

THE PROFESSIONAL



EDGE

ISSUE 154

JANUARY/FEBRUARY 2015



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President's Report



APEGS President
Andrew Loken, P.Eng., FEC

In the next few months we are going to be holding an open house so that all of our members have an opportunity to come in, see the new spaces and meet some of our new staff members.

Growth and Change

In this edition of the *Professional Edge*, we are spotlighting a few of the people and companies undertaking engineering and geoscience in the province. In the last 10 years, our membership has doubled. With that increased size we have increased the diversity of activities being performed in the province by professional geoscientists and professional engineers.

Other changes have taken place at APEGS itself. Our staff has grown in order to support the increase in membership. That meant that our offices were just not large enough to support all of our staff and activities. Last year we moved to new offices on Parliament Avenue and it has been a welcome change to be able to provide a comfortable and efficient working space for our staff members and to be able to provide enough meeting spaces for our committees and working groups.

In the next few months we are going to be holding an open house so that all of our members have an opportunity to come in, see the new spaces and meet some of our new staff members.



Even as we move into new space and celebrate the increase in membership we are moving into a time of economic uncertainty. We have grown steadily year after year for at least 10 years but that has generally been during a period of expansion in the province. Even in the downturn of 2008/2009 the membership continued to grow due to local high points such as the expansion in investment in the mining sector. This year with the downturn in the oil sector we are also seeing a more modest year for investment in the mining sector as well.

As of December 31, our membership renewals and resignations and waivers have been on par with previous years. Does this mean that our membership numbers will hold steady or even continue to grow? Or will there be a point that our membership declines if we see a lingering effect from oil prices? As an organization we need to try and understand what is driving our membership so that we can have appropriate resources to serve our ongoing needs.

Outside of our province, there are events that affect us as well. In the last few years there have been inquiries in two provinces into ethical and technical problems in the engineering profession. In consultation with the other Canadian engineering and geoscience regulators, we are trying to learn from these events and prevent similar problems here or elsewhere in the country.

One of the lessons we have learned is that not only must our members maintain and improve their competence but also that we, the members, need to be able to show our stakeholders in the government and in the general public that we are actively maintaining that competence. In the last edition, I talked about our Continuing Professional Excellence (CPE) program. I believe that we each need to strengthen our personal commitment to that program including the reporting of our CPE hours as part of our commitment to the people of Saskatchewan that we take seriously our role as professionals and our responsibility to uphold the safety of the public.



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UPCOMING COURSES	Course Code	Location	Date	*PDHs
CIVIL				
Flood Control, Land Drainage and Stormwater Management	05-0230-2305	Winnipeg, MB	February 12-13	14
Structural Engineering for Non-Structural Engineers	05-0224-2305	Winnipeg, MB	February 23-26	28
Flood Control, Land Drainage and Stormwater Management	05-0326-2305	Regina, SK	March 19-20	14
Asphalt Mix Design	05-0420-2305	Winnipeg, MB	April 9-10	14
Evaluation and Rehabilitation of Pavements	05-0422-2305	Regina, SK	April 23-24	14
ELECTRICAL				
Modern Power System Protective Relaying	05-0222-2305	Regina, SK	February 2-4	21
Grounding and Bonding of Electrical Systems	05-0423-2305	Winnipeg, MB	April 29-30	14
ENVIRONMENTAL				
Understanding Environmental Regulations	05-0114-2305	Winnipeg, MB	January 28-30	19
Risk Assessment of Contaminated Sites	05-0225-2305	Winnipeg, MB	February 25-27	21
CONSTRUCTION				
Avoiding Construction Claims by Improving the Quality of Drawings, Specifications and Bidding Documents Prepared by Owners and Consultants	05-1023-2297	Winnipeg, MB	January 22-23	14
MECHANICAL				
Mechanical Engineering for Non-Mechanical Engineers	05-0223-2305	Regina, SK	February 9-13	35
Optimizing Equipment and Facilities Maintenance Programs	05-0319-2305	Regina, SK	March 9-10	14
Practical Understanding of In-Plant Cranes and Lifting Equipment	05-0320-2305	Regina, SK	March 11-12	14
A Practical Understanding of Industrial Piping and Associated Equipment	05-0419-2305	Winnipeg, MB	April 8-10	21
Mechanical Engineering for Non-Mechanical Engineers	05-0421-2305	Winnipeg, MB	April 13-17	35

***PDHs:** Continuing professional education for licensed engineers is measured in Professional Development Hours (PDHs). A PDH is one contact hour of instruction or presentation.

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Profiles in Achievement

A Gallery of 2014 Engineering and Geoscience Projects

Usually, our job at *The Professional Edge* is telling Saskatchewan engineering and geoscience stories to APEGS members. This month, we're turning the tables. We invited APEGS members to send us pictures and descriptions of their proudest achievements from 2014.

We want to thank the contributors to this special feature. For those of you who didn't contribute this year, we will be doing this again next year, so keep your cameras handy to capture your 2015 engineering or geoscience success stories.



FNPA'S FIRST SOLAR PROJECT

The Company:

First Nations Power Authority of Saskatchewan (FNPA) is a not-for-profit entity created to assist the development and procurement of First Nations-led power projects and to act as an intermediary between First Nations, industry members and SaskPower.

The Accomplishment:

First Nations Power Authority (FNPA), along with its strategic partners, Lockheed Martin Canada and FHQ Developments, launched a commercial solar demonstration project. Showcasing new solar technology specifically designed for Canada's climate, the project is designed to offset power consumption for the Home Inn & Suites in Swift Current, Saskatchewan.

This solar photovoltaic power generation project is FNPA's first strategic off-grid and renewables (SOAR) demonstration project.

The solar demonstration project is expected to provide approximately 26,440 kWh/year of renewable energy to the local area and represents a reduction of CO₂ equivalent of 21 tonnes/year.

The Team:

In addition to two Saskatchewan engineers, three Lockheed Martin engineers worked on the project. As well, numerous other engineers consulted part-time in testing, quality assurance, logistics and design support roles.



IRD'S VECTORSENSE

The Company:

International Road Dynamics Inc. (IRD) is a world leader in highway traffic management, operating internationally in the ITS (intelligent transportation systems) industry.

With over 35 years of experience, IRD is a multi-discipline company specializing in advanced traffic control, weight enforcement, bridge protection and toll management technologies.

The Accomplishment:

IRD introduced a new sensor technology and traffic data collection solution at this year's NATMEC conference in Chicago and the ITS Europe conference in Helsinki, Finland. The VectorSense™ sensor suite provides a new measurement technology for traffic data collection, commercial vehicle operations and toll road operations. The VectorSense sensor suite is a highly accurate in-road tire and vehicle footprint measurement technology. The VectorSense sensor suite provides a previously unavailable level of vehicle traffic information.

The VectorSense sensor suite installation, which can normally be completed in five hours or less, consists of three 1.4 inches wide sensors, spaced approximately 9 inches apart in concrete, along with one or two inductive loops. This sensor suite provides highly accurate tire and vehicle footprint and speed information while detecting



and accurately identifying motorcycles and bicycles, single /dual/super single tire configurations and under inflated tires, all at highway speeds. In addition, it can be used in closed and open road tolling applications for accurate vehicle classification and measurement and can be used for freight source / destination analysis.

The Team:

IRD, headed by President and CEO Terry Bergan, P.Eng., has long fostered strong ties with the engineering profession. The development team for VectorSense was led by Executive Vice-President and COO Randy Hanson, P.Eng. and a team of IRD's in-house engineers.



SASKTEL

The Company:

SaskTel is the leading full-service communications provider in Saskatchewan, with \$1.2 billion in annual revenue and over 1.4 million customer connections including over 607,000 wireless accesses, 492,000 wireline network accesses, 250,000 Internet accesses and 100,000 MaxTV subscribers. SaskTel offers a wide range of communications products and services including voice, data, Internet, entertainment, security monitoring, messaging, cellular, wireless data and directory services. In addition, SaskTel International offers software solutions and project consulting in countries around the world. SaskTel and its wholly-owned subsidiaries have a workforce of approximately 4,000 full-time equivalent employees.

The Achievement:

As technology continues to evolve, it becomes increasingly apparent that broadband Internet access has become an essential part of everyone's daily lives. In order to meet Saskatchewan's rural broadband needs, SaskTel deployed Canada's first 2.5 GHz long-term evolution time-division duplex (LTE TDD) fixed wireless broadband network. The new broadband network provides SaskTel with a means of upgrading its aging rural copper infrastructure in order to provide an alternative broadband service. At a high level, network equipment placed on existing SaskTel towers provides wireless broadband connectivity to end users via customer premise located equipment.

The new network enables SaskTel to provide wireless broadband technology that is capable of delivering a shared 100 Mbps per sector. SaskTel will continue to evolve, expand and optimize the LTE-TDD network to meet current and future broadband demands. SaskTel will continue to actively research, develop and test the enhancements of this wireless technology as it evolves.

Future network evolution includes:

- Increasing antenna arrays to 4-way transmit and 4-way receive, which would provide peak speeds of 300 Mbps
- Developing of IP voice services over LTE
- Developing of inter-cell interference coordination to reduce cell interference and increase data throughput at the edge of cell coverage
- Developing of uplink coordinated multi-point, which would increase uplink data throughput by allowing end devices to communicate to multiple cell towers simultaneously
- Constructing of carrier aggregation to increase data throughput by combining spectrum channels together into a single data pipe
- Developing of technology aggregation where a user can use all wireless technologies simultaneously.

The Team:

The SaskTel design and project team working on the LTE TDD project included a number of APEGS members, Engineers-In-Training and engineering assistants from the access engineering, core engineering and technology management departments.



SRC BIODIGESTER

The Institution:

The Saskatchewan Research Council (SRC) is one of Canada's leading providers of applied research, development and demonstration (RD&D) and technology commercialization. With more than 350 employees, over \$67 million in annual revenue and 68 years of RD&D experience, SRC provides products and services to its 1,400 clients in 20 countries around the world.

The Achievement:

A team of energy engineers and specialists at SRC designed and constructed a biodigester for the Canada Agriculture and Food Museum that demonstrates how animal waste produces renewable energy. The biodigester uses waste organic material, which is broken down by micro-organisms in an oxygen-free environment to produce renewable energy called biogas, and a nutrient-rich slurry that can be used as a fertilizer. The energy from biogas produced over one week is the equivalent of 23 litres of gasoline.

The biogas produced from this biodigester is used for demonstration purposes. Museum visitors will have the opportunity to learn about agriculturally based renewable energy. Biogas can be used as a substitute or replacement for natural gas and can be used to reduce on-farm costs or to generate another farm revenue stream.

Demonstrating the biodigester at the Canada Agriculture Food Museum is a great opportunity for Saskatchewan to engage the next generation of engineers across Canada. This biodigester is an example of how investing in education and growing Canada's innovation system today will help this country lead the way in developing and commercializing ideas and technologies that will lead to a more sustainable tomorrow.

The Team:

Erica Emery, P.Eng. and Randy Fraser, P.Eng. led a team of specialists at SRC who built the small scale biodigester.

SRC PIPE FLOW EXPANSION LOOP

The Institution:

The Saskatchewan Research Council (SRC) is one of Canada's leading providers of applied research, development and demonstration (RD&D) and technology commercialization. With more than 350 employees, over \$67 million in annual revenue and 68 years of RD&D experience, SRC provides products and services to its 1,400 clients in 20 countries around the world.

The Achievement:

The Pipe Flow Technology Centre™ at the Saskatchewan Research Council (SRC) was recently expanded with the installation of a 100 mm diameter, high-pressure, temperature-controlled pipe loop, along with explosion-rated instrumentation, heat exchanger, pumps, motors and a pressure vessel for loading. These upgrades allow for research involving volatile oils and other substances, including carbon dioxide and expand the centre's capabilities to include higher pressure and temperature applications.

The expansion will facilitate several industry projects with

strong potential for technology commercialization, resulting in economic benefits to Saskatchewan and Canada. The centre's expanded capabilities will better serve the provincial and national oil and gas industry by being able to focus on conventional light, medium and heavy crudes.

SRC's Pipe Flow Technology Centre™ is acknowledged as an international leader in its field and has collaborated with Canadian and international clients on a range of ground-breaking pipeline and fluid mechanics applications.

The Team:

The project is currently being led by Dr. Piti Srisukvatananan, Engineer-In-Training and Lesley McGilp, P.Eng. Several individuals across SRC have supported the project including Dr. Ryan Spelay, P. Eng., Dr. Melissa McKibben P. Eng., Dr. Reza Hashemi, EIT, Tony Kaminski, P.Eng. and Graham Epp, Engineer-In-Training, along with numerous other technologists and specialists. The project also received engineering support from SNC Lavalin Saskatoon and SNC Lavalin Oakville.



Member Profile



This month *The Professional Edge* chats with Ambrey Faye, Engineer-in-Training, agriculture and bioresource engineering and articling agrologist with North Star Fertilizers.

Tell us about your personal and professional background.

I grew up on a mixed cattle and grain farm near Foam Lake, which is where I went to school. After that, I studied engineering at the University of Saskatchewan (U of S).

Why did you choose to go into engineering?

A few reasons. For starters, my dad was also an engineer. Like many young engineers-to-be, I always enjoyed math and science. But the biggest reason was that I have always been passionate about value-added agriculture and I saw the agriculture bioengineering program at the U of S as a way to contribute to that.

What was your biggest challenge in college?

Well, like all of us who go through engineering, you have to make sure you have no social life! The work load is challenging, so staying well-rounded can be a challenge.

There were also some challenges as a female engineer. The whole college has come a long way from where it once was, so I certainly wasn't as isolated as some of the female engineering students before me. I also took classes in the College of Agriculture and there were more women there. In any case, coming from a rural background where I had always been surrounded by boys, I didn't find it a great hindrance. There were definitely cases where I had to stand my ground to make my point. It builds character.

What was your first job after college?

I went to work for Milligan Biofuels in Foam Lake, my home town. It was a job that was near and dear to my heart in a lot of ways. It was value-added agriculture in a small town that had farmers involved from the outset. On top of that, it gave me a chance to give back to my home town. Best of all, I had the chance to work alongside my dad who also worked at the facility.

What is your single greatest accomplishment as an engineer?

I am proud of the team effort at Milligan. The plant is still operating and selling to the marketplace. Although I'm not there, it is still something of which I'm very proud.

What are your interests outside of work?

I like to do a lot of volunteering related to fitness. Small towns give so much to one's character and provide you with so many mentors that I feel it's very important to give back where you can. I'm an independent fitness instructor and volunteer with the local recreation board. I also work as an independent coach for Beachbody Canada, a company that promotes fitness and nutrition through at-home workouts and online consultations. I also coach the local highschool's senior girls' volleyball team.

Have you ever met anyone famous?

I once met Roberta Bondar. In grade 7, I was a Saskatchewan representative at a Canada-wide science fair in London Ontario. She was very patient and encouraging. She helped inspire me to pursue math and sciences and to dream big.

Who has had the greatest influence on your life and career?

It's hard to pick one! I had so many great coaches and mentors growing up. I still stay in touch with many of them.

My dad obviously was one of the biggest influences on both my life and career. He always encouraged me to make smart choices and challenged me when I got overconfident. I was very thankful to have the opportunity to work with him. He's in the Saskatchewan Agricultural Hall of Fame so he always inspired me to do more to do my best and to give back to my community. On both the personal and professional level, he taught me to show integrity.

College Corner



Georges Kipouros, P.Eng.,
Dean and Professor, College of Engineering,
University of Saskatchewan

We have enjoyed a busy fall at the College of Engineering. I'm pleased to share information about two very significant firsts achieved in recent months.



Our second-year engineering students were welcomed into their engineering programs as the college proudly hosted the inaugural Hard Hat Ceremony on November 26, 2014. The event featured a colourful display of hard hats representing the engineering disciplines of chemical (blue), civil (orange), environmental (black), geological (green), computer (grey), electrical (yellow), engineering physics (beige) and mechanical (blue).

About 450 second-year students are studying across the eight disciplines this year at the college. The hard hat is symbolic of the high priority placed on safety in engineering and provides our students with a keepsake that marks their passage from general engineering studies in their first year of the undergraduate degree program to their narrower program of study.

Several of our department heads and faculty members were on hand to welcome each group of new program entrants. We appreciated having APEGS President Andrew Loken, P.Eng., FEC, join us and share an important message with our students about safety and the symbolism of the hard hat from an industry perspective.

Since this is the first year for the ceremony, we also provided hard hats to current students in third and fourth year. We look forward to having our current first-year and future students in the undergraduate program joining us in coming years at this new annual celebration.

On December 16, we announced and welcomed the new SaskPower Chair in Power Systems Engineering, C.Y. "Tony" Chung, who has moved here from Hong Kong to take on this very significant role. Dr. Chung will be working to advance academic activities and applied research in power systems engineering development in the province. He joins us from the Hong Kong Polytechnic University, where he was an associate professor. Among his research interests are smart grids and renewable energy and power system stability and control.



SaskPower provided \$3.5 million to fund the chair, as well as laboratory improvements, scholarships, research and curriculum development related to power systems engineering. Laboratory renovations supported by the funding started in December and include the purchase of more energy and space-efficient equipment. As well, the number of lab stations is being increased from six to 14, allowing for smaller student group sizes while accommodating increasing enrolment in electrical engineering.

The improvements mean our students will gain more hands-on experience, benefiting their careers and the industries in which they will ultimately work.

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APEGS View



APEGS funds Engineering Library improvements

The Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) presented a cheque to University Library and College of Engineering representatives on November 27 as part of a three-year, \$45,000 funding agreement. APEGS is donating the funds to support the Engineering Library as it develops infrastructure and services to meet the needs of students, faculty and staff of engineering and geological sciences at the U of S.

"Libraries are the ultimate repositories of knowledge and, with our growing economy, Saskatchewan needs engineering knowledge more than ever. APEGS is proud to make these grants that will help our students and researchers meet the province's needs," said APEGS President Andrew Loken, P.Eng.

The funding is being offered in three annual installments of \$15,000, but flexibility is offered in the agreement to enable higher annual instalments depending on the work and associated costs being completed in any given year. As well, the agreement could be renewed on a three-year basis as a further commitment by APEGS to support ongoing needs and improvements.

"We thank APEGS for supporting Engineering Library innovation," said Dean of Engineering Georges Kipouros, P.Eng. "Library renewal is key to supporting our students' success."

COUNCIL NOTES

November 27-28, 2014, Delta Bessborough, Saskatoon, SK
14 of 19 Councillors present

- Council and staff observed a moment of silence in remembrance of the victims massacred on December 6, 1989 at École Polytechnique.
- The Image and Identity Board reported that all 2014 funding requests for the constituent societies had been approved.
- Council noted and received the Competency Profile for Professional Geoscientists at Entry to Practice submitted by Geoscientists Canada as a reference document.
- The Governance Board reported that Glen J. Weisbrod, P.Eng. was appointed to the Experience Review Committee for a three-year term.
- Changes recommended by the Governance Board to policy Coun1.0, Council Delegated Authority, were approved by Council.
- Lakkavally Chandramohan, P.Eng., Douglas P. Kee, P.Eng., Gordon A. Hill, P.Eng. and Shaffik Noor-Ali, P.Eng. were approved for Life Membership.
- The Image and Identity Board reported that Vincent P. Lahaye, P.Eng. was appointed to the Communications and Public Relations Committee for a three-year term and Deliang Han, P.Geo. was appointed to the Equity and Diversity Committee for a three year term.
- The Education Board reported that Ashley Forbes has been appoint as Vice-Chair of the Student Development Committee for a two-year term.
- Council was advised that the Education Board has provided sponsorship to the 2014 Saskatchewan Geological Society Open House and Public Lecture in the amount of \$500.
- Council approved the Association's 2015 budget as proposed by the Executive Committee.
- Polling day has been set as April 27, 2015.
- Council appointed the following to the 2015 Nominating Committee: Dwayne Gelowitz, P.Eng., FEC, Chair; Lynn Kelley, P.Geo., Geoscience South District; [Group II (Mechanical and Industrial) vacant;] Terry Fonstad, P.Eng., Group V (Agricultural and Forestry); [Members-in-Training vacant;] and [South-East District vacant]. The Executive Committee shall confirm the vacant positions.
- The next Council meeting is scheduled for February 5 and 6, 2015 in Regina.

APEGS 14th Annual

MLA Reception

APEGS held its 14th annual MLA Reception on Wednesday November 12, 2014 in Regina. The reception provides an opportunity for all MLAs to meet with members of the Association including Council, Past Presidents and committee chairs. A variety of issues related to the engineering and geoscience professions were discussed in an informal setting.



APEGS President Andrew Loken, P.Eng., FEC presided over a short program which included greetings from Saskatchewan Party MLA Warren Steinley and Cam Broten, Leader of the Opposition. APEGS would like to thank the MLAs for attending this event and the volunteers for helping make the event a success.



Executive Director and Registrar Dennis Paddock, P.Eng., FEC, FCSSE, FCAE, FGC (Hon.), Warren Steinley, Saskatchewan Party MLA and APEGS President Andrew Loken, P.Eng., FEC



Warren Steinley, Saskatchewan Party MLA



Leader of the Opposition Cam Broten

4 questions to ask about critical illness

The financial impact can be as devastating as the disease itself.

Because of medical advances, Canadians are more confident about physically surviving cancer or other critical illnesses than surviving the impact on their net worth. Find out if you're financially prepared for a critical illness.



1 Are you at risk for a critical illness?

About **2 in 5 Canadians** will develop cancer in their lifetimes. In 2013, it was estimated that:¹

- **96,200 Canadian men** will be diagnosed with cancer
- **91,400 Canadian women** will be diagnosed with cancer
- **Over 500 Canadians** will be diagnosed with cancer every day

About **9 in 10 Canadians** already have at least one risk factor for heart disease and stroke. In Canada, there is:²

- 1 stroke every **10 minutes**
- 1 heart attack every **7 minutes**

3 Can you afford the financial impact?

- Cancer drugs taken outside the hospital – and not automatically covered by the government – cost about **\$20,000** for a course of treatment. Newer drugs cost **over \$65,000**.¹
- Recovery from heart disease and stroke can **continue for years**, resulting in more medical bills and lost income and productivity²
- Family caregivers also have to deal with **wage loss** and the real potential of a **decreased standard of living**³

2 What are your chances of surviving it?

- **63% of Canadians** diagnosed with cancer are expected to survive for **5 years or more** after diagnosis¹
- The cardiovascular death rate in Canada has **declined by nearly 40%** in the last decade²
- **1.3 million Canadians** are living with the effects of heart disease, and **315,000** are living with the effects of stroke²

4 How can critical illness insurance help?

The **Engineers Canada-sponsored Critical Illness Plan** pays a lump sum upon diagnosis of a covered condition. You and your spouse may apply for benefit amounts **between \$25,000 and \$1 million** to help meet the costs associated with surviving a serious illness, including cancer, heart attack and stroke.

Choose from two types of coverage:

- **Essential** – covers **6** conditions
- **Enhanced** – covers **18** conditions

LEARN MORE AND APPLY FOR:
Engineers Canada-sponsored Critical Illness Plan
www.manulife.com/APEGS/CI

1-877-598-2273

(Monday-Friday, 8 a.m. to 8 p.m. ET)



Sources: ¹Canadian Cancer Statistics, 2013. ²Heart & Stroke Foundation Statistics, 2013.
³Colleen Nelson B.Ed, PBCE, "The Financial Hardship of Cancer in Canada: A Literature Review," Canadian Cancer Society, 2010.
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Report on the Professional Practice Exam 2014

PATTI KINDRED, P.ENG., FEC, DIRECTOR OF EDUCATION AND COMPLIANCE

The Professional Practice Exam was written by 327 candidates in 2014, a decrease of three examinees over 2013. The table below details exam results:

EXAM DATE	JUNE 7	OCTOBER 25
Number candidates	160	167
Highest mark (%)	90.5%	91%
Average mark (%)	75%	76.4%
Number failures *	6	1

* The grade required to pass the exam is 65%.

Registration, seminar and exam dates for Spring and Fall 2015:

Spring 2015

- Friday, March 13, 2015 – registration deadline for spring exam and seminar AND deadline for submission of post-bachelors work experience report (if none submitted previously). This is also the last day to cancel seminar and/or exam (reapplication would be required)
- Friday and Saturday, April 10/11, 2015 - Law and Ethics Seminar (Saskatoon)
- Saturday, May 30, 2015 - Professional Practice Examination (Regina and Saskatoon)

Fall 2015

- Friday, August 14, 2015 – registration deadline for fall exam and seminar AND deadline for submission of post-bachelors work experience report (if none submitted previously). This is also the last day to cancel seminar and/or exam if you had applied for the fall 2015 exam previously (re-application would be required).
- Friday and Saturday, September 25/26, 2015 - Law and Ethics Seminar (Regina)
- Saturday, October 31, 2015 - Professional Practice Examination (Regina and Saskatoon)

The seminar runs from 10:00 a.m. to 7:30 p.m. on Friday and 8:30 a.m. to approximately 4:00 p.m. on Saturday. Complete exam information including the application and how to order textbooks can be found on the APEGS website, www.apegs.ca, under Registration, Professional Practice Exam.



Jolene Arthur, Compliance Coordinator

Dennis Paddock, P.Eng., FEC, FCSSE, FCAE, FGC (Hon.), Executive Director and Registrar of APEGS, is pleased to announce the appointment of Jolene Arthur as Compliance Coordinator. Jolene began her duties on October 1, 2014.


Jolene graduated from the University of Regina in 2004 with a Bachelor of Science Honours degree in geography and minor in biology. She also completed four years of a Master of Science degree in geography, focusing on zoogeomorphology and erosion.

From 2009 to 2014, Jolene was a residential real estate agent with the Association of Regina Realtors. In 2012, she was given the opportunity to become the operations manager with a Regina-based holding company where she stayed until joining APEGS.

Jolene is an active community volunteer. For almost 10 years, Jolene has been a foster home for the Regina Humane Society and has participated in a number of volunteer activities for the RHS. She is also involved with the Red Cross and has assisted with the anti-bullying campaign and has received training in disaster assistance.

In Memoriam

Kent J. Cahoon, P.Eng.
 Barry D. Collins, P.Geo., FEC (Hon.), FGC
 Peter G. Eng, P.Geo.
 Raymond S. Globa, P.Eng.
 Robert J.E. Gotts, P.Eng.
 Mark R. Jamieson, P.Eng.
 C.R. Erland Jansson, P.Eng.
 William B. Lambert, P.Eng.
 Joe P. Lee, P.Eng.
 James W. MacKeracher, P.Eng.
 Hilton C. Mollard, P.Eng.
 Hubert R. Rudolf, P.Eng.



Changes to the Licensee Education Eligibility Criteria and Inter-Association Mobility

PATTI KINDRED, P.ENG., FEC

At its November meeting, Council passed a motion removing the high school academic eligibility criterion for Licensee applicants. Applicants who applied prior to December 31, 2014 with this level of education and 15 years of acceptable experience will be allowed to complete the application process with the Licensee Admissions Committee. No further applications will be considered under this category. However, the remaining two categories for restricted licences remain unchanged. This change to the educational requirements improves APEGS' consistency with other licensing bodies across Canada.

At the same meeting, Council approved improvements to the inter-association mobility application process for Licencees.

Background

The *Engineering and Geoscience Professions Act* (1997) entitles APEGS to issue a “restricted licence.” Persons who are issued a restricted licence become members of the Association with the rights and privileges of membership and are entitled to engage in the practice of professional engineering or professional geoscience within an approved field of practice without being supervised by a professional engineer or professional geoscientist.

The concept of restricted licence is not new in Saskatchewan. Prior to 1997, the Act allowed registration of individuals with a science degree as a P.Eng. This registration option was replaced with the concept of the “restricted licence” with the current Act. The Act Revision Committee, an ad hoc committee created by Council to assist with drafting the new Act and Bylaws passed in 1997, had the strategy of total regulation of the practices of engineering and geoscience, so registration of scientists was retained as well as incorporating others who are qualified to practise engineering or geoscience independently.

What is a Restricted Licence?

While restricted licence is one of the lesser-known licences, it is important for qualified individuals to consider its benefits and responsibilities.

A restricted licence is intended to give practice rights to individuals who do not have the academic qualification for registration as a professional engineer or professional geoscientist but can carry out certain specific engineering or geoscience functions based on a combination of education and experience. Demand for this licence has increased every year, and this trend is expected to continue.

Inter-Association Mobility of Restricted Licence Holders

This category of licensure is not available in all provinces at this time. Mobility for restricted licence holders registered in Canada is not covered under the Agreement on Internal Trade (AIT); however, APEGS Council has adopted a policy allowing for mobility of Engineering and Geoscience Licensees. Where the equivalent licence exists, APEGS will process applications for restricted licences consistent with the spirit and intent of this agreement. The AIT stipulates that labour mobility of qualified persons must not be impaired. Regulatory authorities that certify persons for occupations must consider if a person is already certified for the same work in another jurisdiction. If they are registered (i.e. have met the academic and experience requirements) and are in good standing with their home association, the regulatory body must recognize that person as qualified for that occupation, without any material additional training, experience, examinations or assessments.

Regulatory Acts vary across Canada. Therefore applicants should be aware that the application process will vary across the constituent associations/ordres. In Saskatchewan, APEGS will confirm an applicant’s registration with another regulatory body and confirm that the applicant is a member in good standing. APEGA and ASET have established a Joint Board of Examiners that approve scopes of practice for Alberta-based P.Tech. practitioners. P.Tech. applications for restricted licences will be processed as inter-association mobility applications.

Call For Council Nominations

Nominating Committee

The Nominating Committee, chaired by Past President Dwayne Gelowitz, P.Eng., FEC, is soliciting names for the positions described below. You may contact staff support to the Nominating Committee, Bob McDonald, at rhmcdonald@apegs.ca to propose the names of potential candidates. Bob may also be reached through the APEGS office in Regina by phone at 306 525-9547 (toll free 1-800-500-9547 North America), or facsimile 306 525-0851.

The Bylaws require the Nominating Committee to nominate, whenever possible, for President the person holding the office of President-Elect, and one person for the position of President-Elect (typically the person holding the office of Vice-President). Margaret Anne Hodges, P.Eng., FEC is the current President-Elect and Tara Zrymiak, P.Eng. is the current Vice-President. The Nominating Committee is also required to nominate, whenever possible, at least two persons for Vice-President and at least two persons for each vacancy on the Council.

Submission of Nominations

Any five members may nominate over their signatures an eligible nominee for any elective office, except that of President. Such nominations shall be in the hands of the Registrar at least forty-five days before the election is to take place. To meet this requirement, the nominations must be in the APEGS office no later than 5 p.m., Thursday March 12, 2015, as the election will take place when ballots are counted on Monday April 27, 2015, the “polling day.”

2015 Vacancies & Terms of Office

Officers

- President-Elect – one-year term
- Vice-President – one-year term

Group and Electoral District Councillors - to serve three-year term

- Group II (Mechanical and Industrial)
- Group V (Agricultural and Forestry)
- Members-in-Training
- South-East District
- Geoscience South District

Eligibility for Nomination

- Only members in good standing are eligible for nomination. A person elected to Council may only hold office while a resident of Saskatchewan.
- A person nominated for President-Elect must have served at least one full year (i.e. from the close of business at one annual meeting to the close of business at the next annual meeting) as a member of APEGS Council prior to the date on which they would assume office as President-Elect.
- A person who is nominated as a representative of an electoral group must be classified with the association in that electoral group. The Councillor representing Members-in-Training can complete the term of office after obtaining his or her P.Eng. or P.Geo. status.

Professional Engineers and Geoscientists

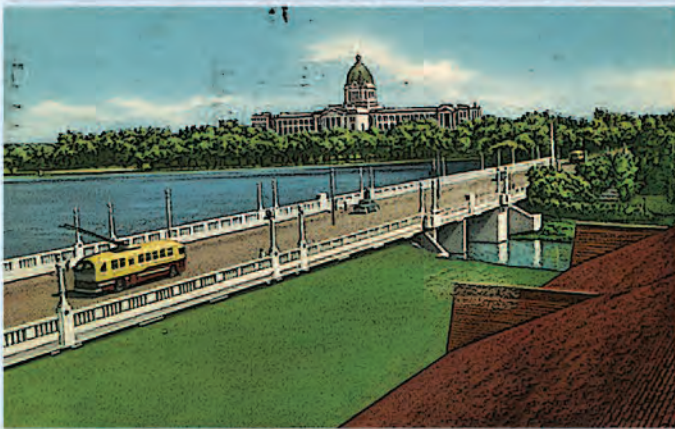
We see more.



www.apegs.ca

85th Annual Meeting and Professional Development Conference

Through the Decades - We See More



April 30 - May 2, 2015

**Hotel Saskatchewan
Regina SK**

Thursday April 30

- Evening Welcome Event

Friday May 1

- Professional Development Streams and Luncheon
- President's Reception

Saturday May 2

- Business Meeting
- Partners Program
- Youth Science Day
- Volunteer Luncheon
- Awards Banquet

Professional Engineers and Geoscientists

We see more.



www.apegs.ca



APEGGS

85th Annual Meeting

Through the Decades We See More

Hotel Saskatchewan, Regina, SK

EVENT SCHEDULE

Thursday April 30

Pre-Conference Workshops..... TBA
Welcome Event..... 6:00 pm - 10:00 pm

Friday May 1

Buffet Breakfast 7:30 am - 9:00 am
Professional Development..... 8:30 am - 12:00 pm and
Streams 2:00 pm - 4:30 pm
Tours 9:30 am - 11:30 am and
..... 2:30 pm - 4:30 pm
Professional Development Luncheon . . 12:00 pm - 2:00 pm
Past Presidents' / Council Meeting 3:00 pm - 4:00 pm
Past Presidents' Dinner and President's
Reception 5:30 pm - 11:00 pm

Saturday May 2

Buffet Breakfast 7:30 am - 9:00 am
Annual Meeting 8:30 am - 9:00 am (Registration)
..... 9:00 am - 12:30 pm
Youth Science Day 9:00 am - 4:00 pm
Partners' Program 10:00 am - 3:00 pm
Recognition Luncheon 12:30 pm - 2:30 pm
Committee Meetings 2:30 pm - 4:30 pm
Awards Banquet 6:00 pm – Reception
..... 7:00 pm - Banquet

BUSINESS MEETING

Saturday May 2

The 85th Annual Meeting of the Association will be called to order at 9:00 am. Members must register between 8:30 and 9:00 am to obtain a voting card.

The agenda will include:

- Minutes of the last Annual Meeting
- Business arising out of the minutes
- Report of committees
- Audited financial report
- New business
- Report of the scrutineers

SOCIAL EVENTS

Thursday April 30

- Welcome Event
Come and go reception

Friday May 1

- Buffet Breakfast
- Professional Development Luncheon
Keynote address from futurist Dr. Lowell Catlett
- Past Presidents' Dinner and President's Reception
This dinner and reception in honour of APEGGS Past Presidents is a wonderful opportunity to gather and socialize. All conference attendees and guests are welcome to attend.

Saturday May 2

- Buffet Breakfast
- Partners' Program
Activities and networking for the companions of the business meeting attendees.
- Recognition Luncheon
This luncheon will acknowledge our new professional and life members and recognize the many volunteers who contribute their time and talents to the Association.
- Awards Banquet
Saturday evening we celebrate members whose outstanding achievements and contributions have earned them the recognition and respect of their peers.
- Hospitality Suite

Keynote Speaker



Lowell Catlett, Ph.D.

At the 2015 APEGS Annual Meeting, we will be honoured to welcome as our special guest distinguished author and public speaker **Lowell Catlett, Ph.D.**

Dr. Catlett is Regent's Professor/Dean and Chief Administrative Officer at New Mexico State University's College of Agricultural, Consumer and Environmental Sciences where he has received honors as "College of Agriculture and Home Economics Advisor of the Year," as well as "Teacher of the Year".

An exciting futurist, his knowledge of technologies and their implications on the way we will live and work is addressed in his varied and upbeat presentations. Dr. Catlett works both nationally and internationally, presenting his "take" on trends in health care, agriculture, the environment, education, and more. Dr. Catlett has been a consultant for the U.S. Departments of Agriculture and the Interior of Defense and Labor; as well as many Fortune 500 companies.

Dr. Lowell Catlett received his doctorate in Economics from Iowa State University and in 2010 he received the Henry A. Wallace Award which was established in 1978 to honor an Iowa State University alumnus who has made an outstanding contribution to National or international agriculture in writing, teaching, research and leadership.

He has twice received the Don C. Roush Award for Excellence in Teaching, and also has received the prestigious Burlington Foundation Faculty Achievement Award for Outstanding University Teaching, as well as being one of two Western Regional recipients of the National Association of State Universities and Land Grant Colleges: "Excellence in College and University Teaching in the Food and Agricultural Sciences Award." He was awarded the "2007 Distinguished Alumni Award" from West Texas State University where he received his Bachelor's degree in Agricultural Business and Economics.

Dr. Catlett received the New Mexico Distinguished Public Service Award in 2013 from the Governor of the state because of his dedication to public service and to the betterment of life in New Mexico.

He and his wife, Joni, share their home in Mesilla, New Mexico, with three dogs, a passel of cats and a barn full of bats.

Professional Development Tracks

Friday May 1, 2015 - Hotel Saskatchewan, Regina, Saskatchewan

7:30 - 9:00	Buffet Breakfast			
	TRACK ONE Infrastructure	TRACK TWO Environment	TRACK THREE Innovation	TRACK FOUR Development
7:30 - 9:00	Saskatchewan's Electrical Needs Guy Bruce SaskPower	Potash Mining and Water Usage TBD	Enhanced Oil Recovery in Saskatchewan Ken From PTRC	Social Media Cosanna PrestonIddia
9:20 - 10:05	Tazi Twe Hydroelectric Proposal Mark Peters SaskPower	Water Requirements for Greenfield Potash Mines Greg Vogelsang Western Potash	Ken From PTRC	Stop Cutting Corners Safety is in Your Hands Duane Janiskevich
10:05 - 10:25	Networking and Refreshment Break			
10:25 - 11:10	Clean Coal Mike Monea SaskPower	Fracking Fluids Chad Lundberg Crescent Point	K+S Legacy Project Dwayne Selinger K+S	A Respectful Workplace Rustin-Ann Blanke
10:10 - 12:00	Sandy Narrows Hydro Scheme TBD	Diamonds in Saskatchewan George Read Shore Gold	Copper Cladding Remediation Legislative Building TBD	The "Human" Side of Engineering Alison Lara Ministry of Highways and Infrastructure
12:00 - 2:00	Professional Development Luncheon - Keynote Dr. Lowell Catlett			
2:00 - 2:25	Daryl Godfrey SaskTel	Queen Street Water Management System Michael Bucholzer City of Yorkton	Innovation Advancement Brooke Dobni	Richard Evitts University of Saskatchewan
2:50 - 3:35	SaskEnergy TBD	Gardner Dam Jody Scammel Water Security Agency	Cigar Lake's Jet Boring Mining Method Martin Wacker Cameco	Present to Persuade Kangsheng Wu Water Security Agency
3:45 - 4:30	Tom Kishchuk Mitsubishi Hitachi Power Systems Canada	When will we Notice Climate Change? Dave Sauchyn University of Regina	George Partyka Partner Technologies	Engineering Art Bruno Hernani University of Regina

News Beyond Our Borders

Executives of Ordre des ingénieurs du Québec appointed

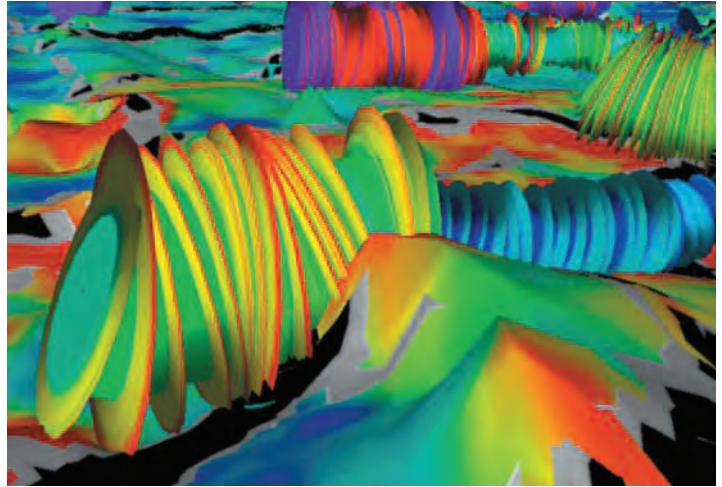
OIQ release - The board of directors of the ordre des ingénieurs du Québec announced the appointment of Chantal Michaud, Eng., to the position of Executive Director on November 13. Mr. Michaud, Syndic of the OIQ since April 22, 2013, succeeds André Rainville, Eng., who stepped down from the position after seven years.

Also at its meeting on November 13, the Board of Directors appointed Jacques Filion, Eng., who has worked as Assistant Syndic and Assistant Director at the Office of the Syndic since June 2014, to the position of Syndic.

Mr. Michaud began his career at the OIQ as Syndic on April 22, 2013 and has nearly 38 years of experience as an engineer, manager, negotiator and project manager. Under his direction, the Office of the Syndic implemented new working methods and set up the 3C team, which focuses on cases of corruption, collusion and illegal political contributions.

Mr. Michaud has a Bachelor of General Engineering from the Université du Québec à Chicoutimi and an SEP (Stanford Executive Program) degree from Stanford University in California, and has held important positions both here and abroad throughout his career.

Mr. Filion has a Bachelor of Applied Science from the Université de Sherbrooke and began his duties at the Ordre des ingénieurs du Québec on June 2, 2014 as Assistant Syndic and Assistant Director of the Office of the Syndic. Previously Mr. Filion has worked for over 30 years at Transport Québec.



csegregorder.com/

APEGBC starts next phase of seismic guidelines

Association of Professional Engineers and Geoscientists of British Columbia - British Columbia is risky ground. Colliding lithospheric plates deliver the threat of earthquakes, tsunamis and hurricane-force winds and floods. In addition, landslides threaten the transportation, energy and communication corridors connecting the province to the rest of Canada and the US.

In the face of these threats, the provincial government is working to reduce the risk that earthquakes, floods, landslides and other inevitable natural hazards pose to its citizens and our built infrastructure. APEGBC continues to play a critical role in assisting government in this effort.

In 2004, the BC Ministry of Education engaged APEGBC, with support from UBC's Department of Civil Engineering, to assist in implementing a seismic upgrade program for BC schools. This unique partnership led to the development of seismic assessment tools and the Seismic Retrofit Guidelines, which enable engineers to make informed and cost-effective decisions when designing seismic retrofits for school buildings.

The guidelines have been recognized with awards at both the provincial and national levels with awards for innovation and technical excellence, and have been modelled by government and emergency planners from the US to Israel.

The Seismic Retrofit Guidelines are just the start of a much larger and longer process. While the guidelines have had great success in protecting people from earthquakes in North America, property damage from earthquake disasters continues to rise. APEGBC is considering efforts to reduce economic as well as personal risk from earthquakes in BC.

Tidal energy conference rolls ashore in NS

Engineers Nova Scotia - Last November, delegates from around the world and many of the key players in the marine energy industry descended on Nova Scotia for the 5th International Conference on Ocean Energy (ICOE). ICOE is a global event focusing on marine renewable energy, which includes tidal, wave and ocean thermal among others. The event encompassed an exhibition, conference, tours and other activities to help advance the industry through collaboration and technology transfer.

Although the event covered all the major forms of ocean renewable energy, the main interest for Nova Scotia was discussion of the development of one of the world's largest tidal energy resources in the world, the Bay of Fundy.

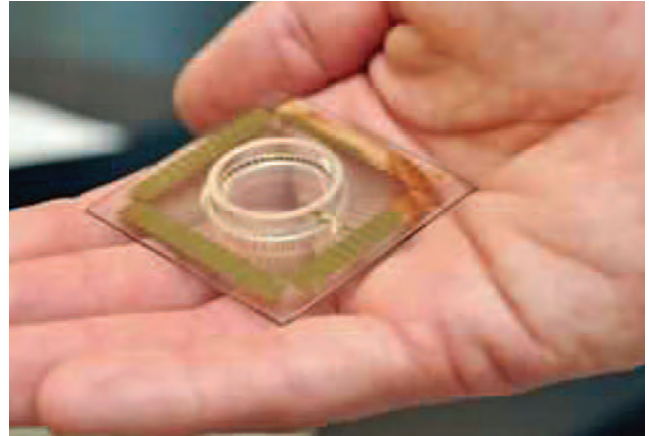
In March 2014, the Nova Scotia government announced that Open Hydro and Black Rock Tidal Power had been chosen to fill the vacant test berths at the Fundy Ocean Research Centre for Energy (FORCE), the organization which provides the site and electrical facilities for project developers to test their devices. These new berth holders at FORCE have joined the two existing berth holders, Atlantis/Lockheed Martin/Irving Shipbuilding and Minas Energy/Siemens/Bluewater.

The deployment of tidal energy devices at the FORCE berths is a major step in realizing the large-scale development of the tidal energy industry in Nova Scotia. However it will be critical to ensure that this form of renewable energy is cost-effective, reliable and environmentally sustainable. New approaches and technologies will be required to drive down the costs and improve reliability. Nova Scotia's hosting of the ICOE provided a great opportunity for local engineering companies and organizations to collaborate with delegates from around the world and help tidal energy in Nova Scotia achieve its full potential.

Biomedical engineering grad wins award to advance epilepsy research

University of Calgary press release - The Bordeaux region of France, known globally for its fine wines, is exporting a high-quality contribution to Calgary's biomedical engineering community.

Pierre Wijdenes obtained his engineering master's degree



www.ucalgary.ca

in Bordeaux, where he discovered his passion for finding engineering solutions to health problems. Now a graduate student at the Cumming School of Medicine, he is studying the diagnostic and therapeutic potential of the neurochip – a network of brain cells that reconnect on a silicon chip. He chose Calgary to pursue his studies because of the city's vitality.

"I think Calgary has a buzz and an entrepreneurial spirit. And there is a possibility here to become a home for building biomedical devices to help patients," says Wijdenes, who has just received a \$75,000 scholarship from the Werner Graupe International Fellowship to support his research in the biomedical engineering graduate program. Only two scholarships are awarded in Canada each year.

Wijdenes is hoping to advance epilepsy research by showing how brain cells, interfaced with neurochips, can be studied for the aberrant activity patterns that give rise to seizures. The student uses a chip he built at the Advanced Micro/Nanosystems Integration Facility at the Schulich School of Engineering. His project has achieved an unparalleled high-resolution recording of neuronal activities.

To gain business insight into building medical devices, the graduate student also enrolled and just completed the newly established entrepreneurial and innovation program in the Hunter Centre at the Haskayne School of Business.

One of the University of Calgary's strategic research themes is biomedical engineering.

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News From The Field

INFRASTRUCTURE



North is land of opportunity

Regina Leader-Post - Steve McLellan, CEO of the Saskatchewan Chamber of Commerce, sees plenty of opportunity in the North. The native of Prince Albert never misses an opportunity to brag about the huge tourism and economic potential of the North, or wax lyrical about the raw beauty of its pristine wilderness.

But McLellan is deadly serious when it comes to the chamber's Northern Business Task Force and its recently released report, which contains a dozen recommendations to reduce the cost of living, increase the educational and economic opportunities and improve the quality of life in the province's northern region.

The report released in December recommends among other things that the province build two major road projects (the all-weather Garson Lake Road from La Loche to Ft. McMurray, Alta., and an all-weather road from Highway 905 to Wollaston Lake), increase the northern subsidy for healthy food, improve cellular and high-speed Internet coverage and increase education and career training for northerners and improve the energy efficiency and quality of northern housing.

RESEARCH

Saskatchewan manufacturers gain resource

Saskatoon StarPhoenix - As Saskatchewan's manufacturing sector continues to grow, the industry now has another resource at its disposal with the launch of the Manufacturing Centre of Excellence in Saskatoon.

The centre, established by Canadian Manufacturers and Exporters (CME) and Saskatchewan Polytechnic, is located on Polytechnic's Saskatoon campus.

It will focus on productivity improvement, innovation and workforce development for the Saskatchewan manufacturing sector.

The province has committed \$1.5 million over three years to the centre and will work with CME to develop its programming. Other organizations providing support to the centre include Athabasca University, which is also working with Polytechnic to deliver some of the programming, and the National Research Council of Canada Industrial Research Assistance Program. The centre has a budget of about \$1 million a year over the next three years, including \$500,000 annually from the province.

Chair of the Saskatchewan Manufacturing Council Tom Kishchuk said the centre will help provide Saskatchewan manufacturers with the resources, services and leadership necessary to compete on a global scale.

One of the new initiatives will be an online manufacturing management certificate pilot program that will be launched in April.

Construction of U of S cyclotron completed

Global News - The \$25-million Saskatchewan Centre for Cyclotron Sciences marked the end of its construction phase in Saskatoon. The centre will produce radioisotopes for the PET-CT scanner at Royal University Hospital, allowing doctors to take three-dimensional pictures of patients to diagnose their conditions and improve treatments.

"Over a period of time, we'll be developing a research community that will allow us to investigate better ways of imaging disease within humans," said Neil Alexander, the Sylvia Fedoruk Canadian Centre of Nuclear Innovation executive director.

The facility, on the U of S campus, will also supply radioisotopes for the development of drug molecules that can be tracked and observed in people's bodies.



The facility is owned by the U of S and operated by the Fedoruk Centre.

“We’re now going to build a team of researchers. We’re recruiting from around the world and we strongly believe that the combination of the infrastructure of the centre, and the team that we’re going to be able to create, will put us amongst global leaders,” said Alexander.

The cyclotron is roughly the size of a small car and sits in the centre of the facility, surrounded by concrete walls that are two-and-a-half metres thick. The facility is expected to produce its first radioisotopes for research use in the spring of 2015 and the first commercial ones for medical care in late 2016.

Research to look at mining safety

Saskatoon StarPhoenix - Three organizations are partnering on a research project aimed at making Saskatchewan's minerals industry a world leader in safety.

International Minerals Innovation Institute (IMII), the University of Saskatchewan and Saskatchewan Polytechnic will collaborate over the next two years on research to enhance safety cultures and employee safety behaviours in the minerals industry. The \$786,000 in funding comes from IMII, six mining companies - Agrium, BHP Billiton, Cameco, K+S Potash Canada, Mosaic and PotashCorp - and the Saskatchewan government.

U of S psychology professor Valery Chirkov and Sask Polytechnic Institute for Nursing Scholarship coordinator Lyle Grant will lead the research team and collaborate with the six mining companies to review and examine various safety programs, practices, attitudes and cultures. The research will identify steps that should be taken in advancing safety and safety behaviours.

CFI invests in U of S research projects

University of Saskatchewan press release - University of Saskatchewan researchers will share a total of \$844,000

from the Canada Foundation for Innovation (CFI) for wide-ranging research.

The four projects were announced January 20 on the U of S campus by the federal government as part of a national announcement involving \$35 million from the CFI's John R. Evans Leaders Fund for 37 universities across Canada.

Among the recipients are two engineering projects. Jafar Soltan, P.Eng. received \$102,000 toward his research for removing pollutants from air and water using gas analysis and liquid chromatography systems.

Another \$67,000 was invested in a research project aimed removing water from biofuels.

CFI provides up to 40 per cent funding for tools and infrastructure such as high-powered microscopes, advanced analytical instruments and specialized lab equipment, that help researchers generate breakthroughs, expand Canada's innovation capacity and contribute to the country's economic success. The remaining funding will be secured from government and industry sources.

MINING

Agrium restarts Saskatchewan potash mine

Stockhouse - Agrium Inc. has restarted potash production at its Vanscoy mine southwest of Saskatoon. Production at Vanscoy was suspended in July after a mechanical failure on the operation's main hoist system.

Agrium planned to replace the equipment as part of an ongoing expansion and decided to delay a restart until it completed the tie-in of new capacity.

The Calgary-based fertilizer producer said it's maintaining a target of producing 2.1 million tonnes of potash at Vanscoy in 2015, with activity ramping up over the first half of the year.

The expansion is expected to increase annual output at Vanscoy by about one million tonnes over a three-year period between 2015 and 2017.

Agrium executives said in November the project would cost US\$2.3 billion, about 53 per cent more than the original estimate three years ago when the expansion was announced.

Ron Wilkinson, president of Agrium's wholesale business unit, said the higher cost was due to a combination of factors including poor weather, contractor inefficiency and Ottawa's changes to Canada's temporary foreign workers program.

Sask Geo Open House a hit

Yorkton News Review - Near-record attendance and a sold-out trade show were among indications of the positive climate in the province's mining sector at the 45th annual Saskatchewan Geological Open House held in Saskatoon on December 1-3.

The wealth of information and data offered at the event, held through the joint efforts of the Ministry of the Economy and the non-profit Saskatchewan Geological Society, attracted international attention to Saskatchewan's mineral potential and will be utilized by mining companies to carry out exploration operations within Saskatchewan.

More than 700 delegates were in attendance for the open house, including representatives from nearly every mining and mineral exploration company active in Saskatchewan, service providers to the mineral exploration industry and students and faculty from the geology departments at the University of Regina and the University of Saskatchewan as well as the mineral technology programs at Northlands College (La Ronge). The student technical poster competition saw a record 24 posters summarizing thesis research projects, with 16 submitted by graduate students and eight by undergraduate students. The sold-out trade show comprised 61 booths.

Gensource Potash eyes Sask mine near Craik

CJWW - Gensource Potash is announcing where its first mine in Saskatchewan will be.

The company says the mine will be in the Craik area, between Regina and Saskatoon. Gensource CEO Mike Ferguson, P.Eng. estimates it will be about five years before production begins. Ferguson says an environmental impact statement will need to be done, as well as Aboriginal consultation.

Gensource had earlier expressed an interest in setting up a mine in the central part of the province or in the Southeast. Ferguson says that so far, the company has been developing a relationship with its business partners in Brazil to determine where the product will go.

He also says it will be much smaller than typical potash mines in Saskatchewan.

"We're really looking at, for this initial facility, probably a quarter of the number of people as there are at a typical large conventional mine," said Ferguson.

The site would produce less potash as well; however, the project would be unique by pre-selling its entire production. Ferguson added a lot of work so far has been on the market side of business, connecting with buyers in China and Brazil.

The project would use a technique called "selective solution mining" which uses significantly less fresh water and has reduced consumption of power and natural gas compared to conventional solution mining.



Canada's mining sector braces for another challenging year in 2015

Mining.com - Canada's mining sector is bracing for another challenging year in 2015 as slower growth in China is expected to continue to dampen selling prices for many metals.

Not all metals and minerals suffered. Nickel was the big winner, with prices rising 17 per cent following Indonesia's ban on exports. Other gainers were uranium, aluminum, zinc and diamonds.

Although mining is in a multi-year global slump, prices are significantly higher than they were a decade ago, said Pierre Gratton, president of the Mining Association of Canada.

"It's a cyclical industry and we have to weather this," he said in an interview.

Gratton said mining companies are very focused on reducing costs and will benefit from both the weakened Canadian dollar and dramatically lower energy prices.

"They've seen this a million times. They will weather this and prepare for the next upswing and when (it) comes I think the general view is it is going to be pretty significant."

China consumes almost half of the world's base metals. It and other emerging countries, such as India, will need more metal to make consumer goods and build housing to accommodate a growing middle class and the shift in population to urban from rural.

Just increasing the rate of car ownership will propel demand for iron, aluminum and other metals.

In the meantime, industry observers say mining companies are cautious about new investments until they get a better sense of when conditions will improve.

Saskatchewan has faced a tougher year because of weaker potash prices, but could do better if Japan's nuclear plants come back on stream to support higher uranium prices.

BHP hints at Jansen Mine fast-track

Mining.com - Anglo-Australian giant BHP Billiton's plans to build the world's largest potash mine in Jansen, Saskatchewan received an unexpected boost when Uralkali's massive Solikamsk-2 mine in Siberia was flooded, instantly removing three per cent of the world's potash supply.

"These sorts of factors, combined with continued economic growth and demand for potash, all conspire, if you like, to bring toward us the time when a new mine is required," a company spokesman said.

"We have the lowest cost mine that would be useful to bring into the market at that stage."

The firm has already allocated \$3.8 billion to bring the project to the feasibility stage. It has undertaken some construction and in September dispatched its top project manager to run the site.

Jansen has the potential to become the world's biggest potash mine and could cost as much as \$16 billion to construct.

The mine could bring an additional eight million tonnes per year onto the market with an estimated 70-year mine life.



wikipedia.org

Electric car co. could source cobalt from Langham

Mining.com - Tesla Motors Inc. plans to source its critical raw materials as close as possible to its planned \$5 billion lithium-ion battery "gigafactory" in the southwest U.S. – with a preference for North American suppliers to minimize environmental impacts and material costs.

Fortune Minerals Limited's proposed refinery, the Saskatchewan Metals Processing Plant (SMPP), will be constructed in Langham. It will be dedicated to producing cobalt chemicals needed to manufacture the rechargeable batteries used in electric vehicles like Tesla's as well as in portable electronic devices. The Tesla Model S uses nickel cobalt aluminum cathode chemistry containing nine per cent cobalt by weight. Lithium-ion batteries can contain up to 60 per cent cobalt by weight.

The SMPP will also produce gold, bismuth metals and chemicals and byproduct copper. Notably, the bismuth market is experiencing significant demand growth as a non-toxic, environmentally safe replacement for lead in a number of products, including automotive anti-corrosion coatings, windshield frits, pearlescent paints and electronic solders. Fortune envisions that the SMPP could also be expanded to include battery and metal recycling as a future business opportunity in Langham.

Fortune has already received its environmental assessment approvals for the NICO mine and concentrator in the Northwest Territories as well as the refinery in Saskatchewan.

URANIUM AND NUCLEAR

Uranium Rally Continues as Asia nukes recover

Wall Street Journal - Despite the widespread commodity sell-off in other energy sources such as gas and oil, uranium has risen as Asian countries look to harness nuclear power for their burgeoning economies.

Uranium has jumped 35 per cent since May, with the market getting a further boost in December after Japan moved closer to restarting its nuclear reactors after they were all idled following the Fukushima disaster. Also spearheading demand is China's plan to go on a nuclear power plant building spree to combat smog from coal-fired plants.

ENERGY

Saskatchewan's first solar power co-op

CBC News - A Saskatoon non-profit is crowd funding to make going solar simple.

The Saskatchewan Environmental Society (SES) started an Indiegogo campaign to help establish Saskatchewan's first solar co-operative. The society says it wants to offset Saskatoon's "dirty energy" and promote green energy.

According to Allyson Brady, the executive director of the SES, converting to solar energy doesn't have to be a struggle.

"Previously, the way that people could get into renewable energy would be to put maybe 20 solar panels on their house, invest \$20,000, go through all the paperwork, apply for subsidies, hire an installer. What we're saying with this solar power co-op is, we'll do all that," Brady said.



A solar co-op membership costs \$900 – the price of one solar panel.

This project will consist of 400 solar panels, and the society will sell the green electricity to the Saskatoon Light and Power and SaskPower grid. All the returns that it gains from these sales will be rebated to co-op members.

Over 25 years, members can expect rebates from power providers of \$700. If a member wants to purchase more panels, their rebates will go up accordingly, Brady said.

The SES raised more than \$50,000 through its Indiegogo campaign and it has the opportunity to win an additional \$50,000 through Affinity Credit Union's Business for Good campaign.

Brady estimates the co-op will cost about \$340,000. They hope to sell more of the panels and win the \$50,000 to help make the project a reality.

Canada to produce 83.6Mt of coal a year by 2020

Release Wire - Coal is by far the most abundant fossil fuel available in Canada, with recoverable reserves totaling 6.6 billion tonnes (t) at the end of 2013, which, according to BP Statistical Review of World Energy, accounted for 0.7 per cent of global reserves. Around 53 per cent of the reserves are located in the western provinces of British Columbia, Alberta and Saskatchewan.

The Coal Mining in Canada to 2020 report forecast coal production by grade, by type, by region, reserves, and mine life, consumption by type and trade by type to 2020. In addition, the trade section provides information on export volumes to destination countries, as well as imports. The report also includes drivers and restraints affecting the industry, profiles of major coal mining companies, information on the major active, exploration and development projects, and regulations governing the industry.

In 2013, 68.3 million tons (Mt) of coal was produced which was higher by 2.7 per cent over 2012. Over 2014-2020, Canada is expected to produce an average of 83.6Mt of coal annually with several new mines expected to commence production in this period, including the Vista

Extension project in Alberta, the Border project in Saskatchewan and the Graham River project in British Columbia.

Investments in coal projects are more cyclical in nature compared to other commodities. However, overall capital investments in the Canadian mining sector are poised to decline for the second consecutive year in 2014 to around \$11.5 billion.

According to Statistics Canada, the mining industry is the country's largest private sector employer. The Canadian mining and quarrying industry in 2012 employed 73,000 people.



Carbon capture project recognized

Estevan Mercury - The carbon capture and storage project at Boundary Dam Power Station was named Project of the Year in the coal category by Power Engineering and Renewable Energy World Magazines.

The award is given annually to projects that reflect the power industry's search for cleaner, more efficient sources of power generation and demonstrate new technologies that will help achieve those goals. The project beat out the other finalist, the Columbia Energy Center air quality control retrofit, performed by Black & Veatch.

Mike Monea, SaskPower president of carbon capture and storage initiatives, said the attention the project has received doesn't necessarily validate the province's commitment to carbon capture technology, but it feels good to be seen as a world leader by peers.

"It's nice, now it's up and running, to very quickly get recognition by some pretty incredible groups," said Monea.

When SaskPower presented in Texas, it was the only completed project in the world, so he said they had a lot of attention.

"We are proud of what we've accomplished, with hundreds of specialists and dozens of Saskatchewan companies employed to launch this world-first. This is a responsible investment in sustainable electricity generation, and into the power future of the entire province," Marsh added.

SEMINAR: Preparing Successful SR&ED Claims

CRA has tough new rules for science eligibility. Expenditures that qualify to attract the tax credit have been cut. More new court rulings have emerged.

Attend this seminar and learn how these new rules work, how to survive your next SR&ED audit, and what to do if CRA rejects your claim.

Registration Information

- **Burlington:** 9-Mar-2015
Holiday Inn Hotel and Conference Centre
- **Toronto East Don Valley:** 12-Mar-2015
Sheraton Parkway Hotel
- **Montreal*:** 17-Mar-2015
Hotel Omni Mont-Royal
- **Winnipeg:** 19-Mar-2015
Homewood Suites by Hilton
- **Toronto West Airport:** 24-Mar-2015
Westin Bristol Place

*Seminar presentations and courseware are in English only.

Agenda:

7:30 a.m. Continental breakfast
8:00 a.m. Speakers
12:00 p.m. Q&A discussion

Fee: \$385 includes continental breakfast, electronic courseware package and two multimedia DVDs. Payment by company cheque or cash.

Registration:

Advance registration is required. Visit *Event Registration* at www.scitax.com/events or call Louise Gray (416) 350-1214 ext. 1000.

Scitax reserves the right to exclude and/or limit registration in accordance with room capacity and other factors as determined by the presenters.

Continuing Professional Development hours for accountants:

Certificates for 4-hour CPD available on request.

Presented by:

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Scitax Advisory Partners LP
R&D Tax Credit Specialists
www.scitax.com

In Ontario, Quebec and Manitoba: March 2015

SR&ED is in a state of flux. The rules governing Canada's system of R&D tax credits have changed more in the last three years than in the previous twenty. More changes are expected in early 2015. Disputes between taxpayers and the CRA on SR&ED have increased by a factor of 25 over the last seven years.

When it comes to SR&ED it's no longer *business as usual*. Financial rule changes, narrowing science eligibility, and more rigorous audits can all stack up to leave you with far less tax credit money than you expect this year.

This year's edition of our seminar is aimed at R&D managers, company controllers, and professional accountants responsible for leading the preparation of SR&ED claims and dealing with CRA afterwards.

Our intensive four-hour program will cover the following topics:

- Defining the SR&ED project: What are the boundary lines? How much of your corporate R&D initiative will CRA accept in the claim?
- Decoding CRA's latest *Eligibility of Work for SR&ED* guidance policy: What does CRA expect? What does the law require? What are the courts saying?
- Communicating eligibility: Key content for project technical descriptions and how to motivate your people to provide it.
- Financial rule changes for 2014 and on: How to maximize your filing position.
- How recent tax court cases are shaping (and re-shaping) SR&ED rules: Lessons learned from the recent Tax Court of Canada rulings including *Jentel*, *Immunovaccine* and *Abeilles*.
- Record keeping and supporting documents: How to design and implement a compliance framework within your organization.
- Audit trends: What to expect at your next SR&ED audit and how to prepare.
- What to do if CRA says "No": Appealing your SR&ED claim in the Tax Court of Canada.

Participants will receive two multimedia DVDs: *Best Practices for SR&ED*, that gives 24 expert strategies for claim maximization, **and** *Planning for Change in SR&ED*, that provides in-depth analysis of financial rule changes coming into effect for 2014 filings.



Seminar Leader: David R. Hearn CET

Managing Director, Scitax Advisory Partners LP

David has over 15 years' experience in the field of SR&ED tax credits, prior to which he held engineering and R&D positions in the electronics industry. His articles on R&D tax credits and related topics have appeared in professional journals, accounting magazines and national newspapers. He serves on various joint CRA-practitioner committees that deal with SR&ED issues.

See biographies of other speakers under *Event Registration* at www.scitax.com/events.

Calendar Of Events



en.wikipedia.org

Remediation and Prevention Conference

February 25, 2015, Winnipeg, MB
www.meia.mb.ca

International Conference on Water Management Modeling

February 25, 2015, Toronto, ON
www.chiwater.com/Training/Conferences/conferencetoronto.asp

Economic Evaluation and Investment Decision Methods

Goodman School of Mines
February 25-27, 2015, Toronto, ON
www.laurentian.ca/goodmanschoolofmines/academics/executive-programs/

The Warming of the North: Implications for Arctic Transportation, Supply Chain Management, and Economic Development

March 1-3, 2015, Ottawa, ON
www.umanitoba.ca/faculties/management/tj/2772.html

APEGS Law and Ethics Seminar

April 10 -11, 2015, Saskatoon SK
www.apegs.ca/Portal/Pages/Professional-Practice-Exam

Society of Petroleum Engineers (SPE) Tight Oil Workshop

Apr 28-29, 2015, Lake Louise, AB
www.spe.org/events/15aban/

APEGS Annual Meeting

May 1-2, 2015, Regina SK

CIM 2015 Convention

May 09-13, 2015, Montreal, QC
www.convention.cim.org/en.aspx

New Dimensions:

Canadian Institute of Mining 2015 Convention

May 9-13, 2015, Montreal, QC
convention.cim.org/en.aspx

APEGS Professional Practice Exam

May 30, 2015, Regina and Saskatoon SK
www.apegs.ca/Portal/Pages/Professional-Practice-Exam

Preparing for Future Challenges to Canada's Water Resources 68th CWRA National Conference

June 2-4, 2015, Winnipeg, MB
www.cwra.org/en/events-news

Canadian Green Building Council: Building Lasting Change 2015

June 2-4, 2015, Vancouver, BC
www.cagbc.org

A Climate of Change:

Western Canada Water 2015 Annual Conference

September 15-18, 2015, Winnipeg, MB
www.wcwwa.ca/events

Canadian Dam Association 2015 Annual Conference

October 3-8, 2015, Mississauga, ON
www.imis100ca1.ca/cda