

ENGINEERS  
GEOSCIENTISTS  
New Brunswick



INGÉNIEURS  
GÉOSCIENTIFIQUES  
Nouveau-Brunswick

Winter 2020

# ENGEOActions

THE NEW BRUNSWICK SOURCE FOR ENGINEERING AND GEOSCIENCE NEWS



**1920 - 2020**  
Celebrating Our Centenary

*In This Issue:*

A New Venture for Earth Science at the University of New Brunswick



44th Annual New Brunswick Exploration, Mining and Petroleum Conference



Project Update: RJ Bartlett Engineering

*Feature:*

**1:1 Thought Leadership Interview with Robert Mysicka**

*Author of Who Watches the Watchman? The Role of the Self-Regulator*



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# ENGEOActions

THE NEW BRUNSWICK SOURCE FOR ENGINEERING AND GEOSCIENCE NEWS



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### Discipline

Information on disciplinary matters is now available on our website.

# Message from the President

Serge Dupuis, P.Eng.



It is hard to believe that a year has nearly come and gone. It has been an honour and a privilege to serve as the 100th President for the Association of Professional Engineers and Geoscientists of New Brunswick. As we enter our Centenary, I don't think I can underscore the importance of the role that we have been entrusted to deliver and execute upon faithfully, and without self-interest. Self-regulation is a privilege. Delegated by an Act from government, its purpose is to oversee professions by setting standards, outlining ethical behaviour, as well as establishing processes for continuous professional development. The overall objective? Protect public interest. As Members of the profession, we are duty bound to remember the importance of our roles. As President, like my counterparts before and after me, I take this role very seriously.

Next month, we will be hosting our 100th Annual General Meeting in Saint John on Friday, February 21st. In addition, we are pleased to say that we have two very important Professional Development seminars that are extremely timely. Privacy and cybersecurity are terms and concepts that we hear nearly daily in the news, but what does that mean for our professions. These sessions are bound to be thought-provoking!

Getting back to the role of Council, we are to faithfully execute the Act, By-laws and Rules of Council. In doing so, there are many activities that are carried out each day and each month. With that in mind, a lot of activity has taken place since my report in the fall edition of ENGEOActions. Some things that I would like to highlight include:

- Our Continued Competency Assurance Program has gone through some significant revisions and has evolved into the Continued Professional Development Program;
- We were a finalist in the Fredericton Chamber of Commerce Business Excellence Awards for the category of Community. We were thrilled that someone nominated us.
- In October we launched the much-anticipated Member Portal that gives Members a single source for information management, including an easy way to record your professional development;
- We activated a new online payment program;
- 2020 Celebration planning continues, and it was exciting to see that the Committee established a STEM program for schools in addition to the celebratory banquet that will take place on April 25, 2020, at the Delta Fredericton;
- Council has been very supportive of our three-year partnership on building resilience for engineers/geoscientists on climate change adaptation in the province of New Brunswick; and

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- Finally, our Guideline for Use of Professional Seal underwent its first revision since 2000. If you haven't reviewed the updates, I encourage you to do so.

2020 will mark an incredible year. One hundred years of regulating the engineering profession; and, 21 years regulating the geoscience profession. Both are remarkable milestones. And, if that were not enough, I am thrilled that our own Jean Boudreau, P.Eng. and Michael Parkhill, P.Geo. will each become Presidents for their respective national organizations, Engineers Canada and Geoscientists Canada. We have much to look forward to!

As this marks my last report for ENGEOActions, I sincerely want to thank my colleagues on Council, the countless volunteers I have worked with as President and of course our staff. We are incredibly fortunate to have so many volunteers who give of themselves and their expertise to help us regulate the professions. In addition, we have an incredibly talented and dedicated staff who work, often times, silently behind the scenes making things happen. Without all of them, we could not accomplish what we do.

Again, I have been extremely humbled to be the 100th President of APEGNB. It is a time that I will always remember and treasure.

Serge Dupuis, P.Eng.  
APEGNB President 2019

# Then...



# and Now...



**Past Presidents:** Back Row (l-r) - Brent Smith, P.Eng., Darryl Ford, P.Eng., David Crandall, P.Eng., Sheri Trenholm, P.Eng., Paul Campbell, P.Eng., Eldo Hildebrand, P.Eng., Bruce Broster, P.Geo, Brian Barnes, P.Eng.  
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**Three TD Insurance Meloche Monnex Scholarships of \$7,500 each.**

Each scholarship will assist the candidate to pursue studies or research in a field other than engineering. The discipline should favour the acquisition of knowledge which enhances performance in the engineering profession. Candidates must be accepted or registered in a faculty other than engineering for a minimum of two full-time semesters between September 2020 and August 2021.

**Application deadline:**  
March 1<sup>st</sup>, 2020

**Learn more about the scholarship and apply online at [engineerscanada.ca/scholarships](https://engineerscanada.ca/scholarships).**



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# Message from the CEO

Lia Daborn, CEO



As we enter 2020, we become more in tune with the significant milestone that the Association and its professions have reached. For engineers this means one hundred years of self-regulation. For geoscientists we have been administering self-regulation for 21 years. The significance of this cannot be overstated. And for that reason, we can't forget why the Association exists. Under the *Engineering and Geoscience Professions Act*, the Association of Professional Engineers and Geoscientists of New Brunswick, is charged with regulating two professions.

In October, APEGNB unveiled its new Member Portal which provides a single source for Members to own and manage their personal information, including Continuing Professional Development (CPD). Since the launch, we have heard from a few Members about the mandatory online reporting requirements of the *Continuing Professional Development Program*.

The requirement to maintain competency in the professions is not new. For many years, Members have been required to complete professional development. Prior to the Portal launch, those records of CPD activities were maintained individually but had to be provided in the case of an audit.

Self-regulation, regardless of profession – nursing, doctors, lawyers, engineers and geoscientists, etc. – is specifically concerned with ensuring the public interest is protected. An important aspect of the Act is the establishment and maintenance of standards of knowledge and skill. Professional development is an essential function of all practising professionals. In fact, many regulating bodies across the country already require this form of management for mandatory continuing professional development. We are bringing our processes up to date.

The Act requires APEGNB to ensure that those admitted (and thus legally permitted to use the terms “engineer”, “geoscientist” and “P.Eng.” or “P.Geo.”), have the required qualifications, adhere to the Association By-laws and Rules, maintain their continuing professional development and follow the Code of Ethics.

All of these requirements must be met on an annual basis, along with prompt payment of annual dues in order to obtain a license to practice each year.

Individuals who do not maintain their registration through the Association are not permitted to practise engineering or geoscience in New Brunswick and are removed from the Register. They must also return their seal upon request as it remains the property of the Association (see *Guideline for Use of Professional Seal*). Any former Member found to be practising without a license is subject to Discipline as per Section 13 of the Act.

APEGNB staff make every effort to ensure that Members receive timely notification when license renewals are due (January 1st of each year). The benefit of the new Member Portal is that it makes your information available at your fingertips at any time, no matter where you are.

I encourage you to become familiar with the Member Portal and start updating your continuing professional development file. Please let our office know if we can help in any way.

Lia Daborn, CEO  
lia@apegnb.com

# Editor's Message

Heather MacLean, CCO



## ***The Art of Celebration***

*We all love celebrations.  
After all they encourage us.  
They uplift us!*

As you can tell by the cover, our President's and CEO's messages along with our 1:1 Thought Leadership feature, the theme for the winter edition of ENGEActions is acknowledging 100 years of self-regulation of the engineering profession. While many may profess that celebrating self-regulation is in itself not "sexy", I would counter that it is quite the accomplishment and one that deserves great recognition.

Charles Conyers Kirby established the Association of Professional Engineers of New Brunswick in 1920 and served as the founding President. The objective of the organization was to regulate the engineering profession in the province in order to serve/protect the public. That first year, the Association registered 92 engineers. One hundred years later, we have approximately 6,000 engineers, geoscientists and Members-in-training. It is also important to note that we expanded our regulation to include New Brunswick's geoscientists in 1999. So, in effect, we are also celebrating 21 years of self-regulation of the geoscience profession!

Self-regulation has had, and continues to have, its challenges. Our 1:1 Thought Leadership interview with Robert Mysicka, a lawyer specializing in self-regulation, shares a lot of great insights on this very topic.

You will also see a number of quotes from Past-Presidents who shared their thoughts on self-regulation.

And of course, we continue to share information from our staff that directly impacts your profession(s): the use of digital seals, FAQs related to registration, information for MITs and their supervisors, information on diversity and inclusion, as well as how you can be involved in the future of our K-12 students and potential engineers or geoscientists!

We also have updates from our Branches and submissions from our academic partners and a project update from RJ Bartlett. It's another jam-packed issue.

I hope that you enjoy the winter edition of ENGEActions – our second publication! We had some great feedback from our first revamped publication in September. Please continue to share your ideas, insights and feedback with me.

And as always, if you have ideas for content, would like to contribute an article, or suggest someone to be interviewed for our One-to-One Thought Leadership Series, please reach out to me.

Heather MacLean  
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Heather@apegnb.com

# From the Desk of the DPA

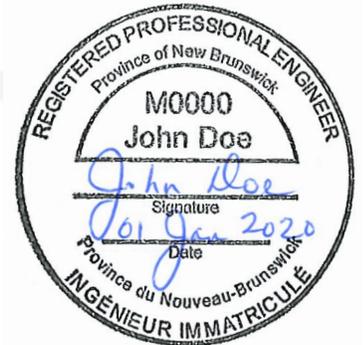
Carol MacQuarrie, P.Eng., Director of Professional Affairs and Registrar



## Digital Seals/ Signatures

APEGNB Council recently approved the revised *Guideline for the Use of Professional Seal*. This guideline replaced the May 2000 version and defines the expectations and professional obligations of Members and licencees in their professional practice. The most significant update to the Guideline is the requirement for digital signing certificates also called “digital signatures” for documents, plans and other professional work products that are finalized/issued in electronic form.

As background, all delegates are issued a physical seal at the time of registration. APEGNB Members are issued a perpetual seal at the time of initial registration; and, licencees are provided a physical seal each calendar year in which they are registered. Each seal is the property of the Association and is issued for the exclusive use of the Member/Licencee and must be returned upon request.



Authentication (i.e. the act of sealing) involves affixing a professional seal, signature and date. All final drawings, plans, reports and other work products pertaining to the practice of professional engineering/geoscience must be sealed by the individual who prepared or directly supervised the work.

Historically, an ink or “wet” impression of the physical seal was applied to a document and signed and dated across the impression. This manual authentication of documents provides high security because the handwritten signature is inherently unique and difficult to reproduce. Physical authentication continues to be an acceptable practice.



In today’s world, more and more professional work products are being created in an electronic environment. The electronic reproduction (scanning) of the manual seal is permitted, provided the signature and date are added separately by hand. Copies of the physical (paper or plastic) originals can be made by physical or electronic means.

For those professionals working in a fully electronic (“paperless”) environment, the APEGNB digital signature replaces the handwritten signature.

The digital signing certificate or digital signature is a security tag which identifies the author and secures the document.

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**When an engineer/geoscientist applies a digital signature to a document, it prevents anyone else from making any unauthorized or undetected changes to that document.**

Because the digital signing certificate is unique to the user (i.e. the engineer or geoscientist) who controls its use through a secure password, the certificate verifies that that user - and only that user - actually signed and sealed the document.

Additionally, professional work products that are digitally signed must also include:

- an electronic image of the professional seal;
- an electronic image of the signature; and
- electronic image of the date.

Again, these images are not the digital signature. They are applied in conjunction with the digital signing certificate. It is the digital signing certificate, “digital signature”, that is

**embedded in the document** that confirms the integrity, security and authenticity of the work product.

The use of the digital signature has several beneficial outcomes:

The Association is better able to protect the public interest by ensuring that only qualified individuals are issued digital signing certificates. Further, APEGNB is controlling in real-time who can use the digital signature of the Association.

The professional member is protected against alterations of their original work products, and, the certified timestamp may be useful in the context of potential litigation and copyright protection.

Additional benefits include modernization of the practice with increased efficiencies, and the flexibility to digitally seal non-traditional and emergent work products such as software codes and computer model outputs.

Since 2013, APEGNB has had a formal agreement with the Certificate Authority, Solutions Notarius Inc., to issue digital signing certificates for APEGNB through a subscription service. Notarius currently has agreements with most of the engineering/geoscience regulators in Canada. In New Brunswick, they are also the exclusive provider of digital seals to the Architects Association of New Brunswick (AANB).

For more information on the use of professional seal, please contact Carol MacQuarrie, P.Eng., Director of Professional Affairs and Registrar, at 451-9628 or [macquarrie@apegnb.com](mailto:macquarrie@apegnb.com)

## Celebrating the Season! APEGNB sponsored the Festival of Lights.

Hello APEGNB,

We wanted to send a quick note to thank you for your sponsorship for the Festival of Lights and making it such a success. This was our biggest year yet! Attached please find a photo of your tree, and be sure to check out a special video for our sponsors below.

Video link: <https://www.youtube.com/watch?v=TezSj7dzw2M>

Happy Holidays!  
Pine Grove Foundation Inc.

**Thank you from Pine Grove Foundation Inc.**



# Registration FAQs

Kate Sisk, Director of Registration



***So, you are enrolled as an MIT – great!***

*Now you are thinking of applying for P.Eng. or P.Geo. status. Here are some answers to FAQs to help you through the process:*

***Note, once you apply, staff will go through your file in detail and let you know if anything is missing!***

**Why do you ask for a new application form, if I'm already enrolled?**

We need to double check your contact information, and additional information is required for a professional application as opposed to an MIT application (e.g. occupational history, references, etc.)

The application form can be found [here](#).

**Do I need to resubmit my transcripts?**

You only need to submit transcripts if we do not already have your transcripts on file, or if you have since gained additional degree(s). If in doubt, check with us.

**Do I need to submit or resubmit my proof of residency or citizenship document?**

You only need to submit residency or citizenship if we do not have it on file. Resubmission is only required if it has expired. If in doubt, check with us.

**Who can act as a reference?**

Any duly registered professional engineer or geoscientist who is familiar with your work can act as a reference. For out of province work, this referee can be registered with another Canadian regulatory body. Referees from overseas are also acceptable if we can confirm that they hold the equivalent title to P.Eng. or P.Geo. in that jurisdiction. If in doubt, check with us.

All references must be able to attest to your work experience and/or character. They should be able to answer questions about whether you did the work, did it competently (at an entry to independent practice level), and that it was engineering/geoscience work.

**I've paid my MIT dues for the year already; do I have to pay the full application fees?**

Yes. You will be refunded any over payment in dues made during the fiscal year you applied. You can make the payment through our secure [website](#).

***Note: To use the payment portal you must use the email that we have on file for you.***

Once you become a P.Eng. or P.Geo., you will be assigned a new member number which you can use to log in for future dues payments, etc. You can make an e-transfer to [info@apegnb.com](mailto:info@apegnb.com).

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If you are having problems with the website, you can call our receptionist at 506 458 8083 or [info@apegnb.com](mailto:info@apegnb.com).

**Do I have to fill in the Occupational History page of the application form? I've submitted detailed work logs already.**

Yes. Complete the Occupational History page in the format requested. This summary is used to trigger the referees' memories. If you need to use a second page, feel free to do so! Applications that do not use this form can be delayed.

**Do I list my graduate degrees and pre-graduation work experience in this Occupational History?**

Yes. Any experience you would like us to consider should be listed on this page.

**Can I apply before I have written the National Professional Practice Exam(NPPE)?**

Yes, if you have signed up to write the NPPE, you may also submit your application for P.Eng. or P.Geo. Staff can then contact your references while we await the results. If, for whatever reason, you do not pass the exam, your application will be put on hold until you do. The application to write this exam can be found [here](#).

**I've applied for MIT or P.Eng./P.Geo. status in another province. Should I mention this?**

Yes, there is a question on this topic on the final page of the application form. You should include what other jurisdiction(s) you have also applied.

Failure to mention that you have applied elsewhere, particularly if your application was rejected, can be seen as a character issue, which may affect your entry to the profession.

This can also be beneficial! If you have written the NPPE in another province, we will accept those results.

**I don't want to receive any email from APEGNB. Can I opt out?**

You may opt out of non-essential communications, such as email from our Affinity Partners, on the final page of the application. However, as your regulatory body, we will communicate with you regarding regulatory notifications, including but not limited to, dues, voting, professional development, etc.

**I'm enrolled as both an EIT and a GIT. Can I apply for P.Eng. and P.Geo. at the same time?**

Yes, however, we do recommend that you contact me directly to ensure you are submitting the proper documentation for this dual designation.

Kate Sisk  
Director of Registration  
[Kate@apegnb.com](mailto:Kate@apegnb.com)

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# Continuing Professional Development

Stamatia Baker, Program Coordinator



## ***The National Professional Practice Exam***

I wear many hats as the Program Coordinator at APEGNB. One of these hats, as many of you might be aware, is running the Member-in-Training Program. I answer questions about registration, the Logbook Program, the Mentor Program, and the National Professional Practice Exam (NPPE), then help MITs sort out their P.Eng./P.Geo. applications at the other end. Over the next few issues of *ENGEOActions* I'd like to focus on different aspects of the MIT Program. This should be of equal interest to MITs and their supervisors, so stay tuned for more articles over the coming months.

The NPPE seems like as good a place to start as any, since *all applicants for P.Eng./P.Geo. Membership must pass the exam*. If that sentence made you say, "hey wait, I didn't have to write the exam!", that is because that hasn't always been a requirement. There was a period, roughly from 1986 – 2006, when *University of New Brunswick* and *Université de Moncton* graduates were not required to write the NPPE. This was because they had passed an equivalent exam at their alma mater. That has changed and university students no longer write the Professional Practice Exam (PPE) as part of the law & ethics course. As a result, current applicants must write the National Professional Practice Exam and a colleague who graduated from UNB in 1999 or 1989 did not.

The NPPE is written five times per year: February, April, June, September, and October and consists of 110 multiple choice questions: 100 operational, 10 experimental. These experimental questions allow for the evaluation of the experimental items for potential use in future exams. These items are placed within the exam and are not identifiable as experimental questions. Additional time has been built-in for these experimental questions; you have 2.5 hours for this exam.

The exam was once written on paper in Fredericton (or other provincial capitals by request) on a Monday morning at nine a.m. With technology, the exam is now written in computer testing centres in cities across Canada (including Fredericton, Moncton, and Saint John) in morning and afternoon sessions over the course of three days (Monday, Tuesday, or Wednesday). For candidates writing in remote locations or overseas, a virtual proctoring option is available upon request.

There are other perks to the new system: candidates can flag questions they want to revisit, write notes on questions, increase/decrease font sizes, and toggle between English and French questions. Previously applicants had to order an exam in one language or the other. Candidates can also purchase two 50-question practice exams made up of retired NPPE questions. The look and feel are identical to the real exam format, helping to reduce test anxiety. Users also get a break-down of their strengths and weaknesses, as well as notes on what questions they got wrong, and why. This helps students to take stock of where they're at in their studies and where they need to focus their attention before the exam.

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As for the contents of the exam, there is a link to the [syllabus](#) on the Association of Professional Engineers and Geoscientists of Alberta (APEGA) website via the [application form](#). The exam tests six different topics:

- Professionalism;
- Ethics;
- Professional Practice;
- Law for Professional Practice;
- Professional Law; and
- Regulation of Members & Discipline Processes.

There are between seven and 32 questions per topic appearing on the exam. The content can be learned with the help of two textbooks: Gordon C. Andrews, Patricia Shaw, and John McPhee's *Canadian Professional Engineering and Geoscience: Practice & Ethics*, 6th edition, and Brian M. Samuels & Doug R. Sanders' *Practical Law of Architecture, Engineering, and Geoscience*, 3rd Canadian edition. The textbooks are available for purchase from the APEGNB office, from APEGA, or from third-party retailers such as Amazon or Chapters/Indigo. These texts are not exhaustive. You may find different texts that cover the syllabus material, and this is OK. Use the syllabus as your study guide – you do not necessarily have to memorize these two texts.

There is flexibility in how students learn the material – if they choose to read D.L. Marston's *Law for Professional Engineers, Canadian and Global Insights*, 5th edition, and manage to cover all of the same syllabus topics as the Samuels & Sanders book, they are welcome to do so. Such is the difference between recommended and mandatory texts. There are also various supplemental free study materials

which flesh out certain topics – the APEGNB Act and By-laws; booklets from the Canadian Intellectual Property Office on copyright, industrial designs, patents, and trademarks; the NB Occupational Health & Safety Act, etc.

Keep in mind that although we ask candidates to read New Brunswick-specific materials so that they know the rules when they begin to practise as professionals in the province. The exam, however, is national in scope and so the questions will not be NB-specific.

Also, the supplemental materials are precisely that – supplemental. Reading these free online resources is not a replacement for studying the recommended textbooks, and since the two books cover different topics, having access to both is highly encouraged, whether the candidate reads them cover-to-cover or not.

In addition to the textbooks, free study materials, and practice exams, there is another resource: the *NPPE Review Seminar*. This four-hour presentation includes an overview of the material hosted by none other than current APEGNB President Serge Dupuis, P.Eng. (with yours truly in a supporting role), the opportunity for questions and group discussion, as well as a meal all for the low, low price of \$23.00, taxes included. We have seen an increase in the number of successful candidates in the four years we've been offering the seminar (two exam sessions with a 100% pass rate), making it another great resource for our prospective professionals. This is not a replacement for studying, however!

What happens on the other end, you might ask? The exam results are reported pass-fail, so unfortunately successful applicants do not find out how well they did, simply that they scored at least 65 percent and that the Director of Registration has been notified of the results. Those who were not quite so fortunate do get their results, along with a “mastery report” detailing their strengths and weaknesses so that they can study for their next attempt in a more concentrated fashion. Most candidates who were not successful upon their first attempt are successful upon their next attempt. A failure on your first attempt is not a cause for concern: it does not serve as a permanent blemish on your record; your employers and peers will never know that it took you a few attempts to clear that hurdle. The only important thing is that you did, in the end, learn the material and succeed, and that you will have the knowledge to be an ethical and professional engineer or geoscientist. Note: those who fail the exam four times (a very rare occurrence!) must submit additional information to the Board of Admissions before they will be permitted to write the exam again.

Ready to write the NPPE? You can find the application form, candidate guide, syllabus, and list of exam centres all in [one handy PDF](#). Don't forget that the application deadline is generally one to two months in advance of the exam date, with virtual proctoring applicants having to apply one week before the general deadline. So, for example, the deadline has already passed for February 3rd - 5th, 2020, but registration is open until February 28th for the April 6th - 8th, 2020 exam (with virtual proctoring candidates needing to apply before February 21st).

Stamatia Baker  
stamatia@apegnb.com

**2020 National Professional Practice Exam Dates**  
Registration/booking deadline  
February 28, 2020  
May 1, 2020  
July 17, 2020  
October 2, 2020

# Diversity & Inclusion Update

Laura Douglass, Diversity and Inclusion Coordinator, MIT



***This past fall we had many initiatives that reached our Members.***

In September, we kicked off the Women in Science, Engineering, Technology, and Trades (WinSETT) Leadership series in Fredericton, continuing the series of six workshop sessions through October and November. These workshops were in high demand with many Members benefiting from training on a variety of topics including emotional intelligence, negotiation, and effective communication. If you are interested in completing diversity training within your workplace, they also provide special trainings topics which are very effective and are open to all genders.

We also began the first Eng/Geo Women Saint John Lean In Circle. It is an opportunity for Saint John Members to meet, learn from one another and create new networking and mentorship opportunities. Plans to expand to other regions are coming, so watch for more information.

The Graydon Nicholas and Jocelyne Roy-Vienneau Scholarships were awarded to three very deserving students, and we're thrilled that we're able to help to break down barriers that may be faced by indigenous peoples or women studying engineering.

We also observed a somber anniversary this past December, as 30 years have passed since the Montreal Massacre – when a gunman entered École Polytechnique de Montreal and killed 14 women, 12 of whom were engineering students. This act of violence against women is something that we take time each year to remember. This year we did a feature article with Christine Plourde, who was a student at the time and attended one of the funerals as president of the UNB Civil Engineering Society. If you missed it, you can read her article [here](#).

Within the APEGNB office, we are undertaking an internal diversity and inclusion assessment, and we look forward to sharing some of our findings with you once it is completed. One immediate action is to obtain baseline data about the diversity of our Members. Our diversity goal is to reflect the demographics of the population of New Brunswick within our Membership. We won't be able to tell if we are making progress on this objective unless we are able to measure our Membership diversity.

Our current project is our member demographic [survey](#). It is completely anonymous, and you will have the option to opt-out of answering any questions that you are not comfortable with. By gaining a better understanding of who our Members are, it will enable us to provide better programming. We thank you in advance for your participation!

The last update that I have for you is that we are changing up our Diversity and Inclusion Reception at this year's annual general meeting. We want to use this opportunity to share additional professional development resources, so we'd like to invite you to a panel discussion which will focus on the Business Case for Diversity within the Workplace.

Laura Douglass  
laura@apegnb.com

Join us for our  
**2020 Annual Meeting**  
Saint John Trade & Convention Centre  
February 20 - 21, 2020

To Register, please use our online Payment Page by clicking [here](#). Registration Deadline: February 14, 2020



**ENGINEERS  
GEOSCIENTISTS**  
*New Brunswick*



## Robert Mysicka

Author of

*Who Watches the Watchman?  
The Role of the Self-Regulator*

To start our centenary year of self-regulation the engineering profession and our 21st year of regulating the geoscience profession, I thought it only appropriate to speak to an expert in this area. In this installment of our 1:1 Thought Leadership Series, I interviewed Robert Mysicka, a lawyer with McIntyre Law Associates of Ottawa. Robert is a featured writer on this topic, and I wanted to get his thoughts on where self-regulation is headed.

**MacLean:** In cooperation with the CD Howe Institute, you issued a Research Paper in 2014 entitled, *Who Watches the Watchmen? The Role of the Self-Regulator*. In that publication, you list some features that generally assist in advancing a framework of self-regulation that is consistent with public interest. Would you say they still apply? If so, how?

**Mysicka:** When I think of self-regulation that is consistent with the public interest, I often return to civics 101 and the basics of good governance. Self-regulation is, after all, a general grant of power to make and enforce rules—not too different from what governments do. The same lessons that apply to democratic, inclusive governments should apply to self-regulatory organizations (SROs). Governments (and self-regulators) should have a good procedural framework for the rules that they enforce. That means being transparent, consulting with stakeholders, developing clear rules and a fair mechanism for challenging decisions made about those rules. SROs need to be accountable not only to their Members but to the general public who are ultimately served by their Members.

**“Like governments whose actions can be reviewed by the courts, SROs need to have some oversight by independent third parties to ensure there are effective checks and balances on the exercise of power.**

Substantively, like governments bound by constitutional convention, cultural and political histories, SROs should not lose sight of the fact that their primary purpose is to serve the public interest. Where self-regulators place restrictions on entry or create barriers to economic participation, these actions should be tailored in such a way as to be minimally restrictive to competition. Decisions to create restrictions should always be rationally linked to a demonstrated need for public protection. Consumers should have faith in the actions of the regulator to protect their interests, not the interests of the regulated.

**MacLean:** What trends and issues are you seeing emerge in the area of self-regulation?

**Mysicka:** Mostly what we see is a rise in self-regulation. This is not unexpected given the clear benefits of flexibility, autonomy and standing it offers to professionals. One hundred years ago there were only a handful of these organizations. In 2020, we are looking at between 20-30 percent of workers in OECD economies requiring a licence to practise. The licences for these professions are usually controlled by an SRO. It is, therefore, more important than ever to promote good governance structures for newer SROs that do not have the benefit of experience in regulating their Members.

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There are also some outlier situations. For example, in 2016 British Columbia (BC) pulled the plug on self-regulation for realtors in that province. I think this is a good case study where an SRO became too comfortable amidst runaway returns in a hot real estate market. SROs need to always remember that self-regulation is a privilege, not a right. In BC there were concerns expressed about dual representation, which remains a concern in other provinces. The rules for SROs need to be fashioned out of an overarching concern for the interest of the consumers [public].

**“If the rules permit (or even facilitate) situations of self-dealing they need to be reviewed and changed.”**

**MacLean:** In a self-regulatory environment, how important is transparency of actions? For example, what are you seeing around disciplinary actions of Members?

**Mysicka:** Transparency is critical. Regulators will often publish in-progress or ongoing cases of discipline on their websites. Public participation or ability to participate in these types of proceedings is mixed. The hearing and disciplinary systems of self-regulators should be as open-door as possible while acknowledging that in certain cases, sensitive and confidential information will need to be protected. Features of natural justice such as the right to be heard, right to a full defence and non-biased adjudicators are especially important in tribunals where peers are responsible for trying peers.

**MacLean:** Public interest or public accountability is certainly a critical part of self-regulation, what are examples of self-regulatory bodies that are demonstrating “how it should be done?”

**Mysicka:** I don’t think there is any one clear example of an SRO that demonstrates how it should be done. More importantly, the question is whether self-regulation (and the statute creating it) are properly vetted before it is enacted by politicians. For example, in Nova Scotia, the provincial government sought an opinion from the Competition Bureau before enacting the Dental Hygienists Act in 1995. A

draft of the legislation was reviewed by the Commissioner at the time and recommendations were made, particularly surrounding the issue of self-initiation (i.e. allowing dental hygienists to offer services without the supervision of overseeing dentists). It is these types of consultations that are critical if SROs are to remain relevant as publicly accountable agencies. The goal should be to minimize restrictions, and this is best done before SRO legislation is enacted.

**MacLean:** At the time of this interview, there is a case of great interest that many of us are watching - the nurse in Saskatchewan who has been disciplined by her regulatory body for expressing, on Facebook, her dismay over her grandfather’s care. What message or warning does this send to regulated professions?

**Mysicka:** Without knowing the specifics of that case, I would say this goes back to my comment about SROs and good governance. In any free democratic society, there is always going to be some tension between the value of free speech and other competing objectives, such as preventing the dissemination of hateful, divisive and misleading information.

Likewise, in a regulated profession, Members should be free to speak openly and frankly about their calling, keeping in mind that their words should not reduce the public’s faith in their institution or their profession and should not foster a negative perception of their colleagues. For SROs, the challenge is to strike a balance between the competing objectives of free speech and ensuring public faith in the practice or institution is not undermined by its Members.

**MacLean:** Sticking with this theme, professional misconduct is a serious issue, what can, and should we be doing to inform and educate Members of new and changing technology issues that can lead to this finding?

**Mysicka:** My advice to young Members of the legal profession is not to use social media period. Its pitfalls are many and advantages are few. That being said, with the prevalence of social media platforms and online advertising it is inevitable that many professionals (and others) have turned to Twitter or Facebook to promote themselves and reach out to an audience much larger than the traditional referral-based network.

I think the challenge for SROs is not to become overzealous in their monitoring of online content for what is often treated as quasi-private social media platforms. It is so easy to post on Twitter without thinking of the implications that this type of activity should, absent special and extraordinary circumstances, be seen as harmless social bantering. The more troubling cases that should be reviewed are ones where regular false or misleading statements are being proliferated, as in the 2016 US Presidential Election. Social media needs to adjust to the era of “fake news” and if it fails to act, regulators will need to develop strategies for tackling the dissemination of false information.

**MacLean:** Issues around self-regulation are not new. Google searches reveal articles dating back to 2011, and perhaps earlier, that lead you to articles discussing and questioning if self-regulation is under threat. In

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your expert opinion, is self-regulation really under threat? Or, is it like most things, changes are needed to advance governance as we change over time?

**Mysicka:** I don't think self-regulation is under threat. Certainly, there are calls for more oversight but the premise of self-regulation at least for the older professions such as law and medicine I think is widely accepted. To play devil's advocate against some of my comments, SROs do have a strong argument against direct government regulation: it keeps them insulated from the ever-changing winds of politics and political influence. In a time when governments are viewed with increasing skepticism maybe it is a good thing that we have bodies of professionals who are truly independent of government. On the other hand, there are many examples of SROs overstepping their bounds with rules aimed at limiting competition. These are the more troubling cases that need to be addressed head-on by antitrust and competition authorities. The right to self-governance is a privilege and should be exercised delicately by the bodies entrusted with rulemaking.

**MacLean:** What is your advice to Members of self-regulated professions? (In other words, what should they do to ensure that they are adhering to laws, by-laws, codes of ethics, etc. related to the regulation of their profession?)

**Mysicka:** For starters, they should be apprised of those rules and practise continuing education on the topics of professionalism and ethics. Many of the rules relate to issues of

ethics and these can be very difficult and often do not have one answer.

I remember a mentor of mine said that they call it a "practice" for a reason – you get better at the profession as you practise it. That I think was the idea behind many of the classical professions where people learned a lot by doing different things and encountering different situations. The Law Society in my province has a helpful hotline for issues or questions that practitioners have regarding professionalism and professional ethics. I think it is good practice for SROs to have such a hotline or other means by which professionals can ask questions and learn from the experience.

**MacLean:** With the increased scrutiny on self-regulation, what is your advice to existing self-regulatory bodies operating in Canada?

**Mysicka:** I think taking a look at existing practices and seeing where improvements can be made takes a certain willingness to reinvent oneself. The same should apply to SROs – if a certain practice can be modified to enhance competition and offer more choice to consumers why not allow or implement it? We live in a theoretically transparent society and government itself is under a microscope – take a look at the federal ethics commissioner and the stringent disclosure obligations that politicians are under. I see no reason why SROs should be treated differently when in reality they are a kind of specialized government for a particular area of the economy. Practices or rules that do not make sense in an open, competitive economy should be scrapped.

**MacLean:** Are there examples of self-regulated industries that you believe are leading the way?

**Mysicka:** I would point to dental hygienists in Nova Scotia seeking input before being granted self-regulation. I am not aware of other provinces that have done this, but it is one example that stands out.

**MacLean:** I would like to thank Robert for taking the time to participate in this interview. His experience and insights can provide a wealth of information.

*If you have a suggestion for the 1:1 Thought Leadership series, be sure to reach out directly ([Heather@APEGNB.com](mailto:Heather@APEGNB.com)). I would love to get your suggestions.*

## Quotes from Past Presidents

*"Self-regulation of the Professions of Engineering and Geoscience is a public trust that has been delegated to APEGNB and its Members in exchange for the Professions' commitment to the people of New Brunswick to establish and maintain ethics, standards, and skills "in order that the public interest may be served and protected." It is as necessary and as relevant today as it was 100 years ago when APEGNB took on this responsibility."*

Brent Smith, P.Eng.

*"I believe self-regulation is important for professional engineers and geoscientists due to the broad reaching work we do, and we are responsible to protect the public interest with respect to legal, ethical, environmental and safety concerns in everything we do. It is essential that we each take ownership of our responsibility to work within the limits of our own knowledge and capabilities, and to engage the knowledge and capabilities of other professionals where appropriate to ensure our work meets these expectations. Being regulated by your peers adds an additional layer of accountability to each other, resulting in a culture of professionalism and excellence to which we all aspire."*

Christine Plourde, P.Eng.

# Future Ready New Brunswick

Laura Douglass, Diversity and Inclusion Coordinator, MIT



We want to ensure that when ready to choose a career path, our K-12 students do so knowing what a future in engineering or geoscience could look like.

We've chosen to partner with *Future Ready NB* through the New Brunswick Departments of Education and Early Childhood Development and Post-Secondary Education, Training and Labour. As this may be new for many, we thought we would provide a few questions and answers!

## What is Future Ready NB?

The *Future Ready NB* [Reimagining Education] initiative aims to provide all New Brunswick students - anglophone and francophone - with experiential learning opportunities prior to high school graduation. New Brunswick aspires to be a leader in providing and expanding access to authentic, hands-on experiential learning opportunities for all learners. This initiative will position New Brunswick as a place where students and employers have access to rich experiential learning opportunities.

## What is Experiential Learning?

Experiential learning is the action of learning through hands-on, real experience and reflecting on the process.

Examples include apprenticeships, clinical experiences, co-curricular activities, field work, internships, practicums, service learning, volunteering, site visits, job shadowing, Co-ops, Virtual Mentorship Co-ops, Essential Skills Achievement Pathway, classroom engagement sessions from community partners and project-based learning.

## What can it do for you?

- Help close potential gaps in the skills needed to work in your business and industry
- Provide an opportunity to work directly with Members of the future workforce
- Help increase community connectedness amongst youth
- Provide youth with an opportunity to build and grow their soft skills
- Help you build a local talent pool

## Interested in Participating?

*Future Ready NB* is looking for interested business and community partners who would be willing to present information about business and career opportunities or, have students visit their place of work.

There are various avenues for participation, such as:

- *Site Visits*: Provide local schools an opportunity to visit your place of work and connect what you do to what they are learning. You will be provided with information to help you prepare an engaging visit for the students.
- *School Based Engagement Sessions*: Speak directly to students about what your business does.
- *Co-op Work Placement*: Provide students with an opportunity to integrate in-class learning with practical experience, explore career options, develop skills, and network with employers like yourself.
- *Virtual Mentorship Co-op Placement*: Be a subject matter expert via a virtual platform by giving students 1-2 hrs a week of your time. Currently, the virtual mentorship co-op is available in anglophone schools only.

If you are interested in participating in this program through APEGNB, contact Laura Douglass via email ([laura@apegnb.com](mailto:laura@apegnb.com)) or phone (506-451-9574) to confirm your interest.

Your expression of interest will be sent to the Future Ready NB team for action. They will seek interested schools/teachers in your area.

## Questions?

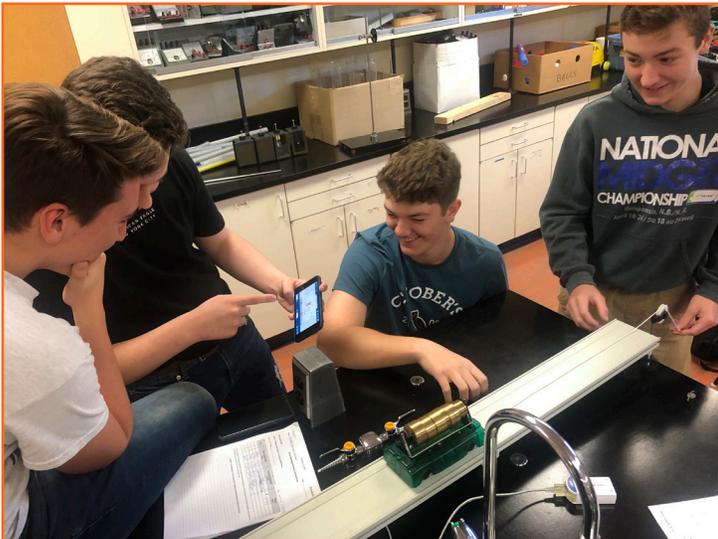
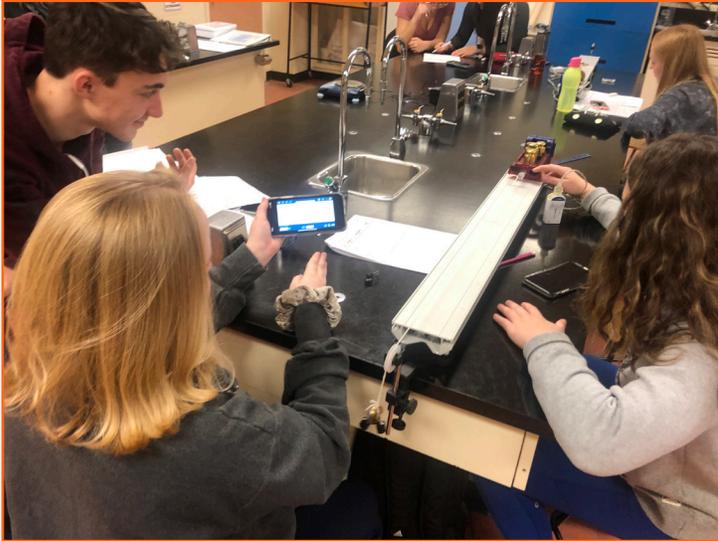
If you have questions regarding the Future Ready NB initiative, we invite you to contact:

Ransford Lockhart (Anglophone Sector)  
Experiential Learning Lead  
Department of Education and Early Childhood Development  
(506)- 444-5677 • [ransford.lockhart@gnb.ca](mailto:ransford.lockhart@gnb.ca)

Patricia Bonneau (Francophone Sector)  
Agente pédagogique provinciale en développement vie-carrière  
Ministère de l'Éducation et  
du Développement de la petite enfance (N.-B.)  
(506) 453-3968 • [patricia.bonneau@gnb.ca](mailto:patricia.bonneau@gnb.ca)

# STEM Kennebecasis

By: Mrs. Colleen Logan, Science Teacher, SPR of Instructional Leadership,  
Kennebecasis Valley High School



## STEM Kennebecasis

Dear APEGNB,

I am one of the teachers at Kennebecasis Valley High School who was awarded a STEM Inspirational Teacher Award in the spring. The equipment that I bought with that prize money has arrived and my students are having a blast figuring it all out! I've attached a few photos of them in the lab this morning (2019) using it to investigate Newton's second law of motion.

Among other items, the most valuable purchase in my opinion was a set of PASCO Airlink Bluetooth adapters that allow us to send data from our existing wired digital sensors (like the motion sensors used in today's lab) to free software on the students' phones. Before buying these adapters, I was only able to run two or three digital lab stations at a time, and now I can run eight! These investigations are so much more engaging for students when they can work in smaller groups, see data being collected live to their phones, and interpret and analyze that data so much more quickly than they could using our old equipment. I am so excited to be able to incorporate additional investigations into my physics courses as the semester progresses in the time that has been freed up by using this new system.

Thank you so much for your association's recognition of the role that educators play in helping to produce future generations of engineers!

Mrs. Colleen Logan  
Science Teacher  
SPR of Instructional Leadership  
Kennebecasis Valley High School



# 44th Annual New Brunswick Exploration, Mining and Petroleum (EMP) Conference and Trade Show

By: Michael Parkhill, P.Geo.



The EMP field trip participants at Long Beach, Fundy Trail parkway.

The 44th annual Exploration, Mining, and Petroleum (EMP) conference and trade show was held at the Delta Hotel Fredericton on October 27-29, 2019. The conference hosted 263 delegates and is a cooperative effort between the New Brunswick Department of Natural Resources and Energy Development (NBNRED), the New Brunswick Prospectors and Developers Association (NBPDA), and the New Brunswick Branch of the Canadian Institute of Mining, Metallurgy, and Petroleum (NBCIM). The goal of the conference is to highlight current government and industry activity in the province and provide a venue to meet and discuss opportunities.

The program started with a field trip led by Susan Johnson, Adrian Park, Toon Pronk, and Serge Allard of the New Brunswick Geological Survey. The 30 delegates were treated to spectacular geology and panoramic views of

the Caledonia Highlands along the Fundy Trail Parkway. The Caledonia Highlands along the Bay of Fundy coast of southeastern New Brunswick are part of the Avalon terrane, which represents the remains of a microcontinent typified by Late Proterozoic arc-related volcanic and intrusive rocks and overlying Cambrian marine sedimentary cover rocks. Stops along the way highlighted the structural complexity of both the basement rocks of the Avalon terrane and its lower Paleozoic cover sequence. Exposures of Late Permian to Early Triassic sedimentary rocks deposited in the Fundy rift basin and a lunch stop at the Long Beach post-glacial deltas rounded out a beautiful autumn day. The Parkway, Geo-tourism at its best, is a world class tourist attraction which starts

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Field trip leader Susan Johnson of the New Brunswick Geological Survey explains the geology of the Fundy Trail Parkway at the Melville Beach lookout. The rocks in the foreground (southwest end) are Triassic red beds and the rocks in the distance are Neoproterozoic volcanics.



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Albert Vickers (right), President of the New Brunswick Prospectors and Developers Association presents the Ken Whaley Award for meritorious service, to prospector Bill Carter at the EMP Banquet.

the companies currently exploring for minerals in New Brunswick, as well as some talks on current mine planning and reclamation projects.

Tuesday's Geoscience session included 13 talks on the geology of New Brunswick highlighting government and university projects and updates and a session by the Nova Scotia Geological Survey.

The conference program and abstracts as well as the Information Circular 2019-1 "Geoscience Project Summaries and Other Activities 2019" can be found [here](#).

At the Banquet the Honourable Mike Holland, Minister of Natural Resources and Energy Development, addressed the attendees with an update on the government plans and current issues. In addition, the NBPDA presented two awards;

The Prospector of the Year Award went to Hermel Roy of Alcida for his recent Jacquet River base-metal discovery, and

The Ken Whaley Award for meritorious service to the mineral industry of New Brunswick, went to long-time Prospector Bill Carter of Sussex.

The banquet was followed by EMP Pub Night, highlighted by the music of local Fredericton band "The Stratified" who played two sets of their own music and a few covers. The band includes New Brunswick Geological Survey geoscientists, Erin Keith, Serge Allard, and Will Gilmore.

The 45th annual Exploration, Mining, and Petroleum conference and trade show will be held at the Delta Hotel in Fredericton, October 25-27, 2020.

in St. Martins and by 2020 is going to link up with Fundy National Park. The field guide Geoscience Report 2017-5 "The Fundy Trail Parkway geology and scenic coastal drive, Bay of Fundy, southern New Brunswick" is available for free download on the [NBNRED website](#).

Tom MacFarlane, Deputy Minister, welcomed delegates on Sunday evening in the Trade Show and display area. The 19 booths included Exploration Companies, Service Industry, consultants, and other organizations. In addition 21 prospectors had displays of their properties available for option to exploration companies. Geological Survey projects and university research were also on display.

Technical sessions included a general session on Monday highlighted by talks on the Canadian Minerals and Metals Plan, working with First Nations, and an update on professional registration requirements and the new on-line Member Portal for Continued Professional Development tracking by the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB).

The NBCIM Exploration and Mining Session on Monday afternoon focused on updates from several of



"The Stratified" playing EMP Pub Night.

# A New Venture for Earth Science at the University of New Brunswick

By Dr. Ann C. Timmermans, Quartermain Earth Science Centre, UNB

*Creative ideas to provide quality engagement opportunities in field geology for first-year university students*

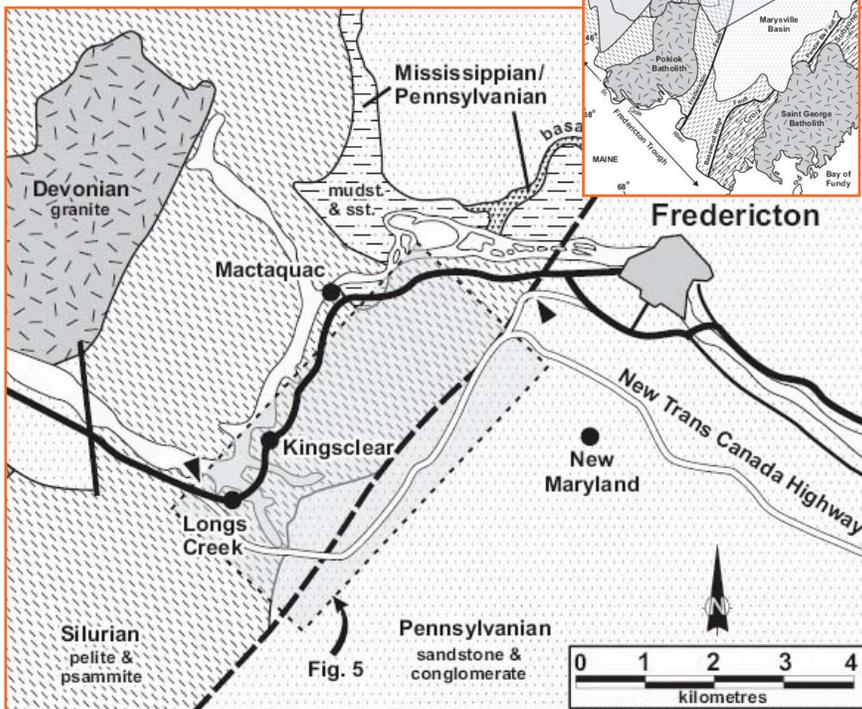


Figure 1: Geological map of the Fredericton area, southern New Brunswick, showing example field stops to Silurian meta-sedimentary rocks, Carboniferous sedimentary and volcanic rocks, and Devonian plutonic rocks. Modified from Park and Whitehead 2003.

challenging task in a class of over 200 students to create settings that adequately address the scientific inquiry-based problem solving activities. Providing quality experiences in the field is also challenging with increasing safety concerns and decreasing budgets. Since 2015, UNB Earth science has applied a new creative idea to provide field experience to first-year students for the purpose of engaging with educators in the field and promote Earth Science literacy.

The Environmental Earth Science lecture (ESCI1012) and lab (ESCI1017) course is offered to first-year students in the fall term. Preliminary class surveys confirm that the overwhelming majority have had no previous experience with the Earth Sciences. The Earth Science department has designed a one-day field experience for up to 50 interested students, filling up one big yellow school bus. Two Earth Science professors, one Instructor and several enthusiastic graduate students volunteer their time to embark on a journey to several field stops in the Fredericton area. Our objective is to offer new students an opportunity to learn through direct experience in the natural world, and from their peers among a community of geoscientists. Figure 1 presents a geology map (modified from Park and Whitehead 2003) with example field stops for the fall 2019 class. Without any formal assessment, students can focus on learning in a stress-free environment. Our learning goals include: the introduction of

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Figure 2: Educators use maps to provide geological context at each field stop (top). Students explore roadside geology at the weigh-station along Highway

The Earth Science and Geological Engineering programs at the University of New Brunswick have prioritized the fundamental need for field experience in the curriculum. An introduction to field skills to university students in their first-year can create opportunities for first-hand experiences that encourage an appreciation for the outdoors, critical thinking, long-term retention, potential for transformative learning and a general positive attitude toward Earth Science and Earth Science Literacy<sup>1</sup>.

Like many Canadian universities, science and engineering students experience their undergraduate science courses in large lecture hall and lab settings. Educators endeavour to provide rich content and engage students in active scientific investigation – it is a

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concepts that promote a basic understanding of fundamentals of Earth's many systems, an introduction to basic field equipment, communication about Earth Science in a meaningful way, and learning how to make informed and responsible decisions regarding Earth and its resources.

Our morning begins with roadside geology to see fascinating Silurian and Carboniferous rocks in the context of regional geological history. Silurian rocks along Highway 2 include meta-sandstones to shales folded and deformed from

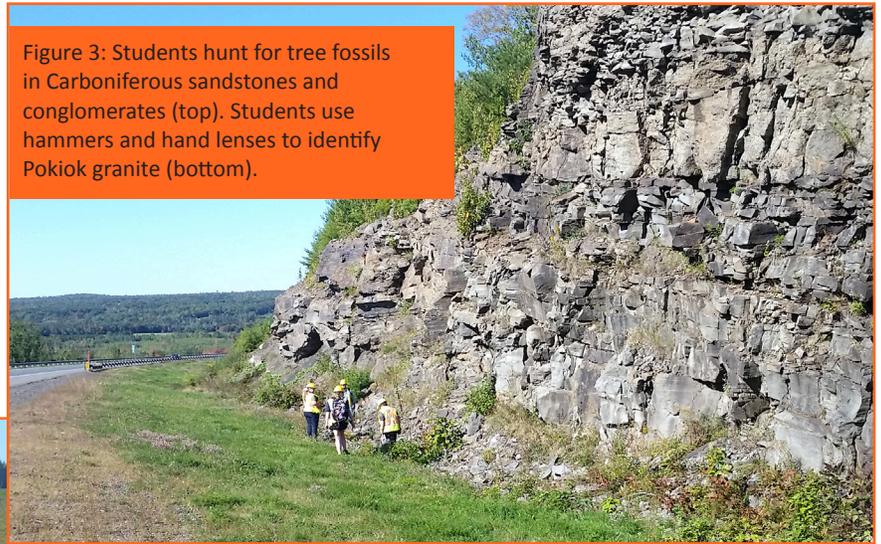


Figure 3: Students hunt for tree fossils in Carboniferous sandstones and conglomerates (top). Students use hammers and hand lenses to identify Pokiok granite (bottom).

offers many employment opportunities and plays an important role in the Canadian economy. Our final stop takes the group to Carlisle Quarry, where a Carboniferous volcanic eruption emplaced several basalt flows. Students explore these rocks in the context of geological history, as well as the economic use for industrial materials and the geological engineering principles in constructing an active quarry.

the Acadian orogenies (Fyffe 1995). Students hunt for graptolite fossils while learning about stratigraphy (Figure 2), and observe textural features left behind from the eventual closure of the ancient Iapetus Ocean during the initial formation of Pangaea. Students later compare folded Silurian rocks to horizontal sandstones and conglomerates of the Carboniferous Period (Figure 3). When the supercontinent Pangaea<sup>2</sup> was assembled, the Fredericton area was a lush environment thriving with active fluvial systems and forests of Calamites trees. Further along the highway, students hammer away at granitic rocks from the Pokiok Pluton (Figure 3), an extension of the Central New Brunswick Batholith emplaced throughout the Devonian Period<sup>3</sup>. Many students are learning for the first time about the basic processes behind the formation of the three rock groups in the context of the finishing stage of the Acadian orogenies.

Later, students are exposed to the world of economic geology at the St. George Mine, and discuss the benefits and challenges of mining and resource development for a growing population. From exploration, extraction, processing and reclamation - the mining cycle

From the formation to the breakup of Pangaea with applications to the modern community, students are exposed to the dramatic geological history of the Fredericton area in one interactive day in the field. As educators, we can witness enhanced cognitive development in real-time as students engage with their peers and graduate students in active field study. Field experience provides new dimensions to education through “teachable moments” that seldom occur in the large classroom setting. We also recognize that an appreciation for Earth Science literacy is applicable to all disciplines with long-term impacts for students and for the Earth Science profession that will transcend into society.

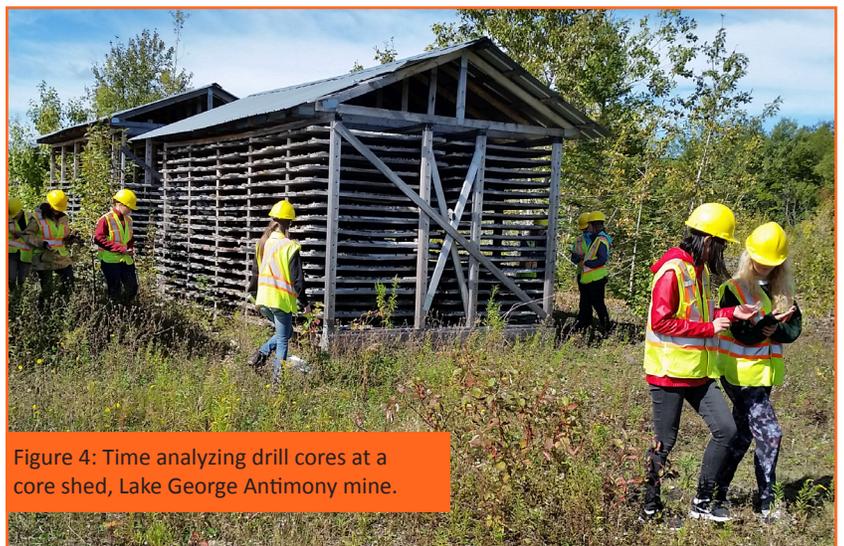


Figure 4: Time analyzing drill cores at a core shed, Lake George Antimony mine.

1. Mogk and Goodwin 2012
2. Park and Whitehead 2003
3. O'Brien 1977



# UNBSJ Joins Canadian Federation of Engineering Students

By Jayme Girouard, UNB

As of last year, the University of New Brunswick – Saint John Campus (UNBSJ) has been accepted as an official member of the Canadian Federation of Engineering Students (CFES). As a new member of CFES, it is vital that at least one member of the UNBSJ Undergraduate Engineering Society attend the CFES Presidents’ Meeting.

The CFES holds five annual events: Presidents’ Meeting (PM), Conference on Diversity in Engineering (CDE), Congress (now known as Canadian Engineering Leadership Conference CELC), Conference on Sustainability in Engineering (CSE) and the Canadian Engineering Competition (CEC).

This National transfer of knowledge provides students with tangible, real-life examples and advice on how to improve their personal and professional skills, their engineering societies and their Faculty as a whole. During this conference there was information shared based on what the CFES has been working on so far this year, and different sessions to improve the CFES and to further develop engineering societies. There was also a general assembly to vote on motions put forward by the national executive and member schools in order to improve the CFES as an organization.

The CFES strongly believes that CFES President’s Meeting is an incredible opportunity for engineering students to expand their learning beyond the classroom and to provide the maximum possible benefit to themselves, their Engineering Student Organization and their Engineering Faculty. This year, President’s Meeting was hosted by the University of British Columbia Okanagan from September 26th to the 29th.

In the pictures you can see the group of representatives that attended President’s Meeting 2019, the preparations for the general assembly and one of the sessions that gave an update as to what the CFES had been working on leading up to the conference.



# Branch Updates

## Fredericton Branch Update - Phil Lamey, P.Eng., Chair



Phil Lamey, P.Eng., Chair  
Melissa Steeves, P.Eng., Vice-Chair  
Melissa Dawe, P.Eng., Treasurer  
Tracey Germon, P.Geo., Secretary  
Diana Loomer, P.Geo., Past-Chair  
Coady Cameron, P.Eng., Communications  
Christina Varner, P.Eng., Councillor  
Sean Bartlett, P.Eng., Councillor  
Kevin Beattie, P.Eng., Councillor  
Alain Cormier, P.Eng., Councillor  
Bill Lamey, P.Eng., Councillor  
Adam Young, P.Eng., Councillor  
Tammy Lamey, P.Eng., Councillor  
Jean-Frederic Lalonde, P.Eng., Councillor  
Peter Wedge, P.Eng., Councillor  
Spencer Devereaux, P.Eng., Provincial Representative  
Luc Bouvier, UNB EUS Representative  
Major Laura Lannigan, Base Gagetown MEAC Representative

### Highlights of Events:

#### Skeet Shoot

It was another full crew for the Skeet Shoot in July. It took place at the Fredericton Trap & Skeet Club and was enjoyed by 20 Members. A BBQ was enjoyed by the hungry shooters after the rounds were spent.

#### Family Fun Day

Family Fun Day took place at Hartt Island Waterpark in August. Approximately 60 Members and their families signed up for the fun filled day in the sun.

#### Annual Golf Tournament

Our annual golf tournament was delayed in June - because of the nasty long Winter – but we were able to schedule it for early October. A good time was had by all! There were rumours of a near hole in one by the organizer J.F. Lalonde. Rumours, however, may be exaggerated!

#### APEGNB Haunted Tour

The APEGNB Haunted Tour, our marquee event took place at, and is organized to the benefit of, the Charlotte Street Arts Center. This is our 11th year and the event continues to grow in popularity. Last year a CBC article listed the event as the #1 haunted attraction in New Brunswick.

#### Engineering on Tap

Engineering on Tap was held in November and our Christmas Social in December.

More information on our events is always posted on our [website](#) and we also share via email. If you are not receiving email and would like to, please contact: [info@engineersfredericton.ca](mailto:info@engineersfredericton.ca).



# Branch Updates

## Northwestern Branch Update - Thomas Chenard, MIT, Chair



Thomas Chenard, MIT, Chair  
Dari Beaupré, MIT, Vice-Chair  
Mariette Savoie, P.Eng., Treasurer  
Emanuel Hébert, P.Eng., Secretary  
Keith Brideau, P.Eng., Provincial Counsellor  
Alain Pelletier, P.Eng., Counsellor  
Karine Savoie, P.Eng., Counsellor  
Martin Benoit, P.Eng., Counsellor

### Highlights of Events

#### Golf Tournament

This year began with our traditional golf tournament. Sadly the weather was not in our favor and we lost half of our regular group, however, we had plenty of fun as always.

#### Visit to IPL Plastics

Three of our Members also participated in a visit to IPL Plastics in Edmundston. We were very impressed with the technology that has been implemented in their factory. IPL Plastics is a company that moulds plastic containers. Each mould is associated with a robot that loads and unloads the moulds. All of the stations are monitored and brought back to a central management software. It's a real paradise for industrial engineers! Thank you to IPL Plastics and it's team for the enriching visit.

### Upcoming Events

Fall started off quietly but there are many activities coming. Thank you to all of our Members who faithfully participate in all of our activities.

#### Continuing Professional Development

Continuing professional development applies to all engineers and geoscientists that practice in the fields of engineering or Earth Sciences as defined in the Engineering and Geoscience Professions Act.

This is why the North West Branch is organizing a morning dedicated to professional development. It will take place on January 24th, 2020, from 9:00 a.m. to 12:00 p.m. at the Best Western Plus in Edmundston.

A course (Skills in Negotiation) will be given by Learnsphere.



Our visit to IPL Plastics in Edmundston

For all APEGNB Members who are interested, registration is free of charge. It is an excellent opportunity for us to get professional development credits at no cost. This opportunity should not be missed.

# Branch Updates

## Moncton Branch Update - Emilie Pellerin, P.Eng., Chair



### Highlights of Events:

Over the last year, the Moncton Branch hosted five events, including our Annual General Meeting (AGM). We were very happy to see an increased number of participants at all of our networking events. During the year we hosted a Professional Development session in December, our Members' reception in February, the AGM in April, the Lobster supper in June and the golf tournament in August.

### Soapbox Derby

Our Signature event, the Soapbox Derby, had a lower participation with only 13 racers, but the event was still a success and it was enjoyed by all.

### Annual Engineering Hockey Tournament

This year was Moncton's turn to host the Annual Engineering hockey tournament. In total, twenty teams from across the Maritimes attended the weekend event.

In addition to our contributions towards the Branch events, we were able to donate two \$1,000 bursaries to engineering students and contribute \$1,500 to Université de Moncton student groups to attend various engineering competitions and an outreach initiative.

### Upcoming Events:

We will be starting the new year with our annual member's reception and a professional development session. Keep an eye out for the email and Facebook posts about these upcoming events.

Emilie Pellerin, P.Eng., Chair  
Julien Caissie, MIT, Vice-Chair  
Siggy Stott, P.Eng., Treasurer  
Jacqueline Jordan, P.Eng., Secretary  
Shawn Amberman, P.Eng., Past-Chair  
Richard Lebreton, P.Eng., Communication  
Dani LeBlanc, MIT, Signature Event Chair  
Michel Bourgoïn, P.Eng., Social Committee  
Stéphane Richard, P.Eng., Social Committee  
Arsham Ahmadi, P.Eng., Professional Dev.  
Serge Doucet, P.Eng., Branch Councillor  
Tina Levesque, P.Eng., Branch Councillor  
Maryse Doucet, P.Eng., Provincial Councillor  
Jérémy Aubé, P.Eng., Signature Event  
Vice-Chair

### UdeM Scholarship Recognition Luncheon



**Gabriel Cormier**, P.Eng., Ph.D., Dean, Faculty of Engineering;  
**Stephenson Wheatley**, P.Eng., APEGNB Foundation for Education;  
**Gabriel Goguen**, recipient Advance Studies Scholarship - Masters (\$5,000); **Émilie Landy** 5th year mechanical engineering, recipient of the Jocelyne Roy-Vienneau scholarship for women (\$3,000);  
**Adrien Arseneau**, 1st year civil engineering, recipient of the APEGNB Entrance Scholarship (\$5,000); **Josée Doucet**, 2nd year civil engineering student, recipient of the APEGNB Prize scholarship (\$2,000); **Réjean Belliveau**, recipient of the Ottis I. Logue Graduate Scholarship – Masters (\$5,000);  
**Christian Richard**, 1st year civil engineering student and recipient of the APEGNB Entrance scholarship. (\$5,000);  
**François-Guillaume Landry**, 5th year electrical engineering student and recipient of the Graham MacDonald Memorial Scholarship (\$3,000); and **Gabriel Laplante**, P.Eng., Director, Mechanical Engineering Department and Member of the APEGNB Foundation for Education, and **Lia Daborn**, CEO, APEGNB.

# Branch Updates

## Saint John Branch Update - Dibyendu Debanth, P.Eng., Chair



Dibyendu Debnath, P.Eng., Chair  
Greg Donovan, P.Eng., Vice-Chair  
Rachel van Wart, P.Eng., Treasurer  
Theresa Winslow, P.Eng., Secretary  
Alex Bardsley, P.Eng., Communications Representative  
Marlo Rose, P.Eng., APEGNB Vice-President  
Jeffrey Underhill, P.Eng., APEGNB Saint John Councillor  
Michelle Paul-Elias, P.Eng., APEGNB At-Large Councillor  
Tanya Horgan, P.Eng., P.Geo., Councillor  
Lipika Nath, E.I.T., Councillor  
Jessica Davis, E.I.T., Councillor  
Kelsey Cronin-McKenna, E.I.T., Councillor  
Beth Giroux, E.I.T., Councillor  
Bryna McMurtrie, E.I.T., Councillor  
Mark Guest, P.Eng., Councillor  
Perry Riley, P.Eng. PhD, UNBSJ Faculty Representative  
Jayme Girouard, UNBSJ Student Representative

### Highlights of Events:

#### Annual General Meeting

APEGNB Saint John Branch had an eventful Fall of 2019. On September 26th, the Saint John Branch hosted the Annual General Meeting (AGM) for 2018-19 at the Delta Saint John.

This AGM was considered distinct for passing multiple amendments to the By-laws for the Saint John Branch. Proposed amendments, as approved by the Branch council, were sent out to all the Members prior to the AGM for their review. All the amendments, with couple of minor changes, were approved by majority votes at the AGM.

Among the amendments, most prominent was the change in fiscal year for the Saint John Branch. It was approved during the AGM that Saint John Branch will restructure its fiscal year, starting in 2020, to follow the Gregorian calendar year. Consequently, going forward AGMs for the Saint John Branch will take place during winter, instead of fall. During this AGM, a new Branch council for the year 2020 was approved as well.

In November 2019, Members from six different engineering disciplines volunteered as guest speakers at the Annual E-night, an event organized by UNBSJ Engineering Students' Society.

### Events:

#### Annual Holiday Social

The Branch hosted our annual Holiday Social on December 5th at the popular local restaurant of Italian by Night. Holiday Socials hosted by the Saint John Branch have the long tradition bringing fellow engineers and geoscientists together for an evening of joy and recreation with the best holiday spirit.

### Upcoming Events:

#### Professional Development Session

In the near future, the Saint John Branch council is working on organizing a professional development session for Members that will add PD hours for our annual requirements.

### Quotes from Past Presidents

*"If the purpose of regulation is to protect the public by setting standards and guaranteeing the competency of practicing engineers, then surveillance requires in-depth expertise—best provided by the profession, not by [government] bureaucrats."*

Patricia Dineen, P.Eng.

*"Self-regulation is a privilege, not a right, our fine professions are a part of. Who better to regulate our roles as professionals than our own peers. This privilege is being challenged across many other professions in Canada and around the world. It is imperative and crucial that APEGNB continues and moves forward in assuring the highest standards of practice for engineers and geoscientists in order to be a trusted resource while protecting the safety and well being of all New Brunswickers."*

Serge T. Dupuis, P.Eng.

# Branch Updates

## Northeastern Branch Update - Ray Ritchie, P.Eng., FEC, Chair



Ray Ritchie, P.Eng., Branch Chair  
Kevin Gallant, P.Eng., Vice-Chair  
Maggie Stothart, P.Eng., Treasurer  
Joey Nowlan, P.Eng., Secretary  
Michael Parkhill, P.Geo., Geoscience Representative  
Michel Cotton, P.Eng., Restigouche County Representative  
Lisa Albert-Therault, P.Eng., Gloucester East Representative  
Raphael Roy, P.Eng., Gloucester West Representative  
Antoine Legresley, P.Eng., Northumberland County Representative  
Claude Mallet, P.Eng., Consulting Engineer Representative  
Stephanie Doucet-Landry, P. Eng., Provincial Councillor  
Nicole Landry, MIT, MIT Representative  
Kathleen McConnell, MIT, Communications Director

### Highlights of Events:

Our Signature Event, the 18th Annual Pumpkin Fling was held on September 28, 2019, and since that time, we have been focused on consolidating the financial status of our Branch for the calendar year. There was a concern that there would not be sufficient funding for the upcoming MIT Night in early February. Thankfully, the Branch received a \$500.00 donation from NBCC Miramichi in October, and \$1,000 from the Rotary Club of Chatham in November. Both donations were related to the Pumpkin Fling. As a result, we have been able to cover costs and replenish our bank account.

Our most recent Executive Meeting was held on November 20, 2019, at CCNB in Bathurst, where we discussed the imminent closure of the Belledune Smelter. This closure has a direct impact on many Members of our Branch.

### Events:

At our November 20th Executive Meeting, we recognized the Volunteer Contribution by Marc Losier, P.Eng., who has offered again to help organize the 2020 MIT Night Event. It is held in conjunction with a Bathurst Titan's Hockey Game, complete with a meal and prizes for all. MITs who get complimentary admission are encouraged to attend. Members are charged \$20.00 each. St. Isidore Asphalte and Roy Consultants traditionally donate the tickets for the game and this is greatly appreciated! In order to minimize interference with the APEGNB AGM in Saint John this coming year, we have chosen Friday, February 7th, 2020, as the date for MIT Night. This game will be against Sherbrooke.



# Project Updates

## RJ Bartlett Engineering Ltd.

### Innovative Ideas for Proven Solutions

By Luc Doucette, PTech

Architectural innovation has been a defining feature of societies, changing to suit the needs and desires of the builders and occupants as they evolve. From energy-efficient designs to interconnected spaces, designers and builders have been looking for creative ideas to renew buildings and contribute to defining communities.

Up until the 1995 editions of building and fire codes in Canada, the approach for implementing innovative design solutions was by developing equivalencies. The National Research Council of Canada recognized the need for the building and fire codes to better facilitate innovation, and thus, at the turn of the century, the committee responsible for developing national building regulations, the Canadian Committee on Building and Fire Codes, began working on a review of the codes. This included the identification of objective and functional statements that would enable code users to more readily develop and assess alternative methods to meet the intent of the acceptable solution requirements of the National Building and Fire Codes of Canada (NBCC/NFCC). The 2005 versions of the NBCC/NFCC were the first editions that included alternative solutions. These performance-based solutions could be applied to new innovative designs, as well as upgrades to existing buildings where conforming with today's standards can be cost-prohibitive and/or impractical.

RJ Bartlett Engineering Ltd has been a strong proponent for the development of alternative solutions for new building designs and renovations. Our team, which includes three formally educated Fire Protection Engineers, employs various methods including fire

and egress computer models, and traditional mathematical approaches, to evaluate possible fire scenarios and relative effectiveness of fire protection measures.

Our employee-owned firm has been providing fire protection engineering solutions since 1987. Our goal on any project is to ensure that the overall design meets both the fire protection and life safety objectives of the Codes and Standards, as well as the requirements of the client, from both an economic and design standpoint.

Two of the recent projects we have been able to deliver over the past year are highlighted here:

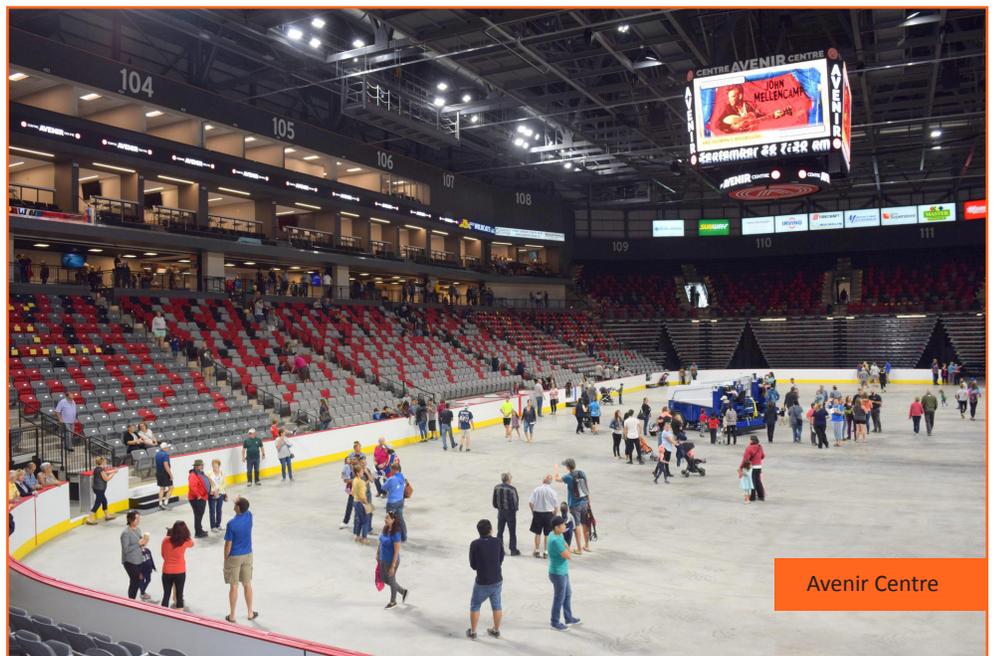
#### Avenir Centre, Moncton, NB

The Avenir Centre is a new 8,800 seat multi-use arena facility in Moncton, NB that was completed in 2018.

RJ Bartlett Engineering Ltd was retained by Bird Construction Company to develop a performance-based alternative solution to satisfy the requirements of the NBCC. Specifically, with regards to the provision of a smoke management system designed to maintain tenable conditions in egress routes and egress systems that can facilitate occupant evacuation before untenable conditions are reached.

As project fire protection engineer, our firm employed computer fire and evacuation modeling to establish design criteria for the smoke management system, confirm that sprinklers were not required at the high ceiling elevation above the performance surface, and validate the egress system design.

*(continued on next page)*



Avenir Centre

(continued)

We worked with a multi-discipline team of consultants and the Authorities Having Jurisdiction to refine the designs to meet the criteria established by the modeling. The employment of advanced fire protection engineering fire/evacuation modeling, and use of advanced fire detection systems demonstrates an engineering achievement in the development of a comprehensive approach for life safety in a state-of-the-art arena facility not attempted before in New Brunswick.

The project design team was led by Populous and Stantec's architecture groups. The engineering team consisted of BMR Structural Engineering, RSEI Consultants Ltd, Smith & Andersen, and Maritech Commissioning Works Ltd.

### Province House National Historic Site, Charlottetown, PE

Also known as the birthplace of confederation, Province House National Historic Site located in downtown Charlottetown, PE, is a legislative building that was constructed in 1847. Due to its unique characteristics and significant historic features, specific construction requirements of the NBCC related to the interconnection of floors and egress systems could not be prescriptively satisfied during its restoration, a project that began in 2014.

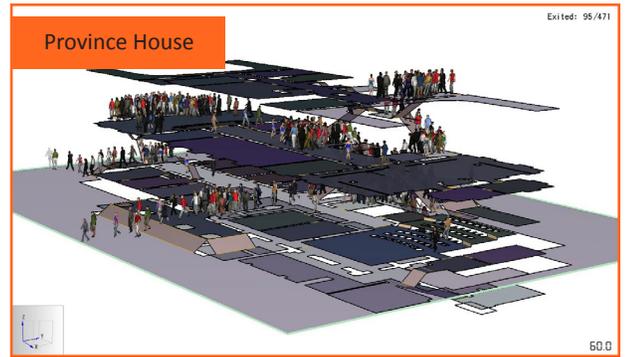
Computer-based fire and egress simulation software was utilized in the development of a performance-based alternative solution

that consisted of several enhanced fire and life safety components which compensate for these prescriptive discrepancies, and ultimately demonstrated an ability to minimize risks related to life safety and fire spread.

As a more specific example, it was estimated that under peak loading conditions, occupants were able to evacuate the building prior to reaching the temperature, visibility, and carbon monoxide thresholds (i.e. tenability limits) along egress paths. Through an iterative exercise, volumetric capacity and configuration of a dedicated smoke exhaust system was optimized and also leveraged contemporary technology in the form of an air aspirating smoke detection system which promotes a more rapid response to fire conditions.

We recognize that it is important to maintain the rich history and culture of buildings like Province House. RJ Bartlett Engineering Ltd takes pride in developing creative, performance-based approaches to ensure the life safety of the occupants in these iconic building is upheld.

In close collaboration with the project design team, we were able to provide a balanced solution to the Client, Parks Canada, with due consideration for contemporary code intent and the preservation of the building's integral historic fabric. Province House benefitted from a strong design team. The conservation project was structured in multiple phases led by Robertson Martin Architects and DFS Inc. Architecture & Design. The Engineering team was comprised of John G. Cooke and Associates Ltd, Ojdrovic Engineering Inc., Jokinen Engineering Services, MCW Consultants, and CBCL Limited.



## Quotes from Past Presidents

*“Self-regulation is a privilege that has been delegated to APEGNB and its Members to ensure that the public interest is protected. This means our Association must be accountable, open and transparent in our regulation of our profession in New Brunswick. Otherwise some other body, such as the provincial government, will do it for us. Over three hundred volunteers annually assist through Council, committees and boards in (a) assessing the qualification for registration, (b) providing guidance to members in the form of code of ethics, rules of professional conduct and standards of practice, (c) maintaining a public register and (d) investigating complaints about Members and disciplining members as required.*

*Self-regulation is important to us as engineers and geoscientists and should be taken seriously by all members.”*

*Don Good, P.Eng.*

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*“Years ago, Canadian legislatures passed statutes recognizing engineering knowledge as specialized, only to be applied in the public domain by appropriately educated persons, they to be henceforth designated as “professional engineers” and self-governed by Professional Associations. The said associations were charged with setting and enforcing safe standards of performance, all in the name of protecting the public good. Practitioners became duty-bound in their work to know and recognize the unknowns as well as the current established knowledge base, and to act accordingly.*

*It has been a privilege and my pleasure to have been involved in various roles and over 50-plus years in our Association’s development and maintenance of standards for both the education of engineers and the expected norms of their project performance.”*

*W.G. Paterson, P.Eng.*

*“During the 1990’s many geologists in Canada were lobbying for a system of regulation and registration for its members in order to address public safety and ethical accountability. The collapse of Bre-X mining shares in 1997 resulted in a large stock scandal exposing the vulnerability of investors to unregulated reporting of mining and mineral exploration. This was a catalyst for governments to move towards professional registration of geologists.*

*As a proponent of self-regulation and as a former President and Member, I am of the opinion that public and the professions are best served, when professional associations regulate the conduct and standards of their members. Such organizations have the knowledge and experience to evaluate the professional conduct of others and the added inducement that their own reputations are tarnished by any misdeeds that reflect poorly on the professions.”*

*Bruce Broster, P.Geo.*

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*“Self-regulation is not to be taken lightly or for granted. Our ability to self-regulate shows the maturity and knowledge our professions have and how they are regarded publicly and privately. It is an honour to have the right to self-regulate.”*

*Tanya Horgan, P.Eng., P.Geo.*

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*“We should always remember that it is a privilege, not a right, to be a self-regulating profession.”*

*John Wheatley, P.Eng.*

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*“Who better to understand and protect the public where engineering and geoscience issues arise than those who best understand the technologies involved. Our self-regulated Engineering & Geoscience Professions Act provides the protective strength our public deserves.*

*Our Membership can enhance our obligations to the public by staying involved and volunteering our valuable time and energies to APENGB to weather future challenges.”*

*Mike MacDonald, P.Eng*

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*“Society has bestowed upon APEGNB the right to self-governance and self-regulation with the expectation that engineers, and geoscientists meet and maintain certain standards. Therefore, APEGNB must ensure that people who represent themselves as engineers or geoscientists, are fully qualified and licensed practitioners.”*

*Wolfgang Faig, P.Eng.*

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**2020**

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