The official publication of the Association of Professional Engineers and Geoscientists of the Province of Manitoba

THE KEYSTONE PROFESSIONAL

FALL 2013

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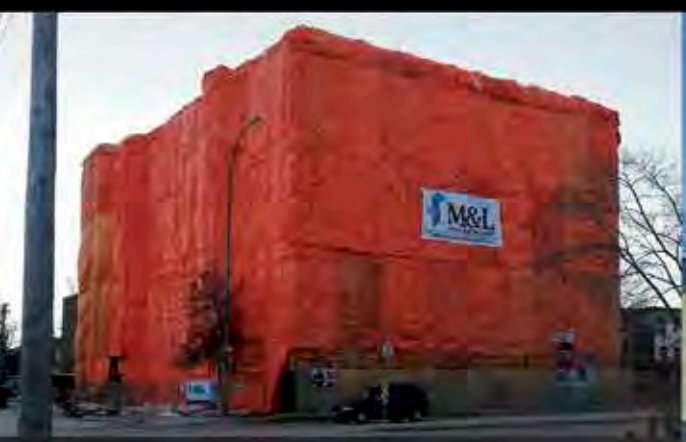
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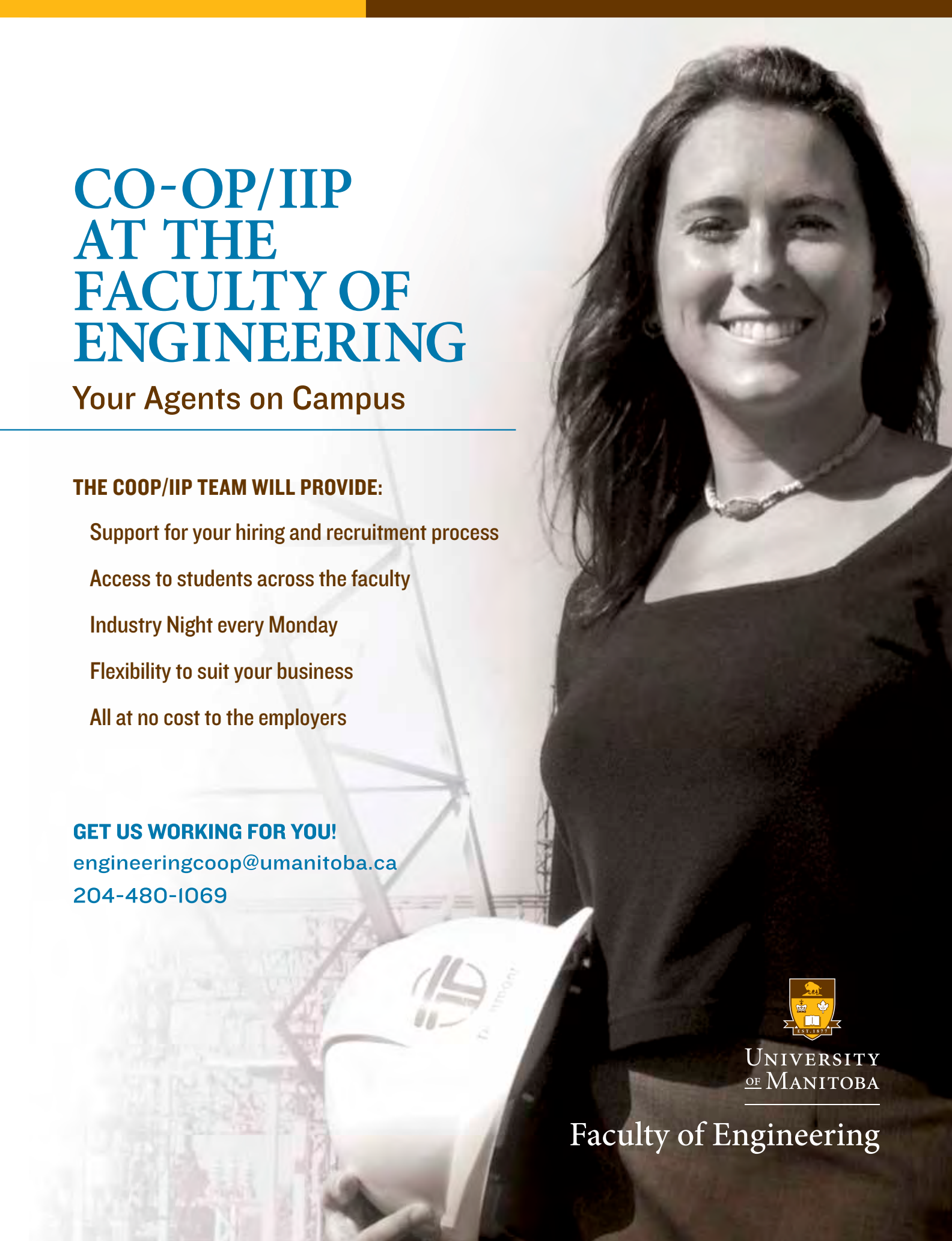
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870 Pembina Highway, Winnipeg, Manitoba R3M 2M7
Phone (204) 474-2736 Fax (204) 474-5960
E-Mail: *apegm@apegm.mb.ca*

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THE KEYSTONE PROFESSIONAL

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APEGM

FALL 2013

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3rd Floor - 2020 Portage Avenue
Winnipeg, MB R3J 0K4
Ph: (204) 985-9780 Fax: (204) 985-9795
e-mail: info@kelman.ca
www.kelman.ca

Managing Editor: Scott Kelman
Art Design/Production: Daniel Goulet
Marketing Manager: Darrell Harris
Advertising Coordinator: Stefanie Ingram

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Dawn Nedohin-Macek, P.Eng., President 2012-2013



Making the World Around Us **a Better Place**

As the year of my presidency closes, I cannot help but reflect on the past year and all that transpired. I enjoyed my term, and the end is bittersweet. On one hand, it is a lot of work, time, travel away from home and a lot to learn. On the other hand, I really enjoyed the Council meetings, the other provinces I visited, and the many engineers and geoscientists I met. Our country has an incredible diversity of engineers and geoscientists, and the composition of constituent associations across the country showcases the high degree of professionalism and incredible volunteer commitments.

Like every President, I feel that I have a lot left to do. I know that the incoming President and Council will continue on with some efforts, and some may end up on the wayside, depending on the will of the President and incoming Council, what happens in society, the Canadian regulatory environment, and our provincial government.

I see the following issues remaining after my term ends:

- increasing the interaction with governments, both local and federal,
- incidental practice for Geoscientists,
- repeal of the industrial exemption in Ontario,
- the results and effects of the Charbonneau Commission in Quebec,
- a strategic plan for Council,
- advocacy bylaw implementation,
- a new website, logo and name, and
- preparing for the completion of the first three-year cycle for Continuing Professional Development.

There are issues that transcend every year and every Presidency, and this year is no different. I know that my list is not all inclusive, and there are more issues than I can list here that need attention and careful consideration.

At most social events, at work, or when talking to other engineers and geoscientists, these are the questions I was asked the most:

- when do I stamp something?
- why should I register?
- what does APEGM do?
- what does Council do?
- what are the hot topics?



Spaghetti Bridge Competition, March 2013

Like any engineering problem, none of these questions have an easy and quick answer. Just saying that APEGM regulates the practice of engineering and geoscience in Manitoba doesn't always answer what APEGM does. Answering what the mechanics of a Council meeting are does not always clarify what Council does. The question of when to stamp is a very common one, and I rely on our Standards Officer to help answer, as it is typically not a cut and dried answer. The list of outstanding issues was my jumping off point for hot topics.

What did I really enjoy?

- signing certificates for our new members, especially those I know or who I supervised as Engineers in Training,
- visiting U of M and speaking to fellow female engineering graduates, potential students, and participating in the iron ring ceremony,



- travelling across Canada visiting other annual general meetings, Engineers Canada, and Geoscientists Canada,
- chairing Council meetings, helping guide good decisions, seeing understanding in Councillors new and old grow as the year progressed,
- interacting with the hard working, professional APEGM staff and dedicated volunteers,
- voicing the concerns of our membership at work, in the news and across Canada, and
- representing Manitoba.

Engineering is taking nothing, a design on paper or someone's idea, and building something out of it. It could be a car, a road, a HVAC unit, or an application for your tablet. Constraints abound, including design time, cost, environmental limitations, difficulty expressing the need for the way the design works; but we persevere. I believe we make the world around us a better place.

Geoscientists imagine possibilities based on looking at an outcrop, reading a map, or evaluating a core sample. They make the foundations of our society as stable as can be; the building is on a solid foundation, or the mine will be best situated to reach the ore. They allow us to access the natural resources we need to build the foundations on which our society operates.

'APEGM' is well regarded across the country for its level of professionalism, enthusiastic and knowledgeable staff and volunteers and we are asked constantly for how we operate. It was with great pride that I shared our knowledge, techniques, and opinions.

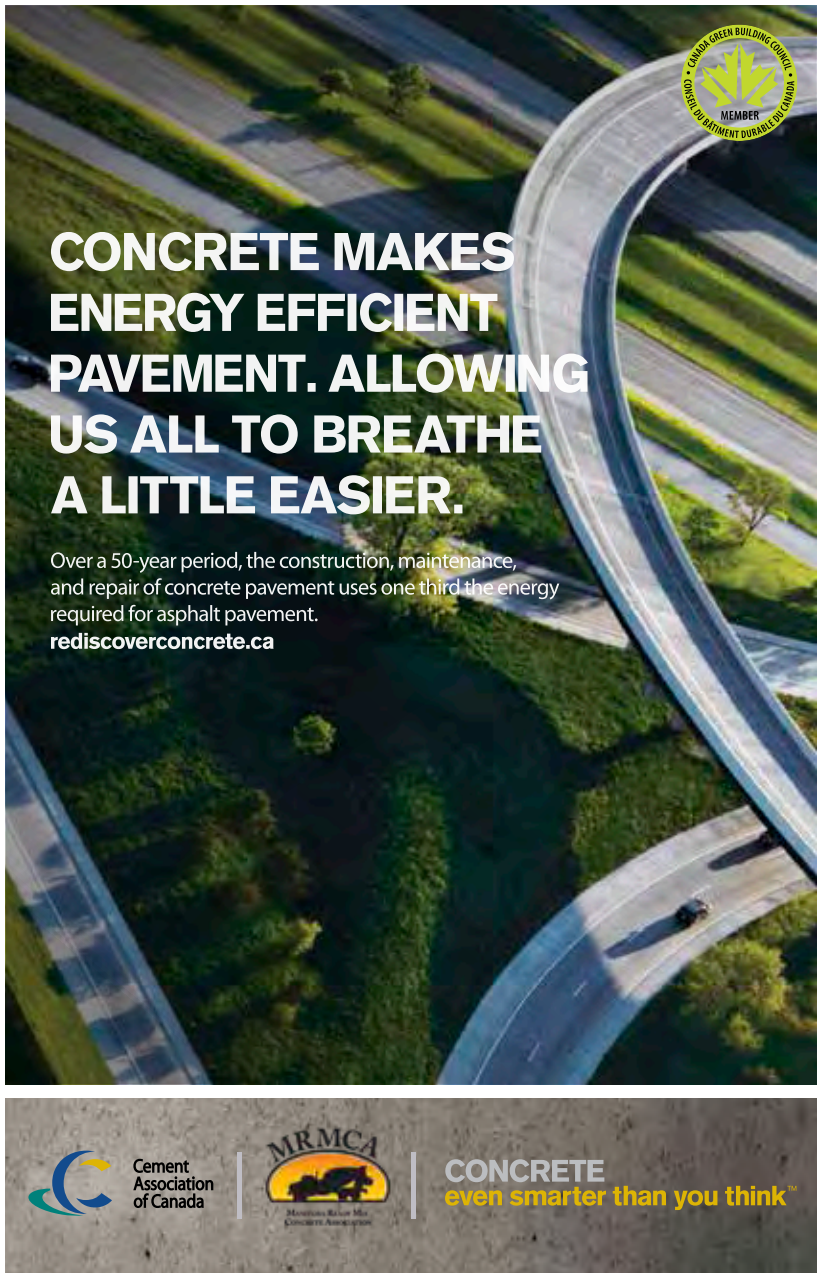
The 2012/2013 Councillors and Executive Director Grant Koropatnick were excellent to work with. There was an incredible amount of preparation, enthusiastic and passionate discussion, and well thought out conclusions due to this past year's Council. Anyone who has had the fortune of working with Grant will agree that he is an incredible ally, and I am very grateful for the advice, time, and patience he has shown me.



APEGM Award Recipients, October 2012

I hope to see you all at Ingenium this October, as I bring my term to a close. More than ever, I believe that my life's work makes life work better, and I hope you do as well.

"Manitoba is well regarded across the country for its level of professionalism, enthusiastic and knowledgeable staff and volunteers and we are asked constantly for how we operate."



Grant Koropatnick, P.Eng., Executive Director & Registrar



What's in a **Name?**

I got an email recently from a cousin of my late father. Attached to the email was a scan of a letter sent from the old country to my great aunt in Saskatchewan. You might be reading this and wondering "So what has this got to do with engineers in Manitoba?" Bear with me and you will see.



Hometown

The letter was sent in 1991 from a man claiming to be the nephew of my grandfather. It came from my grandfather's hometown Chernivtsi, Ukraine. What was particularly intriguing about this old scrap of paper was the name at the top: Andriy Kropatnytsky. I had never heard or seen this name before. When you plug it into Google and hit the search button you get back a single reference to a medical research paper from the Bukovina State Medical University in Chernivtsi, Ukraine. I do not know about you, but I find this stuff fascinating! However, my searching was fruitless as it did not tell me anything more about the correspondent with the strangely similar surname.

My father's cousin claimed in the email that k-r-o-p-a-t-n-y-t-s-k-y was the original spelling of our family name and that my grandfather was given the spelling k-o-r-o-p-a-t-n-i-c-k-i by the citizenship clerk when he immigrated to Canada in 1911. If it is true, that is a fascinating bit of history that I had never heard before. My father did not talk about it. My grandfather did not talk about it. Perhaps it is a long lost family secret.

Your Name is Your Identity

This new information got me thinking about my family name. When you have lived with a name for a long time, you accept it as your identity. When you get an email like this one, you question your name, your history and ultimately your identity. Where am I from? What are my roots? Who are my family members? Should I change it back? If I did, no one would know who I am. It may be historically accurate, but I would be pruning a branch from the family tree and attempting to graft a new one back in my place. It all sounds complicated.

It led me to many more thoughts about names and their origin. What about the name APEGM? It is a familiar name to all members. It has been around for a long time. Lots of history is associated with the name. Although the name is familiar to us, it is not easily recognized by the public. If you did a survey, how many people would know what APEGM is? Would they quickly connect the letters A-P-E-G-M with the Association of Professional Engineers and Geoscientists of Manitoba? Or would the public guess something else like Alkaline Poly-Ethylene Glycolate Monomethyl? Perhaps they would not have a clue what this five letter acronym means?

Engineers Like Acronyms

Engineers like acronyms. It is often the easiest way of saying what otherwise takes many words, syllables and one or two breaths to speak. APEGM or ah-peg-um or Association of Professional Engineers and Geoscientists of Manitoba. Where did we get this acronym from anyway? Over time, members have embraced the acronym APEGM and use it as our name to avoid saying a big mouthful of words. This seems like an easy solution, but it doesn't serve us very well outside the membership.

The public does not recognize the acronym, so I avoid using it during introductions. When someone asks "Who are you with?" and I use the full name of the association, they stop listening after the first few words: "the association of

click HERE to return to table of contents

professional blah, blah, blah." Sometimes they will interject "What is a geoscientist?!" It makes it difficult when the public does not stay attentive long enough during an introduction to fully learn the organization's name. On occasion, I have resorted to saying "I am with the engineers."

Three Obvious Words

I have grown concerned that the acronym APEGM and the big long legal name of the Association are not working for us. Neither are useful in telling the public who we are. I think we need a new name. What if we simply referred to ourselves using three obvious words: Engineers Geoscientists Manitoba? You can spit that out quickly during an introduction, speech, telephone greeting or media interview. Would we abbreviate the name into the acronym EGM? No way! It is not necessary. The triplet of Engineers Geoscientists Manitoba says everything.

It has been done already by the engineers in Nova Scotia, the association in New Brunswick and by the former Canadian councils of Professional Engineers and Professional Geoscientists. The brand names of these organizations became Engineers Nova Scotia, Engineers Geoscientists New Brunswick, Engineers Canada and Geoscientists Canada respectively. New logos, web sites, letterhead and forms were created to go with the new names. In each example, it has proven to be a successful marketing step for these associations. Successful advertising campaigns and promotional media have been developed around these new names.

Name Change

In case you were wondering, I am not changing my surname. I checked with my cousin Earl about the family name. He does not think the person from Chernivtsi is a relative. Research into our family history and personal conversations he had with my grandfather years ago, dispute the 1991 letter from Ukraine. As a result, the Koropatnick clan will not be linked to the Kropatnytsky clan in any formal way. However, the story was an interesting one.

Is APEGM changing its name? Should it become Engineers Geoscientists Manitoba? I think there is merit in the idea. What do you think? As always, I appreciate your feedback. Send me an email on this topic or anything else you read in the KP magazine: *gkoropatnick@apegm.mb.ca*

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Engineering PHILOSOPHY 101

Looking into the "Facts"



M.G.(Ron) Britton, P.Eng.

Engineering is a profession that makes extensive use of "facts." We rely on codes, standards, research, historic precedent as well as experience to assure that our work will produce safe, functional and affordable results. Our education system acquaints students with the need for, and sources of, the "facts" that they will integrate into the analysis techniques that are a part of modern practice.

Almost forty years ago in his book **The Existential Pleasures of Engineering,** Samuel Florman observed that "***Engineers are trained to solve problems, adhering to facts and truths of experience, shunning personal sentiment, or at least recognizing it for what it is.***" In my opinion, this is still a valid assessment of engineering education in the early 21st century. The dictionary definition of "fact" as "***. . . indisputably the case***" supports the view that "facts" have "value" in and of themselves.

However, philosophers, dating back to Plato, have argued that there is a distinction between "fact" and "value". In their view, "facts" are verifiable, but "values" are based on belief or experience. Do we, consciously or unconsciously, assign different levels of importance to the "facts" we are dealing with? Does that explain why two groups working with the same set of "facts", frequently arrive at different conclusions?

There may be a clue to this difference in Henry Petroski's opinion piece that was published in the New York Times following the 2003 release of the report of the Columbia Accident Investigation Board. In considering ". . . ***the inevitable - and healthy - tension among scientists, managers and engineers.***", he stated, " ***If engineers are pessimists, managers are optimists about technology.***" Maybe this arises out of the reality that, again quoting Petroski, "***Engineering design is ultimately the art of compromise.***" In other words, engineers use "facts" as we understand them, to arrive at a solution to a problem. We are, or should be, aware of the



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assumptions/compromises that underlay our final conclusions. Management, on the other hand, simply uses a different set of assumptions and therefore arrive at different conclusions. Is this too simplistic an explanation?

One has to wonder if Sir Arthur Conan Doyle, author of the Sherlock Holmes mysteries, was right when he said "***There is nothing more deceptive than an obvious fact***."? Was he inferring that all "***obvious facts***" are the end product of verifiable "facts" that have been modified by the application of "values"?

Codes and Standards are typically thought of as documents that contain "facts" required in order to design. But "values" are often imbedded therein as well. Typically "values" are presented as conditions of application. For example, the National Building Code specifies ground snow loads for various locations across the country. These numbers are "facts" based on historic records. The Code goes on to provide "modification factors" to take into account different structural, environmental, and geometric configurations. Again, these are "facts" based on experimental work and historical observation. The "value" issue come in as a "low human occupancy" conditions that allow an engineer to reduce design snow loads for structures in which there is little risk that failure of the roof will result in loss of human life. In other words, this specific case recognizes, and even specifies, a different "value" as the risk to human life decreases.

A conflict with respect to "value" seems to be emerging as an indirect result of the Lac Mégantic tragedy. The tank cars railways use to transport liquids has been shown, by experience and by analysis, to be at unacceptable risk of exploding upon impact when they are carrying flammable materials. Regulatory authorities are in the process of establishing new, safer design specifications for all new tank cars. There seems to be little debate about this proposed change in "value". On the other hand, a second proposal to require that all existing tank cars be modified to correct their known deficiencies is being resisted due to the cost of retrofitting. The technical "facts" are not in dispute, but conflicting "values" (risk vs cost) have led to the disagreement.

The "value" that an engineer associates with a "fact" will be influenced by his/her understanding of the compromises in the design process and her/his professional responsibility to ". . . ***regard the physical, economic and environmental well-being of the public as the prime responsibility in all aspects of professional engineering*** . . .". Given that "***. . . physical, economic and environmental well-being . . .***" often conflict, engineers must make "value" judgements within the design process. Managers, because of their different responsibilities, will usually place different "values" on the same set of "facts". Different perspectives produce different conclusions.

"Values" have always been an unconscious part of engineering design. In uncertain situations, our usual reaction is to err on the safe side. It is probably wise to consciously acknowledge and publicly recognize the impact of "values" on design recommendations. Yes, we all work from the same set of "facts", but in the process of design, we assign "value" to those "facts", and that can/will change our final output.

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Thoughts on Design
. . . and adapting to teams?

M.G.(Ron) Britton, P.Eng

Design Engineering is a team sport. Today's projects require a much broader range of skills than any one person can be expected to possess. Bucciarelli has argued that "*. . . designing is a social process of negotiation, of iteration, of rectifying mis-steps, even misconceptions - a process rich in ambiguity and uncertainty.*". The skills required to support this sort of activity go well beyond traditional technical skills. Douglas, Papadopoulos, and Boutelle suggest that ". . . *engineering is no longer solely concerned with finding a simple, elegant way to implement a set of design requirements*.". Isn't this just another way of confirming Bucciarelli's assessment?

Teams require persons willing to cooperate. Typically, but not always, team players have had positive experience working in groups. In general, the education system hasn't been terribly successful at providing this sort of experience. Few first year engineering students speak positively about their team projects in high school. Within universities, students are judged, for the most part, on their individual performance in individual tests, examinations and assignments. Given their choice, most students will elect to do individual projects. There are exceptions, but the most successful delivery of team projects at the undergraduate level at universities tend to be associated with technical society undertakings like the SAE teams and the ASABE 1/4 scale tractor competitions.

Students who enter graduate studies experience few, if any, team projects. Maybe, given that professors come with an academic rather than an industry background, their focus on individual accomplishment has something to do with the lack of team learning success stories on campus.

But engineering graduates will enter a world in which they will work as members of design teams. The social skills that allow individuals to contribute as team members are every bit as important as technical competence in their field of choice. These skills don't just happen, before or after graduation.

Daniel J. Boorstein suggested that "*The greatest obstacle to discovery is not ignorance. It is the illusion of knowledge.*" So, where should we turn for advice?

People who create and deliver successful sports teams might be worth consulting. In a Sports Illustrated article a number of years ago, there was speculation regarding the potential success of the Miami Heat after they had recruited three very talented, and very egocentric, players. The suggestion was "*What counts most in creating a successful team is not how compatible its players are, but how they deal with incompatibility. When we don't get along with others, we are tempted to ignore them and shove them aside.*" I can relate to that comment based on my observation of student design teams.

Casey Stengel, who managed the New York Yankees to seven World Series Championships on twelve years, was once asked how to assemble a winning team. He offered a simple observation. "*Getting good players is easy. Gettin' 'em to play together is the hard part.*". And maybe that outlines the root of our team learning problem in academe. On the other hand, should the universities concentrate on producing "*good players*" and leave the task of *"Gettin' 'em to play together"* to employers?

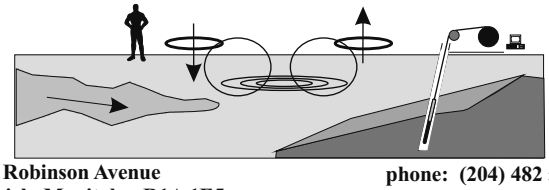
Douglas and Papadopoulos, both successful engineers from the electronics industry, tell us that design teams work in their companies. Bucciarelli makes the case for design as a social exercise. However, most engineering graduates still leave university as individuals who are "*academically qualified*" but without a positive team learning experience. Most still see themselves as individuals who will make individual contributions.

Our "four year" undergraduate engineering programs take, on average 4.85 years to complete. During that period students "transition" from teenage highschool graduates to "*academically qualified*" young adults. It is not possible to include "everything they need to know" in that short period of "transition". But returning to the sports analogy, university education has much in common with "skills camps" where there is a concentration on developing specific, individual skills. Teamwork, as necessary as it is, comes later.

There is no doubt that universities need to fit academic growth into a learning environment that more closely simulates the working environment. Regardless of the progress, or lack thereof, in meeting that goal, graduates will still enter the workforce as Engineers-in-Training. There is a training/learning responsibility beyond the campus. How is the shift from writing final exams to working in design teams accomplished? Is the transition to working in design teams really accomplished, or is it still a work in progress off campus?

In one of his poems, T.S. Elliot asked "*Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information*?" Are these questions relevant to the growth of future engineers?

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Another **'Classic'** Making Links a Success Again

The 2013 edition of the Making Links Engineering Classic (MLEC) marks the 10th edition of this golf tournament. Initially established in 2003 by the APEGM Sports Committee, in association with University of Manitoba Faculty of Engineering, the tournament was to provide APEGM members with the opportunity to meet and interact with members of the Faculty of Engineering and the UMES executive. Any proceeds from the tournament would be donated to the Faculty to support APEGM's sponsorship of the APEGM Design Studio (Room 229), and the new Engineering and Information Technology Complex (EITC).

The inaugural MLEC tournament was held August 18, 2004 with a field of 102 golfers, and raised $7,200 in support of the Faculty of Engineering. Within a couple of years, it was decided to combine the August MLEC event with the APEGM annual spring golf tournament into a single event under the MLEC name. Since then, the tournament has grown to be the second largest charity golf tournament in the province, hosting 213 golfers this past June.

Over the ten-year history of the tournament, it has raised over $135,000 in support of the Faculty of Engineering. Funds from the MLEC have gone toward many projects at the Faculty of Engineering, including:

- The completion of E2-229, the APEGM Design Studio
- The production of two Faculty of Engineering promotional DVD's used for student recruitment purposes
- The production of the Faculty of Engineering's Centennial Book, Grinding "Geers" for 100 Years
- Providing new lockers for students
- Providing new student study space furniture throughout EITC.



1st Place: J. Kaskiw, D. Van Der Vis, D. Boitson, D. Kania



2nd Place: J. Lavergne, B. Draward, M. Flynn, B. Craplewe





3rd Place: R. Hudon, G. Lieb, N. Klassen, J. Richmond


















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INLAND



Ingenium

APEGM CONFERENCE 2013

Welcome to Ingenium 2013

Greetings!
As APEGM President, it is my pleasure to welcome you to Ingenium, the Association of Professional Engineers and Geoscientists of Manitoba Conference for 2013!

This year marks the 94th annual AGM for APEGM. The theme for our event is "Facing Challenges" looking at topics of interest to engineering and geosciences professionals as a profession, at work, in their province, and in their personal careers!

We hope you enjoy the new format of the conference and the many possible tracks you can attend! Come early and listen to Minister Steve Ashton on Thursday morning, October 24!

On behalf of all the members of the Association, I would also like to thank you for joining us at our 94th Annual General Meeting.

Yours truly,
Dawn J. Nedohin-Macek, P.Eng.
President - APEGM

*Where **great minds** meet to form **great ideas.***

OCT 22-25 2013

Event Schedule October 22 - 25

Tuesday, October 22

New Member's Luncheon & Certificate Presentation
St. Boniface Golf Club
11:30 a.m. - 1:30 p.m.

Wednesday, October 23

Recognition Wine & Cheese Reception
Broadway Room, The Fort Garry Hotel
7:00 - 9:00 p.m.

Thursday, October 24

Professional Development Seminars
Provencher Ballroom, The Fort Garry Hotel
8:30 - 4:00 p.m.

Partners Program
The Forks
10:30 a.m. - 2:00 p.m.

Friday, October 25

Annual General Business Meeting
Crystal Ballroom, The Fort Garry Hotel
8:30 - 10:30 a.m.

Partners Program
Fort Whyte Alive
10:00 - 2:00 p.m.

Awards Gala Dinner and Dance
Grand Ballroom, Fort Garry Place
5:30 p.m. - 12:30 a.m.

Social Events

New Members Luncheon & Certificate Presentation
Tuesday, October 22
This luncheon is held biannually to recognize new members and present them with their license certificates. Attendance is by invitation and additional purchased tickets, offering new members and guests the opportunity for more intimate conversation and socializing adding to the appeal of this enjoyable and informal gathering.

Professional Development Seminars
Thursday, October 24
Multiple track sessions are offered about how Manitoba is 'Facing Challenges' through our Profession, in the workplace, in the Province, and in members' personal careers. The popularity of this well-attended event speaks to its value in supporting the professional development of APEGM members.

Partners Program
Thursday & Friday, October 24-25
The Partners Program runs during the same time as the professional development conference and the annual general business meeting, to provide activities and networking opportunities for the companions of Ingenium attendees.

Awards Gala Dinner and Dance
Friday, October 25
Fine cuisine and highly enjoyable entertainment set the stage for a first-class evening honoring member achievements and corporate contributions to our professions. Approximately 300 guests will be joined by representatives from government and industry on this special evening followed by an evening of great entertainment and dancing. An additional Wine Sponsor is available to provide wine (1 bottle of red, 1 bottle of white) on each table for dinner.

Annual General Business Meeting Friday, October 25

The annual general meeting of the professional members of the association shall be held in the Province of Manitoba on any date after September 10th, but prior to October 31st, in each year as council may decide. Temporary licensees, specified scope of practice licensees, members-in-training and students are entitled to attend and participate subject to restrictions in the association by-laws. Members of the public, subject to application to the registrar and the availability of space, are entitled to observe.

Meeting Time and Place

Crystal Ballroom, 7th Floor, The Fort Garry Hotel
222 Broadway, Winnipeg, MB R3C 0R3
Time: 8:30 - 10:30 a.m.
Cost: Complementary, Pre-Registration Required
The Business Meeting will break and re-convene at 2:00 p.m. if needed.

Sponsorship

Benefits

Ingenium is a premier professional development opportunity for the engineering and geoscience community in Manitoba. With participants representing a crosssection of the 5,000 members who work in the province's private and public sectors, this multi-day event offers substantial value to program sponsors:

- Excellent networking and business development opportunities
- Exposure to senior decision-makers in the industry
- Association with a well-organized and productive event
- Recognition as a supporter of excellence in engineering and geoscience
- Exposure to new talent in the engineering and geoscience fields

Program sponsors will also receive a sponsor recognition package commensurate with their level of support.

Events Available for Sponsorship

Tue Oct 22

New Members Luncheon

This luncheon is held bi-annually to recognize new members and present them with their license certificate. Attendance is by member invitation and additional purchased tickets, offering approximately 100 new members and guests the opportunity for more intimate conversation and socializing adding to the appeal of this enjoyable and informal gathering.

Wed Oct 23

Recognition Wine and Cheese

This reception is to honor APEGM Past Presidents, new APEGM Life Members, and those receiving their new Engineer Canada FEC desigations. Attendance is by invitation only, and it is a wonderful opportunity for this intimate group to gather and socialize while receiving their certificates and pins.

Thu Oct 24

Professional Development Seminar

The popularity of this well-attended event speaks to its value in supporting the professional development of APEGM's members. Multiple track sessions on how Manitoba is 'Facing Challenges' through our Profession, in the Workplace, in the Province, and in members' Personal Career will be offered at this informative event.

Thu Oct 24 & Fri Oct 25

Partners Program

The Partners Program runs during the same time as the Professional Development Conference and the Business Meeting and Breakfast to provide activities and networking opportunities for the companions of AGM attendees.

Fri Oct 25

Business Meeting and Breakfast

The Annual General Business Meeting is an opportunity for members to become directly involved in the business of the Association, vote on current matters, and acknowledge Councillors completing or just beginning their terms.

Fri Oct 25

Awards Gala Dinner and Dance

Fine cuisine and highly enjoyable entertainment set the stage for a first-class evening honoring member achievements and corporate contributions to the professions. Approximately 300 guests will be joined by representatives from government and industry on this special evening followed by an evening of great entertainment and dancing. An additional Wine Sponsor is available to provide wine (1 bottle of Red, 1 bottle of White) on each table for dinner.

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Sponsorship Opportunities

☐ **Platinum Level: Event Benefactor** *(only 1 available in each category)* **$2,500****

☐ New Member Luncheon ☐ Business Meeting ☐ Awards Dinner and Entertainment
☐ Recognition Wine & Cheese ☐ Professional Development Seminars ☐ AGM Dance ☐ Partners Program

- Naming rights for the sponsored event
- Name and corporate logo on all event signage
- Priority tickets (6 seats)* at Awards Gala Dinner and Dance
- 3 Conference Registrations (includes Professional Development Seminars, Annual General Meeting, Breakfasts, Lunch, and coffee breaks)
- Include a 100 word write up in conference information package for all participants
- Acknowledgement in all event material for members and guests
- Direct weblink from Company Logo on APEGM website
- Booth Opportunity
- Acknowledgement in AGM article in the Winter issue of the *Keystone Professional* and on the APEGM website
- Verbal acknowledgement at your sponsored event

☐ **Gold Level** **$1,000****

- Priority tickets (4 seats)* at Awards Gala Dinner and Dance
- 2 Conference Registrations (includes Professional Development Seminars, Annual General Meeting, Breakfasts, Lunch, and coffee breaks)
- Name and corporate logo on all event signage at both events
- Verbal acknowledgement at the Gala Dinner
- Direct weblink from Company Logo on APEGM website
- Acknowledgement in AGM article in the Winter issue of the *Keystone Professional* and on the APEGM website
- Acknowledgement in all event material for members and guests
- Booth Opportunity

☐ **Silver Level** **$650****

- 2 seats* at the Awards Gala Dinner and Dance
- 1 Conference Registration (includes Professional Development Seminars, Annual General Meeting, Breakfasts, Lunch, and coffee breaks)
- Verbal acknowledgement at the Professional Development Seminars Luncheon
- Acknowledgement in all event material for members and guests
- Direct weblink from Company Logo on APEGM website
- Acknowledgement in AGM article in the Winter issue of the *Keystone Professional* and on the APEGM website
- Acknowledgement on event signage
- Booth Opportunity

☐ **Bronze Level** **$300****

- Recognition at event
- Name on event signage
- Acknowledgement in AGM article in the Winter issue of the *Keystone Professional* and on the APEGM website

** Sponsors may donate unoccupied seats to engineering students, engineers and geoscientists-in-training, clients, or other special guests as desired.*
*** Sponsorship/Supporter amounts include GST.*

Contact

APEGM
870 Pembina Highway
Winnipeg, MB
R3M 2M7

204.474.2736 ext. 233

204.474.5960

events@apegm.mb.ca

Ingenium
APEGM CONFERENCE 2013

PROFESSIONAL DEVELOPMENT SEMINARS Thursday, October 24

7:45-8:30	Registration & continental Breakfast - Loggia, 7th Floor			
8:30-9:15	Welcome and Keynote - Provencher Ballroom, Lobby Floor Keynote Speaker: Minister Steve Ashton			
	...As a Profession	***...In your workplace***	***...In the province***	***...In your personal career***
9:20-10:20	"ABC's of P.Eng." Grant Koropatnick, P.Eng	"Communicating Across Cultures" Dr. Jitendra Paliwal, P.Eng.	"Electronic Seal" Mark Stephens	"Getting it Done and Done on Time" Ann Christoffersen
10:20-11:40	Coffee Break & Booths - Mezzanine Level			
10:40-11:40	"Facing the Challenges of Registration" Sharon Sankar, P.Eng.	"Security in the Real World: How to Reduce FUD" Vijay Sankar, P.Eng.	"When Demand Exceeds Supply" Kathryn Atamanchuk, P.Eng.	"Understanding Yours and Others' Personality Types" Lisa Moretto
12:00-1:30	Lunch & Keynote - Provencher Ballroom, Lobby Floor Keynote Speaker: Jim Kor, P.Eng., Urbee			
1:40-2:40	"Do you Need a Certificate of Authorization?" Mike Gregoire, P.Eng.	"Diversity in the Workplace" Richard Ludwick	"Collusion & Corruption in the Construction Industry: Lessons from the Quebec Experience" Stéphane Bilodeau, Eng.	"Taking the Dread Out of Networking" Lisa Moretto
2:40-3:00	Coffee Break & Booths - Mezzanine Level			
3:00-4:00	"Public Interest Review Committee" Roger Rempel, P.Eng.	"So, You have to Give a Talk" Ann Christoffersen	"Engineers' Role in Sustainable Development" Dr. Hank Venema	"Conflict Management: How to Prevent, Contain, and Resolve" Lisa Moretto



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ABCs of P-E-N-G — 9:20-10:20

Did you know that every aspect of professional practice as an engineer or geoscientist is covered by the ABCs? The Act, By-laws and Code – the ABCs!!! Attend this session and here an overview of the three governing documents: The Engineering & Geoscientific Professions Act of Manitoba, the APEGM By-Laws and the Code of Ethics for the Practice of Professional Engineering and Professional Geoscience. The session includes some history, a fun ethics quiz and ample time for questions and answers with the Registrar.

Speaker: Grant Koropatnick, P.Eng.



Grant Koropatnick, P.Eng. is the Executive Director & Registrar for the Association of Professional Engineers and Geoscientists of Manitoba (APEGM). He is a graduate Civil Engineer and holds a certificate in Human Resource Management from the University of Manitoba. With more than 20 years experience, has held technical and managerial positions in human service environments including the University of Manitoba and the Pembina Trails School Division. Born and raised in Winnipeg, Grant enjoys a variety of interests in his spare time including running for fitness, writing, public speaking and philanthropy.

Communicating Across Cultures — 9:20-10:20

In an increasingly globalized world where geo-political boundaries are fast disappearing, cross-cultural communication has become of paramount importance. Gone are the days when people who were born and raised in similar cultures did business deals locally. In today's globalized world, it is imperative that engineering professionals are aware of the cultural sensibilities of their business counterparts. ***Communicating Across Cultures*** takes a light-hearted approach to discuss what constitutes culture and what are the various factors that influence it. Several real-world examples are discussed to highlight the interesting scenarios and faux pas cultural differences have led to in different professional situations. This interactive workshop will help engineers and engineering managers realize the importance of cross-cultural communication in a professional setup and provide them with some cues to interact more effectively when dealing with other professionals who are from a different culture.

Speaker: Dr. Jitendra Paliwal, Ph.D., P.Eng.

Electronic Seal — 9:20-10:20

Speaker: Mark Stephens

Getting it Done and Done on Time — 9:20-10:20

Let us face it: there is never enough time to do all we need to do. This is true at home and at work. We are all given exactly the same number of hours in the day but some people seem to accomplish more than others. How do they do it? This session will explore why we procrastinate, understand how we can overcome procrastination, discuss how to set effective goals, provide rubrics for determining task priority and develop personal ways to increase efficiency.

Speaker: Ann Christoffersen



Ann has been an RGI Consultant for 17 years and has been in the technical communication field since 1990. She has developed and delivered written and oral communication skills courses in both the United States and Canada.

She holds a BS in Computer Science and Mathematics from Clarkson University and has a Masters of Science degree in Instructional and Performance Technology from Boise State University. She is a Certified Human Performance Analyst specializing in Front End Analysis, developing training programs to support major systems acquisitions. Ann is retired from the US Army Reserve, with over 20 years combined service from Active Duty, National Guard, and Reserve components.

Ann has been a technical writer for Accelerated Technology, Inc. working with programmers and customer support to develop effective user guides. As a consultant, she has worked with companies to comply with various portions of the Americans With Disabilities Act. She was also an outreach instructor for South Western Oregon Community College and the University of Southern Alabama teaching business writing skills and editing skills. Ann has also worked with the IEEE press reviewing and editing several books prior to publication.

Ann teaches regularly to the General Electric, APEGM, Manitoba Hydro, SaskTel, and TetraTech, an engineering consulting firm. Her teaching experience is extensive, across varied audiences, and she has mentored many other presenters.

Facing the Challenges of Registration — 10:40-11:40

The presentation will focus on some of the trends that are happening on the Admission's side and how APEGM is dealing with these trends. In particular, Sharon will be speaking about the unique issues surrounding foreign-trained engineering (and geoscience) applicants and how they can negotiate the Canadian provincial licensure process, which is quite unique in comparison to the rest of the World.

Continued on next page



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Facing the Challenges of Registration 10:40-11:40

Speaker: Sharon Sankar, P.Eng., P.E.



Sharon has been Director of Admissions for the Association of Professional Engineers and Geoscientists of Manitoba since 2003. Over the years, she has seen and helped to implement many changes in policy and has noted major changes in all applicants' knowledge and attitudes towards registration.

Speaker: Claudia Shymko

Claudia Shymko is the Assessment Officer at APEGM. She meets with internationally trained engineers and geoscientist to discuss licensing requirements and assists them through the academic assessment process. Currently there are 392 people who are on the academic assessment program.

Security in the Real World: How to Reduce FUD 10:40-11:40

A simple search on IT Security Topics at DuckDuckGo (or Google, perhaps :) gives you enough information to keep you occupied for the rest of your life. Mobile devices, medical devices, and all sorts of equipment ranging from SCADA systems to home projector systems have been successfully targeted and broken into by vandals, government agencies, crooks, and business rivals. What can you do to balance security and business requirements? How can you reduce legitimate security concerns without changing your entire business model?

Vijay Sankar's presentation provides you practical ideas on how to apply traditional 'defense-in-depth' techniques in today's business networks where coolest gadgets and applications are used and abused.

Speaker: Vijay Sankar, P.Eng.

Vijay Sankar is the President & CEO of ForeTell Technologies Limited, a Winnipeg-based company with over 25 years of experience in providing Consulting Services, Products, and Managed Solutions for clients and customers in Canada, United States, and elsewhere.

When Demand Exceeds Supply: Manitoba's Engineering Labour Market Outlook 10:40-11:40

In late 2012, Engineers Canada issued 'The Engineering Labour Market in Canada: Projections to 2020' report (available at: *http://www.engineerscanada.ca/files/w_Engineering_Labour_Market_in_Canada_oct_2012.pdf*) that examines the demand for engineers across the country over the next seven years. This report clearly illustrates that Manitoba's demand for engineers already exceeds its supply in several disciplines. This talk will review the report from a Manitoba perspective and discuss how well we are positioned to address these labour challenges by reviewing the programs currently in place to support engineering in the province, exploring options to increase our supply of engineers, and identifying potential roadblocks.

When Demand Exceeds Supply: Manitoba's Engineering Labour Market Outlook 10:40-11:40

Speaker: Kathryn Atamanchyk, P.Eng., MBA, PMP

Kathryn Atamanchuk is an Engineer-in-Residence at the University of Manitoba. In this capacity, Ms. Atamanchuk supports Manitoba's Aero-Engine Test industry through delivery of specialized courses and facilitation of research initiatives between the University and industry partners. Prior to this, Kathryn worked for StandardAero for 13 years in various engineering and leadership roles.

Kathryn is registered with APEGM, has a B.Sc. in Mechanical Engineering (Aerospace Option) and an MBA from the University of Manitoba, and holds a designation as a Project Management Professional. She is currently sits on the APEGM's Committee for Increasing the Participation of Women in Engineering (CIPWIE) and Investigation Committee and is a member of the Dean's Advisory Council for Women in Engineering.

Understanding Yours and Others' Personality Types 10:40-11:40

In the words of the singer "Lady Gaga": ***We were born this way!*** Each of us enters this world with an innate personality that determines how we interact, engage, energize, think, and navigate our surroundings. Understanding who we are and being able to recognize traits in those around us can help make our teams and relationships more effective. Have you ever come away from a meeting with a completely different understanding of the outcomes than those of others who attended? What we hear, perceive and decide is affected by our personality. This session will introduce you to the Myers Briggs Type Indicator tool and walk you through a self-assessment. You will also learn about additional resources to help you further your knowledge in this vast field and apply type research to conflict, team building, communication, and leadership.

Speaker: Lisa Moretto



Lisa is the President of RGI International, Inc. with offices in Winnipeg, MB and Rochester, NY. She has 20 years experience teaching business and technical communication courses for government agencies, private corporations, consulting firms and professional societies. Her courses consistently receive positive reviews. She is an engaging and interactive presenter and a frequent invited speaker at international conferences.

She has experience as an Information Developer for IBM in the US and as a Learning Products Engineer for Hewlett-Packard in the UK. Lisa holds a BS in Technical Communication from Clarkson University, Potsdam, New York, and an MS in User Interface Design from the London (England) Guildhall University.

She has co-authored four books with Ron Blicq: ***Get to the Point!, Guidelines for Report Writing***, and ***Technically Write!*** with Prentice Hall, and ***Writing Reports to Get Results*** with the IEEE Press.

Understanding Yours and Others' Personality Types 10:40-11:40

Lisa is an adjunct professor at the Rochester Institute for Technology, where she teaches Technical Writing, Business Communication, and Effective Technical Communication. She is the Immediate Past President of the Rochester Engineering Society and contributes a monthly article to the RES Magazine. She is an active member of the Society for Technical Communication and the IEEE Professional Communication Society.

She has presented to various industries and organizations throughout Manitoba including Manitoba Hydro, Cangene, Richardson International, Health Canada, Cargill, APEGM, MTS/Allstream, and several engineering firms including Genivar, KGS Acres, and Tetra Tech/Wardrop.

Do you Need a Certificate of Authorization? 1:40-2:40

Does my corporation need to be registered? What are my ethical obligations to ensure that my organization is compliant with the Engineering and Geoscientific Professions Act? Find out the answer to these questions and others you might have for the Professional Standards Officer.

Speaker: Michael Gregoire, P. Eng., B. Env. D.



As the Professional Standards Officer at APEGM, Michael provides assistance to Investigations, Discipline, Enforcement, Legislation, Standards, and the new CPD Program. Prior to taking on this role in 2008, Michael worked in the world of consulting engineering, where he provided solutions to problem buildings.

Diversity in the Workplace 1:40-2:40

In this session, we will discuss some of the elements of diversity and explore some of the benefits and the challenges that diversity brings to our communities where we live and work. We will also review what the Workplace Safety and Health Act and The Human Rights Code say about peoples rights and responsibilities regarding diversity issues.

Speaker: Rich Ludwick



Rich`s most recent employment was with Manitoba Hydro as the Corporation`s Human Rights & Respectful Workplace Advisor. He functioned in that position for approximately 9 years. Since retiring, Rich has been consulting and delivering workshops on human rights and human resources topics as requested. Prior to working for Manitoba Hydro, Rich was employed as a Human Rights Officer with the Manitoba Human Rights Commission for about twelve years.

At Manitoba Hydro and at the Manitoba Human Rights Commission Rich provided consultation services on human rights related matters to business owners, executives, managers, human resource practitioners, supervisors, employees and collective bargaining units regarding all aspects of work, services and accommodations. He also conducted investigations, including the collection of evidence from the conflicted parties as well as from witnesses. Rich facilitated early resolution and mediation of complaints and conducted training/education activities.

Rich has also been employed as a Training Consultant, Organization and Staff Development, Manitoba Civil Service Commission and as an Instructor for the Certificate Program for Intercultural Trainers at Red River College.

During his employment, Rich was a member of the Human Resource Management Association of Manitoba and he was awarded the Certified Human Resource Professional designation.

Diversity in the Workplace 1:40-2:40

Collusion and Corruption in the Construction Industry: Lessons from the Quebec Experience 1:40-2:40

Two years after its creation, the Quebec Commission of Inquiry on the Construction Industry continues to make headlines in Quebec and across Canada. In his presentation, the representative of the Ordre des ingénieurs du Québec (OIQ) will summarize the schemes revealed to date by this commission and the involvement of certain engineers in them. He will review the reactions of the various actors (governments, consulting engineering firms) and give a detailed account of the many actions taken by the OIQ with its members, firms, the government, the media and the commission in an effort to restore public confidence in the profession. No province is entirely safe from these schemes and all provincial associations should learn lessons from Quebec's experience.

Stéphane Bilodeau, Eng.



As President of Groupe Énerstat inc. since 1996, he has led a team that develops and produces a range of energy management systems that use phase change materials to recover and store energy. As part of his duties, he has authored many national and international patents and trademarks.

Mr. Bilodeau, who has a Ph.D. in Mechanical Engineering (thermodynamics), also oversees the development of a thermal storage technology using phase change material (which received the ASHRAE Technology Award in 2007 and the AQME's Technological Innovation Award at its Energia Gala in 2006) and of Novacab technology, which was recognized by the Society for Automotive Engineers (SAE) as state-of-the-art technology for heating and air conditioning in special vehicles (long-haul trucks, alternative fuel vehicles, etc.).

As associate professor and lecturer at the Faculty of Engineering of the Université de Sherbrooke, he has taught applied thermodynamics, energetics and heating and air conditioning for over 15 years. He was formerly employed by General Motors, where he worked in the area of thermal systems.

Taking the Dread Out of Networking 1:40-2:40

Most people do not get overly excited about networking events because chitchatting with strangers can be rather awkward and uncomfortable. Those that master the skill of 'working a room' find themselves as key leaders and points of contact for friends, colleagues, and clients. This session will present some Do's and Don'ts for networking and teach you some techniques to be more confident, approachable, and effective at this all-important business tradition.

Speaker: Lisa Moretto



So, You Have to Give a Talk? 3:00-4:00

Most people fear delivering a presentation in front of a group. This is true for a short informative presentation at a meeting with peers or for a longer technical presentation to a group of specialists. With a little initial planning and organization, your content will make more sense to your audience and you will have more confidence when you speak. This session will describe a formula for structuring your information, however long the presentation, and provide tips on being a more engaging presenter.

Speaker: Ann Christoffersen



Public Interest Review Committee 3:00-4:00

This session will include an overview of the role of the newly instituted Public Interest Review Committee (PIRC), established by APEGM's Proposed Advocacy Framework. The session will also include a discussion on the likely types of issues that could be submitted from stakeholders outside of APEGM for review and assessment by the PIRC. A discussion will also take place exploring potential advocacy issues initiated internally by APEGM, in fulfillment of its obligations to protect the public interest.

Speaker: Roger Rempel



Senior Environmental Engineer, Associate - Stantec, Winnipeg, MB.

Roger Rempel has over 20 years of experience in environmental assessment, quantitative risk assessment, criticality assessment, environmental systems modeling in air and water quality, and public communications.

Roger was a Principal at TetrES Consultants Inc., an environmental consultancy that joined the Stantec organization in June of 2010.

He has contributed to and managed multi-disciplinary study teams applied to a range of operations including municipal water and sewer infrastructure, hydroelectric power generation developments, chemical plants, manufacturing facilities and agricultural/food processing plants throughout Western Canada. Roger is an elected Councillor on the APEGM Council and chair of the ATF - Advocacy Task Force.

Engineers' Role in Sustainable Development 3:00-4:00

Speaker: Dr. Hank Venema



Dr. Henry David (Hank) Venema is a professional engineer with a diverse natural resource background spanning water resources, agriculture, energy, climate change mitigation and adaptation, rural development, ecosystem management, environmental economics and environmental finance. He directs IISD's Water Innovation Centre and Natural and Social Capital Program.

Conflict Management: How to Prevent, Contain, and Resolve 3:00-4:00

Conflict does not have to be a bad thing. Many creative solutions have been a result of differing opinions. If a team agrees 100% of the time, then someone is hiding something. This session introduces the signs and effects of conflict and presents strategies on how to turn what may feel like a negative situation, into a neutral (or possibly a positive) situation. Participants will be exposed to the Third Side concept of conflict resolution and the different roles and contributions parties bring to the situation. The Third Side is an outcome of the Global Negotiation Project at Harvard University.

Speaker: Lisa Moretto



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Your Vote Is Needed:

Membership Approval for A Proposed Advocacy Framework and Bylaw to Fully Engage Our Professional Obligations under the Act.

Councillor Roger Rempel, FEC, P. Eng. Chair, APEGM Advocacy Task Force

Describing Key Elements of the Advocacy Framework and Proposed Bylaw Changes.

ATF developed the Framework and accompanying Bylaw/Terms of Reference package with the intention of providing APEGM with a policy and structure that offers evaluation of issues in an atmosphere where technical enquiries are given respectful treatment outside a political arena.

ATF and its counsel recognized that decisions on APEGM advocacy can be made that are not consistent with a position which may be advanced by APEGM members or their employers, and this acknowledges that it is merely APEGM's obligation to ensure its views on the application of engineering/geoscience principles to an issue are known and understood. It is still the government's obligation to make decisions which may be unpopular or which may not be responsive to APEGM's views on the risk to the public interest.

The Proposed Framework

Figure 1 presents a flow chart describing key elements of our proposed framework, as guided by these principles.

In the proposed framework, the issues relating to regulatory considerations ***only*** are handled through APEGM's existing regulatory framework, shown in blue on the lower right hand side of Figure 1. The new elements of the framework (shown in red on the left hand side), relate to the proposed Public Interest Review Committee (PIRC) and the set of dual filters that issues must pass through prior to eligibility for potential APEGM advocacy where the public interest is at risk. The PIRC would be independent of Council and populated with a balanced, cross-sector panel of trusted advisors with experience in the professions. Groups that might be called upon to serve on this Board could include APEGM Past-Presidents, sector-specific experts and representatives from APEGM membership with applicable expertise. The first filter for an issue under consideration is "does the issue relate to our expertise as a P. Eng. or P. Geo.?" If not, then the process stops, and an issue is rejected and the decision and rationale is clearly conveyed to parties who raised the issue and also to APEGM membership and lastly, the general public.

If the answer to the first filter is "yes", then a 2nd filter is applied to categorize the issue as either a "Public Interest at Risk" issue or an issue "Within our existing regulatory framework". If the latter, then the issue is kicked into APEGM's existing regulatory framework, and processed accordingly. If the former, then the issue proceeds to the new "Potential Public Interest at Risk" framework. Once inside this process, PIRC would identify other interested parties related to the issue undergoing assessment. Further scoping of the issue takes place, involving deciding upon the relevant expertise to address the issue, the priority of an APEGM response and the timing of this response. The framework shows several "blocks" that contribute to this Issue Scoping, and others may be specified in accordance with consultations with APEGM membership.

Once the criticality, timing and assignment of lead roles for expertise is completed, issues related to immediate concerns and ethical obligations would be categorized under the "ACT NOW" priority, while issues related to general interest, public policy and other "bigger picture" items would be categorized for action within one year by APEGM. For both categories of priority, a selection would be made to develop an APEGM Advocacy Response in the form of a range of issue-appropriate potential outputs, ranging from government meetings to news releases, white papers and other outreach.

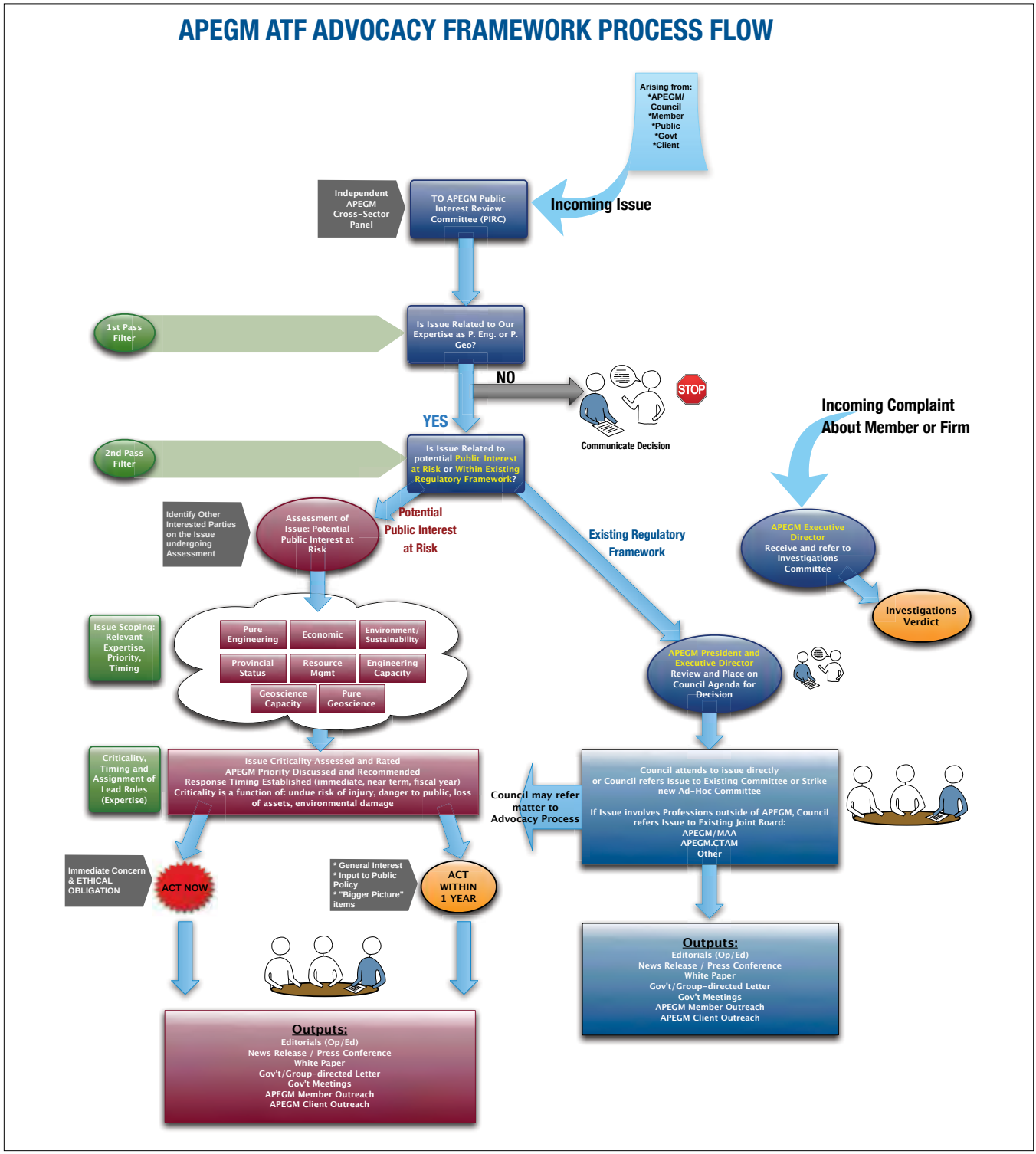
The Proposed Bylaw and Structure:

Along with the proposed Advocacy Framework, ATF proposed a Bylaw and Terms of Reference (ToR) consistent with stipulations under the Act. We received direction from APEGM Council to "bind Council to the items we need to do in Bylaws, and provide adequate detail on how to do these in a Terms of Reference". We also received direction from Legislation Committee, indicating a desire to see a Bylaw and Terms of Reference package that is transparent to both the public and APEGM membership, with mechanisms to ensure that if a future Council wished to modify the terms of the Advocacy Bylaw or its Terms of Reference, that Council would require open consultation with APEGM membership prior to enacting such changes. We agreed with this direction, as it is important that APEGM's approach to advocacy is a consistently applied process, and readily understood for members and the public who may have interest in it. In the repeated meetings involving Legislation Committee and ATF, it was agreed that the precedent established by the Continuing Competency Committee (CCC) would be used as a model for the Advocacy Bylaw and (ToR). In the CCC model, a Bylaw was developed that covers the essential items pertaining to CCC, while the Terms of Reference containing the precise detail of executing the measures in the Bylaw is referenced within the Bylaw by the date of Council's approval of that referenced ToR. A future change in the ToR would require Council approval, and that new approval date would require a Bylaw amendment to activate the revised (ToR). This approach was found to be appropriate in another area of public interest related to continuing competency of the professions, and is thought to also be valid for the area of advocacy in the public interest.

The Bylaw receiving Council approval for APEGM membership vote contains specifications regarding the following areas of the Advocacy Framework:

The establishment of a new committee – the Public Interest Review Committee (PIRC), and terms of its operation in its

Figure 1: Framework Process Flow



duty to assess issues submitted to it for the potential to place the public interest at risk.

Detail pertaining to the purpose and structure of the PIRC, including detail to clarify appointments and election of PIRC members.

Specification of the Terms of Reference adopted by Council and the date of Council's approval of the active Terms of Reference. This mechanism is in place to discourage changes to the ToR by any given future Council without membership engagement. This structure adheres to the Continuing Competency Committee model for its Bylaw and ToR.

A Council Policy on action in response to receiving the recommendations developed from the PIRC's assessment of an issue submitted for its consideration as an issue eligible for APEGM advocacy where the public interest is at risk.

Advocacy Framework and Bylaw Ratification Steps: Membership Voting on Bylaw Change Remains.

Following the endorsement of the Proposed Advocacy Framework and Bylaw package by APEGM's Legislation

Committee and APEGM Council in June, the Proposal now proceeds to APEGM membership for approval by vote. From September 20 through to October 4, an APEGM Member Online Forum will be established for member discussion prior to the electronic voting by APEGM Membership. During the period from October 4th through 17th, members will be asked to vote on the Proposed Bylaw supporting the Framework. On October 18th, the electronic vote results will be tabulated and then announced at APEGM's Annual General Meeting. If the membership vote approves the Bylaw, the Advocacy Framework and Bylaw will be ratified and enacted within APEGM for application on issues related to advocacy where the public interest may be at risk.

Voting to Advance the Voice of Our Professions.

Membership approval of this Bylaw will enact a formal, consultation-based and legally reviewed Advocacy Framework that will allow APEGM to address an expanded obligation under its Act to advocate where the public interest is at risk when it comes to issues related to our professions and our expertise. This obligation would expect us to take a more prominent role in the public realm on issues related to our expertise. While this has not traditionally been our comfort zone, **it is an opportunity to more precisely meet our stated obligation regarding advocacy under the *Act*, and is an opportunity to establish the Association and its members as trusted advisors to government. It affirms us as an informed and influential voice for the public in areas related to our expertise where our voice is most qualified to speak.** Furthermore, the proposed Advocacy Framework and accompanying Bylaw/Terms of Reference provide APEGM members and the public with more transparency, more consistency, and more understanding regarding how incoming issues requesting APEGM advocacy are considered.

The ATF considers this framework to be a result of extensive, repeated engagement with APEGM membership, APEGM Council and APEGM's Legislation Committee. We feel strongly that this framework provides much needed clarity to all parties interested in evaluation and execution of APEGM advocacy as it pertains to our obligation to protect the public interest when it may be at risk. We hope you review the details and concepts within the Framework, Bylaw and Terms of Reference and vote to support these measures.

In closing, as Chair of ATF, I would like to acknowledge the huge effort of the volunteer members of the ATF Team who worked so hard on this task over the past 1.5 years of our engagement: Councillor Rick Lemoine, Lorraine Dupas, Dave Ennis, Mary-Ann Gibson, John Woods, and Peter Washchyshyn. I also offer thanks to ATF's legal counsel Mr. Bill Olson, Q.C., the Legislation Committee Chair Allan Pollard and his committee for their valued input, APEGM Council for its ongoing guidance, and APEGM members who took the time to engage in our consultations in this effort.

Membership voting on this proposal will be conducted electronically between the period of October 4 through 17, 2013.

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WISE Kid-Netic Energy

N. Masood, EIT

We are excited to bring back girls club for girls in grades 3-8 who love science! For the fifth consecutive year, participants will meet weekly on Saturdays to go on field trips, meet engineers and scientists and participate in design-build-test activities including the annual APEGM Spaghetti Bridge Competition. It is a great community for the girls to develop confidence, presentation and analytical skills while having fun, playing and making new friends. This year the club will be facilitated by Ella Thompson (Engineering student and 2013 Schulich Leader) and Chantal Vincent (Science student). The girls club meets for three hours on Saturdays from September to March. Do you think you know of a young girl who might be interested in joining the club this fall? You can find more details and register on our website: *wisekidneticenergy.ca*

Perhaps you are already a woman in Engineering or Geoscience but still need an outlet to play? We have an inner-city girls club that we run through a partnership with the Boys and Girls Club of Winnipeg and we are always looking for mentors. You could spend a Saturday preparing and enjoying a nutritious meal with the girls followed by playing games in the gym and learning more about engineering and science through fun messy activities. It is a fulfilling way to earn your volunteer hours towards your professional designation. Please email us at *wise@kidneticenergy.ca* for more details.

WISE Kid-Netic Energy is an outreach program supported by the Faculty of Engineering at the University of Manitoba and APEGM. Our group is a member of Actua, a network of 33 members at universities and colleges across Canada that annually delivers hands-on STEM (Science Technology Engineering Math) programming. Annually we work with over 30,000 youth all over the province of Manitoba. In addition to girls club, we facilitate hands-on, science curriculum based learning through workshops in classrooms during the school year and science camps throughout the summer. Our group is also involved in APEGM's Committee for Increasing the Participation of Women in Engineering (CIPWIE). For more information about our group you can always find us online, like us on Facebook (WISE Kid-Netic Energy) or follow us on twitter (*@WISE_KidNetic*).

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Heritage Wiki

APEGM Heritage Committee

Our Association will have a Heritage Wiki!

The Heritage Committee of the APEGM is pleased to announce that their Wiki site will soon be active and ready for your comment and input. An electronic notice will be sent to all members when the site goes live this fall. The URL is *heritage.apegm.mb.ca*.

This new site is designed to let our members and the general public learn about the impact our Engineering and Geoscience Professionals and their projects have had in our own province and around the world.

The site is small and in its infancy, but it is designed to grow. We encourage your comments, additions and corrections. We especially welcome additions, as the Heritage Committee's collective knowledge of many important projects and people is limited.

The site is not a hall of fame. We are interested in the past but also in the present. Individual and corporate input is welcomed.

You can access this site without registering but if you wish to make additions or changes, we will require you to register, providing a minimum of personal information. Registration allows us to follow-up on comments and changes. Your information will not be used for any other purpose.

The site is operating under a Creative Commons License, which allows others to modify your work and which will allow the association to republish the work in other formats. Details regarding this license and copyright are available on the site.

This is a great opportunity for all of us to add to the collective knowledge of our rich heritage. Articles can be as technical as you wish. The target audience is not just our membership but also the general public. Long articles can be broken down into sub-articles and linked. We are also interested in general engineering and geoscience articles that could provide an overview for the benefit of the general public and members interested in broadening their knowledge (for example, what are some of the constraints and design requirements associated with cold weather, sparse population, difficult site access).

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IPIC Committee Review

Committee

L. Robinson, P.Eng.

As this readership is no doubt keenly aware, education and technical training in engineering and geoscience offers countless benefits and opportunities for personal and professional growth. Stimulating work in an extremely wide variety of specializations, reasonable compensation to afford a decent standard of living and the opportunity to apply science and technology to solve real problems for the betterment of society are perfect examples of these benefits. However, for many Manitobans, the opportunity and means to pursue such post-secondary education is not readily accessible – this is particularly true for the Indigenous population. According to Service Canada in the 2012 report entitled *Aboriginal People in Manitoba*, 4.1% of the Manitoba Aboriginal population have completed a university degree versus 10.9% of the non-aboriginal population [1]. In 2004, recognizing similar conditions, then APEGM President Arnold Permut sought to establish the APEGM Indigenous People's Initiative Committee (IPIC) with the mandate "To recommend initiatives by which APEGM may improve opportunities for Indigenous Manitobans to enter the profession of Engineering or Geoscience" including the development of promotional and educational materials for this purpose.

The IPIC comprises between 3 and 15 members (currently 14) who are appointed by the Executive Director from the APEGM membership for two-year terms and may include MIT's as well as up to two non-members. Committee members elect Chair and Vice-Chair positions for one-year terms, with both the general IPIC membership and chair positions being renewable for three consecutive terms. The Committee meets every two months to discuss ways in which to encourage Indigenous Manitobans into professional engineering and geosciences careers, reviewing minutes from previous meetings, discussing new business and preparing initiatives. The Committee provides an annual report of its activities to the Executive for inclusion in the APEGM annual report to the membership. The IPIC is presently seeking a geoscientist member to be part of the committee, please contact the APEGM office or the IPIC Chair - Randy Herrmann for further details.

IPIC helps indigenous Manitobans explore engineering and geoscience by distributing copies of an activity book titled "What Engineers Do." They have co-developed along with the committee for Women In Science and Engineering (WISE) activities that deal with engineering and geosciences intended for distribution to young students. These activities deal with flight, transportation, and engineered structures. The committee was also instrumental in revising the APEGM brochure to include more publicly accessible and inclusive language. They have also assisted Vale Canada Ltd. and the APEGM Kelsey Chapter in creating a bridge breaker activity and running a spaghetti bridge competition in Thompson, MB. IPIC was also involved in the development of the APEGA Ingenious web-site aimed at encouraging youth into science and engineering career areas. Furthermore, the Committee works closely with the University of Manitoba Engineering Access Program (ENGAP) to coordinate and provide support for prospective and current Indigenous students pursuing a Bachelor of Science Degree in Engineering.

The assistance and encouragement for education and professional development that IPIC and ENGAP provide increases opportunities for Indigenous people to achieve their goals. Improving education and technical training among Aboriginal people increases their ability to participate in the professional workforce and improve their personal well-being as well as that of those around them. When people succeed, the communities in which they live also succeed.

I would like to thank Randy Herrmann, P.Eng, Chair of IPIC and Director of ENGAP for kindly providing information for this article.

[1] Government of Manitoba. "Aboriginal People in Manitoba." Manitoba Department of Aboriginal and Northern Affairs, 2012. Web. 03 June 2013 <*http://www.gov.mb.ca/ana/pdf/AbPeopleMBweb.pdf*>

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IEEQ Program



Marcia Friesen, P.Eng.
Director, IEEQ Program

It is hard to believe that 10 years have already passed since the Internationally Educated Engineers Qualification Program (IEEQ Program) began at the University of Manitoba! From its beginning as a short-term pilot program to assist internationally-educated engineers meet requirements for registration with APEGM, the IEEQ Program has grown up and become a permanent program in the Faculty of Engineering, leading to both EIT registration with APEGM and a Post-Baccalaureate Diploma in Engineering from the University of Manitoba.

Ten years ago, Tariq Aziz, a young but experienced agricultural engineer from Pakistan was newly arrived in Canada with his spouse and two young children. Working the night shift as a security guard in a downtown office building, he attended the IEEQ Program during the day, taking a heavy course load in order to be finished in one year. After a co-op work term at Manitoba Hydro, he obtained full-time employment at Manitoba Hydro and became the first IEEQ graduate to become registered with APEGM as a P.Eng. He continues with Manitoba Hydro today in a senior technical role. I remember Tariq in my weekly class, often having a short power nap before the class started and apologizing for his fatigue, but always with a sense of humour and positive attitude. He's one of the many examples of goal-oriented New Canadians who have come through the IEEQ Program and are experiencing the well-deserved professional rewards of their efforts. It is rewarding to see the face of the engineering profession in Canada reflecting the positive contributions and leadership of New Canadians.

Currently, we work with over 50 internationally-educated engineers in the IEEQ Program at any given time. Most IEEQ participants have arrived in Canada within two years of entering the IEEQ Program, immigrating with their families for a variety of reasons and looking forward to re-establishing themselves and their engineering careers in Manitoba. The top five source countries are Philippines, Ukraine, India, China, and Pakistan, which together represent about two-thirds of all IEEQ participants. However, the diversity in the program is high, with another 29 countries represented among the past and current participants.

Cultural diversity in the engineering profession in Manitoba is certainly not a new phenomenon, but the Province's increasing immigration targets over the past 10 years combined with a specific emphasis on immigration of skilled professionals has required all professions to examine their registration pathways and career development opportunities for internationally-educated professionals. In the engineering profession, IEEQ was the first program in Canada in which an engineering regulatory body – APEGM – and a university partnered to deliver a qualifications recognition (QR) pathway that was recognized as a complete alternative to the traditional process of writing national technical exams through the regulator. Some other provinces had similar programs by which the university studies were a ***preparation*** for writing

national technical exams with the regulatory body, but IEEQ was the first program where the regulatory body accepted the program ***in lieu of*** exams. Engaging in QR of international applicants represented a partial delegation of the regulator's function to a post-secondary institution, and it also represented a non-traditional mandate for the university to be directly involved in professional certification, and these features made IEEQ unique.

Also ten years ago, Marcelo Lubocki was newly arrived in Canada with a spouse and two school-age children. Marcelo, a mechanical engineer, had been a design engineer and business entrepreneur in Argentina for many years. Prior to joining the IEEQ Program, he was working with local environmental chamber manufacturer, Conviron, as a test technologist. Subsequent to IEEQ, he registered as P.Eng. with APEGM and continued to work with Conviron, moving through a number of progressively responsible roles and currently as Conviron's Director of Innovation. As part of IEEQ's first cohort, Marcelo and his fellow colleagues in the program were important co-creators us. As a program, we learned a tremendous amount from the participants about the unique QR and career development challenges of internationally-educated professionals that helped us shape the program. Marcelo and others were truly pivotal in helping the Canadian engineering community understand the stories of internationally-educated engineers as stories of ***differences*** to be bridged, and not as ***deficits*** to be addressed. It is this view of difference, not deficit, which we try to integrate into all aspects IEEQ of the program.

Successful career development for newcomers depends on much more than a credential on paper, and IEEQ graduates have noted that IEEQ's holistic approach was important to their success. In addition to its purpose of technical confirmation via senior-level engineering courses, the program focusses on cultural fluency, opportunities for professional networking and branding in real industry contexts, a work experience component, and engineering-specific communication development. Graduates have also noted that the support of fellow participants was an important factor in their experience. For the vast majority of IEEQ graduates, the program has also connected them to successful career employment through their co-op work term and through the preparation for Canadian engineering practice, and many employers have used the co-op work experience as a way to successfully assess the potential for long-term fit.

A number of husband-wife, sibling, or even cousin pairs have come through the program. Sebastian Walrond and his younger brother Christopher Walrond are one such family story. Arriving in Canada from Trinidad, Sebastian and his wife and two boys established their life in Winnipeg. Sebastian brought a wealth of experience in international work in the oil & gas sector, and like many other internationally-educated engineers, the first few years consisted of settling in Winnipeg, working in unrelated employment, raising kids, and determining the best QR pathway. Sebastian came through the IEEQ Program, registered as P.Eng. with APEGM, and obtained a co-op position at Cargill AgHorizons, where he continues today – nine years later – as a senior project manager. Three years later, his brother Christopher, then-newly arrived in Winnipeg, also entered the IEEQ Program, also using the program toward successful QR, professional registration with APEGM, and an engineering career that began at EH Price Ltd. More recently, Sebastian spear-headed the IEEQ Alumni & Friends Inc., a non-profit organization that provides networking, way-finding, and professional development opportunities for internationally-educated engineers in Manitoba. Upon first meeting and working with Sebastian and Christopher, it was evident that like so many of our participants, the program may have provided an initial opportunity for entry into the profession, but they did all the hard work and took off running from there – and they would have succeeded through other pathways too. We are fortunate to have dedicated alumni such as Sebastian and Christopher, who proactively look for opportunities to continue to support the program.

As program staff, we are privileged to be able to walk alongside the IEEQ participants during their process of qualifications recognition. We see first-hand that it can be a grueling process as participants struggle with competing demand on their time, returning to university in a new system and often a second language after many years out of school, financial commitments while they are studying, continued adjustments to life in Canada, and the many impacts of ongoing stress on one's well-being. Yet, we are equally, if not more impressed by their resilience and determination toward their goals. Their professional successes are truly theirs to own. In the Faculty of Engineering at the University of Manitoba, we look forward to continuing to find creative ways to enhance the program's impact and value for internationally-educated engineers and for the engineering profession.

We look forward to celebrating the 10th anniversary of the IEEQ Program in partnership with the IEEQ Alumni & Friends' annual fundraising dinner on October 10, 2013. We invite you to join us at this special celebration. Tickets are only $35 and can be ordered from Angela Moore at amoore@apegm.mb.ca or from Yuriem Soler, P.Eng. at *ysoler@hydro.mb.ca.* You are also most welcome to contact me anytime to learn more about this event or any other aspect of the IEEQ Program. I can be reached at *marcia.friesen@umanitoba.ca.*



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Announcement

David A. Ennis P.Eng. FCSSE, FEC was awarded a Fellowship in the Canadian Society for Senior Engineers (CSSE) at their May 25 awards dinner in Quebec City. David is a University of Manitoba graduate and a past Executive Director of the Association of Professional Engineers of Manitoba. He is a Fellow of Engineers Canada and has served as a Warden of Camp B of the Ritual of the Calling of an Engineer. More information on CSSE can be found at ***http://seniorengineers.ca/csse/***

Ron Britton Announcement

Jean-Guy Rene, Eng., President of the Canadian Society for Senior Engineers, announces the election to the CSSE Board of M. G. (Ron) Britton, P. Eng. Ron is a Fellow of CAE, Engineers Canada and the Canadian Society for Bioengineering. He is a Past President of the Association of Professional Engineers and Geoscientists of Manitoba and was recently awarded the 2013 Meritorious Service Award of Professional Service by Engineers Canada. Ron is a Professor Emeritus at the University of Manitoba. As a CSSE Director for Manitoba Canada and a member of the Advocacy Committee, Ron has made it his goal to promote the aims and objectives of the CSSE to the senior engineers in the region.

CSSE is a constituent Society of the Engineering Institute of Canada. More information can be found at *http://seniorengineers.ca/csse/*

Letter to the Editor

Keystone Professional,

I read with interest the Heritage Committee's report on their trip to the first Hydro Electric Generating Station in Manitoba. They seemed to have had a great time. It reminded me of the display we have in the Manitoba Electrical Museum at 680 Harrow St. I thought that your readers would like more information about the station, which is highlighted in the Manitoba Electrical Museum's 1883 to 1900 displays.



Don Simons





FACULTY OF ENGINEERING RECEIVES FULL ACCREDITATION

Posted Thursday, July 11, 2013 10:00 AM



The Faculty of Engineering at the U of M is pleased to announce that all five BSc Engineering programs offered by the Faculty have had accreditation renewed for the maximum term of six years from the Canadian Engineering Accreditation Board (CEAB).

"This accreditation outcome is the result of the collective effort of virtually everyone in the Faculty of Engineering, "says Dr. Jonathan Beddoes, Dean of Engineering. "Accreditation for the maximum possible six years is a strong affirmation by the Accreditation Board of the high calibre of the engineering programs offered at the University of Manitoba. With this result in hand the Faculty will continue efforts to further refine the engineering programs and enhance the student experience of all engineering students."

The CEAB was established by Engineers Canada in 1965 to accredit undergraduate engineering programs that provide the academic requirements necessary for licensure as a professional engineer in Canada. Through the Accreditation Board's activities, the Canadian criteria and procedures for accrediting undergraduate engineering programs are now recognized around the world.

"The Baccalaureate degree programs in Biosystems, Civil, Computer, Electrical and Mechanical Engineering at the University of Manitoba are accredited by the Canadian Engineering Accreditation Board of Engineers Canada."[Official letter from CEAB]

The Canadian accreditation program is respected worldwide as one of the most rigorous programs of its kind. As a result, a number of engineering institutions in other countries have expressed an interest in having their engineering programs evaluated by the Canadian Accreditation Board using its accreditation criteria and procedures.

The accreditation process includes an accreditation visit and a qualitative and quantitative analysis of the curriculum content to ensure that it meets the minimum criteria. The CEAB may grant (or extend) accreditation of a program for a period of up to six years or it may deny accreditation altogether.

The Accreditation Board is currently composed of 15 professional engineers drawn from the private, public and academic sectors. The members are volunteers and represent different parts of the country as well as a wide range of engineering disciplines. The Accreditation Board also relies on the volunteer services of an extensive network of professional engineers who serve on the visiting teams and on committees.

APEGM Salary Survey - 2013 Report

The Salary Survey Committee conducted its annual employee salary survey between March 21 and April 22, 2013 to meet our objective of providing salary information for use by association members and the public. The full salary survey results are posted on the APEGM website at *www.apegm.mb.ca/SalarySurvey_Index.html.*

The Salary Survey is open to all eligible APEGM members and members-in-training working in Manitoba. An invitation to participate is sent to all 4293 members having a Manitoba mailing address. The survey is meant to be both inclusive and confidential, and for that reason notice of the survey and reminders are sent to all members.

This was the eleventh year using a web based survey format, and the third year using the APEGM website to access the survey. The Committee once again used the comments received from prior year participants to help improve the quality of the questions and the workflow process used to complete the survey.

In an attempt to increase the number of participants, the Committee elected to offer two iPad minis as randomly drawn prizes to participants who completed the survey. Congratulations to Daryl Gee, P.Eng. and David Jurkowski, P.Eng. – the winners of the iPad minis.

The response rate for 2013 was 32.5%, which is a decrease from 37.7% in 2012. The response rate had declined consistently over the previous three years from 31.1, 29.1 and 25.8 %, for the years 2009, 2010 and 2011, respectively.

The survey provides information based on the year of graduation of the Professional Engineers and Geoscientists in Manitoba. The year of graduation salary information contains the number of eligible members by year of graduation. The highest participation in the survey by year of graduation was still 2007, with 46.6% of eligible members responding. From 1981 on, all but one year (1993) had a response rate of more than 20% of eligible members.

A total of 75.9% of the 1297 respondents used in the survey analysis indicated that they received a salary increase in 2012, while 24.1% respondents did not get a salary increase, and 13 respondents reported a pay decrease. The average percentage salary increase for those who received an increase was 5.7%, up slightly from last year's 5.3%.

While the year of graduation salary information is one of the more interesting sections, the key objective of the survey is still to identify salary based on the value of the position to a company as measured by the APEGM point system, which is very similar to the point system used by the other associations. Members can determine how their compensation relates to others by calculating their own points and comparing to the survey results for similar rated positions.

One significant change for the year shows up in Figure 10: Mean Base Salary for Different APEGM Point Ranges by Gender. For 2013, female members with less than 200 points reported a mean base salary of $51,064 – down $7,207 from 2012 ($58,271), while their male counterparts experienced an increase of $1,284 to $66,380 for the same point range.



Salary Survey iPad Mini Winner Daryl Gee



Salary Survey iPad Mini Winner David Jurkowski

By way of comparison, the salary survey results for the other Western Canadian provinces are available in their respective association websites. The 2012 salary survey results for B.C., and 2013 for Saskatchewan, can be found at the following websites; *www.apeg.bc.ca*, and *www.apegs.sk.ca*. APEGA, the association in Alberta, prepares an employer survey and reports on "Value of Professional Services". The 2012 Value of Professional Services for Alberta can be found at *www.apega.ca.*

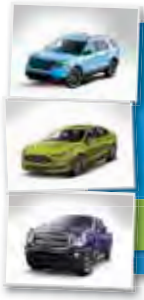
Thank you to the members who completed the survey and to those who provided their comments. Thanks to the committee members for their efforts this year, and to C. Clace for his efforts on the data analysis.

Prepared by: W.C. Boyce, Staff Support
Members: S. Quigley – Chair, W. Czyrnyj, P. Chan, A.M. Mian, I.R. Mikawoz, J.S. Payne and E.A. Thompson

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Nov 13 - 15	Foundation Design Workshop (1.8 CEUs)	Winnipeg, MB
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I Apologize

I apologized to my wife this morning.

My family and I had gone through a fairly typical work-day morning routine, which meant we were running late. We were all in the car and going from one daycare to another in order to drop off our children. I said something silly. She replied to my silliness, and I snapped at her in a way that was quite unbecoming.

Maybe it was due to the lack of sleep that I had subjected myself to this week. Maybe it was the absence of coffee in my system, which has an ever-growing dependency on caffeine. Maybe it was the stress induced by the pressure of finishing this article on the last day before I left for vacation. Likely it was a combination of these elements.

Whatever it was, my wife was on top of it. One of the things I love about her is her ability to handle situations such as these. She avoided rising to the occasion. She gave a calm summary of the sequence of events. She explained the intention of her message that had not been received as intended. She moved on.

And so, a few minutes later I apologized to her. It was by text message. But, that is a conversation for another day.

In our professional lives, we are quite regularly faced with conflict. Hopefully it is not with a co-worker, but it could be. More often than not we face conflict with clients, authorities having jurisdiction, or regulators. Regulators like APEGM.

Having worked in this role for several years now, it's unfortunate to think that a member would perceive his interaction with our Investigation Committee as a conflict between APEGM and himself. However, I have witnessed several members bring this attitude to meetings with representatives of the Investigation Committee.

I can say with great sincerity that the Investigation Committee does not view the process as one of conflict between the member and the Association. They consistently bring the same demeanour that my wife managed to bring this morning; one that displays the fact that they are calm and approaching the situation factually. More importantly, they are looking to resolve the situation, not to point fingers.



So, as I say, it is unfortunate to see how several members have approached the complaints process. In particular, several members have come in with a certainty that they are absolutely correct. They are convinced that the entire Investigation Committee is wrong.

When I summarize this position in print, the ridiculousness of it is glaring. When there is a disagreement in my marital relationship, there is one person who holds a position different to that of another; a stand-off. I have come to learn that my wife has just as good of a chance of holding the better position. This comes from having respect for her.

It is somewhat understandable that a member may not initially trust the Investigation Committee since there is no prior relationship between the two parties. However, the numbers alone should be overwhelming. The Investigation Committee is comprised of approximately 15 people that are well-respected in their work. Furthermore, for technical matters, they engage an expert to provide a fully-unbiased position.

My advice to members is to approach the Investigation Committee in the manner that I was eventually able to muster this morning while interacting with my wife. Firstly, have faith in the competency of the Investigation Committee. Secondly, trust that they have not become emotionally involved in the situation. And, most importantly, be prepared to apologize.

We are all human. We all make mistakes. The Investigation Committee knows this very well, which is why they don't seek retribution. They are always seeking to help members better themselves and their practice. It is only when a member fails to recognize that they have erred that penalization comes into play.

When a member approaches interactions with the Investigation Committee in a confrontational manner, they always experience a bumpy ride. Members who regard the Investigation Committee as a sage provider of guidance in professional practice have a smooth ride. If you have the misfortune to find yourself in front of the Investigation Committee, do yourself a favour and come prepared to accept that you may have acted improperly. Just remember that saying "I am sorry" by text message is likely not appropriate.

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