters advised the Complainant that the Company had been retained to review the Owner’s Projects and invited the Complainant to contact the Member with any questions.
4. The Member only provided the Draft Notification Letters to the Architect and the Owner for their review at that time.
5. On April 16, 2017, at 8:27 a.m., the Architect notified the Member that the drawings were available to be picked up.
6. On April 17, 2017, at 12:26 a.m., the Complainant was notified by the Owner that the Complainant would be contacted by another engineer who would be reviewing the Complainant’s design work at the Owner’s request.
7. On April 17, 2017, at 7:30 a.m., the Architect provided the Member with a copy of the Owner’s notice to the Complainant of the forthcoming Review as well as the Complainant’s contact information.
8. The Draft Notification Letters were consolidated by the Member into a single notification letter dated April 17, 2017, that advised of the Review of the Projects (the “Revised Notification Letter”).
9. On April 17, 2017, at 10:33 a.m., the Member’s secretary sent the Revised Notification Letter by email (the “Email”) from the Member’s email account to inform the Complainant that the Company was going to review the Complainant’s design work. The Email indicated that the Company’s Review would take a few days and that they wanted to sit down with the Complainant to review their findings with him prior to issuing their final conclusion.
10. The Email was sent to an email address that does not exist. The Member said he did not notice any email bounce-back notification indicating a failed delivery of the Email.
11. Without having received any indication that the Email had not been successfully delivered to the Complainant as intended, the Member made no further effort to contact the Complainant.
12. Before noon on April 17, 2017, the Member picked up the drawings from the print shop. Unbeknownst to the Member, the drawings provided by the Architect were not the most current set of drawings for the Projects. The Complainant had released an updated set of drawings about four months after releasing the original set.

*Case No. 18-004 RDO continued*

13. On April 17, 2017, at 6:30 p.m., the Architect informed the Complainant of the April 18 Meeting at the Owner's office. The Architect had told the Complainant that it would just be the Complainant, the Architect, and the Owner at that meeting.
14. The Member knew the Complainant was going to be at the April 18 meeting, but he was not aware of the Architect's inaccurate communications with the Complainant.
15. The Complainant, the Owner, the Member, his colleague, and the Architect attended the April 18 meeting.
16. At the beginning of the April 18 meeting, the Member became aware that the Complainant was surprised at his attendance in the April 18 meeting, and that this was the first time the Complainant was aware that the Member was specifically reviewing the Complainant's designs.
17. The Member indicated that the Email had been sent to the Complainant and provided proof of having sent it by accessing his email account on his phone. The Complainant reviewed it and pointed out that the Email had been sent to the incorrect email address and an email account that does not exist.
18. The Member asked the Complainant to enter his correct address, which the Complainant did, and the Email was forwarded to the correct address at that time.
19. The Member and his colleague asked the Complainant if he would continue with the meeting. The Complainant agreed to proceed with the meeting, but did not expect his work would be critiqued during the April 18 meeting.
20. During the April 18 meeting, the Member and his colleague verbally discussed their concerns with the Complainant's designs.
21. Later during the April 18 Meeting, the Complainant requested that a formal review letter be sent to him instead of proceeding further, and the Member indicated that such a letter (the "Review letter") could be done for the end of the following day.

22. On April 19, 2017, the Member and his colleague sent a report outlining the findings of their Review (the "Report") to the Owner and the Architect. However, neither the Member nor his colleague sent the Report or the Review letter to the Complainant.
23. On April 20, 2017, the Complainant received the Report from the Owner. On the same day, the Complainant responded to the Report via email to the Owner, and the Owner forwarded the Complainant's response to the Member's colleague. One issue raised by the Complainant was that the Review was performed on the outdated set of drawings. Later that same day, the Member's colleague received the updated set of drawings from the Architect.
24. The Member compared the two sets of drawings and determined there was no difference except for two drawings. The Member's opinion was not changed by the differences.
25. The Owner released the Complainant from the Projects within six days of the Report having been sent to the Owner. The Owner hired the Company to replace the Complainant as the structural engineering contractor on the Projects.

**D. CONDUCT**

26. The Member freely and voluntarily admits that:
  - a. He critiqued the design work of the Complainant without assuring the Complainant was aware that he would be doing so.
  - b. He provided his critique findings for the first time in front of the Complainant's client, thus preventing the Complainant the opportunity to defend his designs.
  - c. His conduct sufficiently questioned the technical competence of the Complainant in front of the Complainant's client, which very likely influenced the client to release the Complainant from the Projects.
27. The Member acknowledges that his conduct is a breach of Section 44(1)(b) of the Act and therefore constitutes unprofessional conduct as defined in the Act.

**Case No. 18-004 RDO continued**

28. The Member acknowledges that his conduct contravenes Rule of Conduct #3 and #5 of the *Code of Ethics*:

**3.** *Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.*

**5.** *Professional engineers and geoscientists shall uphold the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.*

29. The Member also acknowledges that his conduct contravenes the *Guideline for Ethical Practice (Reviewing the Work of Other Professionals)*:

*4.5.3. Professionals should undertake an assignment to critique the work of another professional engineer or geoscientist that calls into question the professional conduct or technical competence of that individual only with the knowledge of and after communication with that individual, such that the review is fully apprised of all relevant information.*

**E. RECOMMENDED ORDERS**

30. On the recommendation of the Investigative Committee, and by agreement of the Member, and following a discussion and review with the

Discipline Committee Case Manager, the Discipline Committee hereby orders that:

1. The Member write a letter of apology to the Complainant within 30 days after the Discipline Committee Case Manager approves the Recommended Order
2. The Member shall pay a fine in the amount of \$2,500 within 60 days after the Discipline Committee Case Manager approves the Recommended Order
3. If the orders are not completed within the timelines above, the Member's registration will be suspended until completion of such orders
4. This matter and its outcome will be published on APEGA's website and in *The PEG* magazine without names, given that this matter did not put the safety of the public at risk and the risk to the public safety is not reduced by withholding names.

Signed,

**[PROFESSIONAL MEMBER A], P.ENG.**

**ROY SUDIPTO, P.ENG.**

Panel Chair, APEGA Investigative Committee

**FRED RITTER, P.ENG.**

Case Manager, APEGA Discipline Committee

*Date: June 5, 2018*

Date: May 14, 2018

Case No.: 18-003 RDO

**IN THE MATTER OF THE ENGINEERING AND GEOSCIENCE PROFESSIONS ACT,  
AND  
IN THE MATTER OF THE CONDUCT OF [PROFESSIONAL MEMBER A], P.ENG.**

The Investigative Committee of the Association of Professional Engineers and Geoscientists of Alberta (APEGA) has conducted an investigation into the conduct of [Professional Member A], P.Eng., (the

"Member"). The investigation has been conducted with respect to a complaint initiated by [Complainant B], who referred a complaint to the APEGA Director of Investigations on February 2, 2018.

*Case No. 18-003 RDO continued***A. THE COMPLAINT**

1. The APEGA Director of Examinations forwarded the matter to APEGA's Investigative Committee, alleging that the Member may have engaged in unprofessional conduct and/or unskilled practice, contrary to Section 44(1) of the *Engineering and Geoscience Professions Act* (the "Act"), by advertising and attempting to sell/transfer his login information for online access to the 100-question National Professional Practice Exam (NPPE) practice test, contrary to the agreement he acknowledged on nppepractice.com.

**B. AGREED STATEMENT OF FACTS**

2. The Member was an engineer-in-training (E.I.T.) or a professional member of APEGA and was bound by the Act and the APEGA *Code of Ethics*.
3. In September 2017, the APEGA Admissions Committee invited the Member to challenge the NPPE. The Member elected to challenge the exam in November 2017.
4. In preparation for the exam, the Member purchased two textbooks: *Canadian Professional Engineering and Geoscience Practice & Ethics, Fifth Edition* (2014) and *Practical Law of Architecture, Engineering and Geoscience, Third Edition* (2015).
5. On October 26, 2017, the Member also purchased access to the 100-question NPPE practice test on nppepractice.com for \$95. This website is administered by service provider Yardstick Assessment Strategies Inc. on behalf of APEGA.
6. The purchase of the practice test allowed the Member three attempts at the test within one year from the date of purchase.
7. On November 13, 2017, the Member logged in to his account on nppepractice.com and successfully challenged the practice test on his first attempt. Before taking the practice test, the Member digitally acknowledged an agreement/warning which stated that the confidential content "*is not to be copied, shared, or discussed with any other person,*" that "*unauthorized sharing or distribution of*

*the content is punishable by law,*" and that "*access to this practice test is not transferable to others.*"

8. On November 28, 2017, the Member successfully challenged the NPPE. On December 19, 2017, the Member received his P.Eng. and became a Professional Member of APEGA.
9. On January 31, 2018, the Member posted an advertisement on Kijiji titled, *NPPE Exam Books + 100 Practice MCQs*. The description of the ad included the following items available for sale for a total of \$250:
  - Textbook: Canadian Professional Engineering and Geoscience Practice & Ethics, Fifth Edition, 2014 (brand new never used)*
  - Textbook: Practical Law of Architecture, Engineering and Geoscience, Third Edition, 2015 (brand new never used)*
  - NPPE Practice MCQ's (from nppepractice.com) online access + downloaded*
  - The Member advised in the ad that the items would normally total a \$362 value.*
10. On February 1, 2018, Complainant B received an automated alert from Kijiji, pointing him to the Member's advertisement. Complainant B determined through a review of the ad, the purchase records, and the APEGA member database the seller was the Member (an active Professional Member of APEGA).
11. Posing as a potential buyer, Complainant B contacted the Member through Kijiji to inquire about the advertisement. The Member did not respond to the inquiry.
12. On February 2, 2018, Complainant B referred a complaint to the APEGA Director of Investigations, alleging that the member violated the unauthorized sharing/transfer terms on nppepractice.com. The complaint did not make allegations with respect to the sale of the text books.
13. On February 2, 2018, the Director of Investigations phoned the number in the advertisement (identical to the Member's number) posing as a potential buyer. After the Member identified himself and confirmed the advertisement remained active, the Director of Investigations notified the Member of the complaint and directed the Member to remove the ad. The Member complied immediately.

*Case No. 18-003 RDO continued*

14. Because of Complainant B's intervention, the Member's attempt to sell his login credentials was never completed.
15. The Member confirmed that he did not copy the test material; rather, he offered for sale his login credentials so that the purchaser could use the two remaining practice test attempts on his personal npepractice.com account. After reviewing the warning/agreement, the Member admitted the agreement clearly states his access was not transferable. The Member advised that he made a mistake and did not intend to violate the terms of the agreement at the time he placed the ad.

**Panel Findings**

16. The Investigative Committee determined that this matter would best be resolved through a Recommended Discipline Order rather than a formal hearing, having consideration for the following: there is no risk of harm to the public, the admission by the Member, the timely cooperation of the Member in this investigation, the remorse expressed by the Member, and the Investigative Committee Panel's finding that although the Member's conduct demonstrated an error in judgment, it was not malicious. The same considerations apply to the Panel's recommendation that this matter and its outcome should be published without naming the Member.

**C. CONDUCT**

17. The Member freely and voluntarily admits that his conduct, described above, constitutes unprofessional conduct as defined in Section 44(1) of the Act.
18. The Member also acknowledges that the conduct described above contravenes the Rule of Conduct #3 and #4 of the *Code of Ethics*.
  3. *Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.*

4. *Professional engineers and geoscientists shall comply with applicable statutes, regulations and bylaws in their professional practices.*

**D. RECOMMENDED ORDERS**

19. On the recommendation of the Investigative Committee, and by agreement of the Member with that recommendation, and following a discussion and review with the Discipline Committee Case Manager, the Discipline Committee hereby orders that:
  1. The Member will receive a Letter of Reprimand and a copy will be maintained permanently in the Member's registration file and be considered at any future date by APEGA.
  2. The Member will be assessed, and will pay, a fine of \$500 within three (3) months from the date this Order is approved by the Discipline Committee.
  3. This matter and its outcome will be published by APEGA in any form or media deemed appropriate, but have regards to the established publication practices of APEGA in prior cases, and such publication will not name the Member.
  4. The Member will deliver a letter of apology to the APEGA Director of Examinations, and provide the Discipline Committee with a copy of said letter and proof of delivery within three (3) months from the date this Order is approved by the Discipline Committee.

Signed,

**[PROFESSIONAL MEMBER A]**, P.ENG.**KEVIN WILLIS**, P.ENG.  
APEGA Investigative Committee**TIM MORAN**, P.ENG.  
Case Manager, APEGA Discipline Committee

Date: May 14, 2018

# IN MEMORIAM

Between July 1 and November 20, 2018, APEGA received notices of the deaths of the members listed here.

## Past-Presidents

[LINDSETH, Roy, P.Geoph.](#)

## Life Members

BALASKI, Thomas, P.Geoph.

BARSS, David, P.Geol.

BAUCKMAN, Earl, P.Eng.

BROOKS, Dennis, P.Eng., P.Geoph.

BECKIE, James, P.Eng.

CHAKRABARTI, Samarendra, P.Eng.

CHAPEL, George, P.Eng.

CHEN, I-Hsiung, P.Eng.

CLEMENTS, Ian, P.Eng.

DUNN, Gordon, P.Eng.

FORSYTH, George, P.Eng.

HALIBURTON, James, P.Eng.

HALL, Kenneth, P.Eng.

HARDING, Paul, P.Eng.

HUGHES, Leslie, P.Geoph.

JONES, Verne, P.Eng.

KERR, Robert, P.Eng.

LAMMIE, Robert, P.Eng.

LEITCH, Angus, P.Eng.

MAASKANT, Garry, P.Eng.

MALLET-PARET, John, P.Eng.

MORRISON, Robert, P.Eng.

MORTENSEN, Paul, P.Geol.

PARSNEAU, Harold, P.Geoph.

POWELL, Russell, P.Eng.

PULLEN, Jack, P.Geoph.

RIPLEY, Harry, P.Eng.

SIDDERS, Ronald, P.Eng.

SLEMKO, William, P.Eng.

STEFOW, Paul, P.Eng.

SULLIVAN, James, P.Eng.

TAYLOR, Ronald, P.Eng.

WOOLLETT, George, P.Geol.

## Members

BISCHOFF, Ryan, P.Eng.

BURCA, Dennis, P.Eng.

CHAUDHRI, Zaheer, P.Eng.

CRAIG, Kenneth, P.Eng.

CUMMINS, Andrew, P.Eng.

DAY, Hugh, P.Eng.

DJIDJELLI, Ahmed, P.Eng.

DUFORD, James, P.Geol.

EGBOGAH, Emmanuel, P.Eng.

GENEREUX, James, P.Geol.

GLASHOERSTER, Robert, P.Eng.

HAGLOCH, Ralph, P.Eng.

HARDER, John, P.Eng.

HEEBNER, Stephen, P.Eng.

HISCOTT, Joseph, P.Eng.

HOCH, Ottmar, P.Eng.

LAM, Kenway, P.Eng.

MacDONALD, Howard, P.Eng.

MILLER, Paul, P.Geol.

MONTEMAGNO, Carlo, P.Eng.

NEUMANN, Walker, P.Geo.

NICHOLS, Laurier, P.Eng.

OLSON, Eric, P.Eng.

POHL, Michael, P.Eng.

POREMSKY, Karel, P.Eng.

SACK, Gerald, P.Eng.

SEIDEN, Jerzy, P.Eng.

STAGG, Terry, P.Eng.

STOIAN, Stefan, P.Eng.

TODEA, Ioan, P.Eng.