THE PROFESSIONAL

EDGE

ISSUE 150 MAY/JUNE 2014

Annual Meeting

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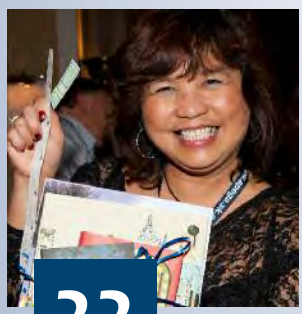

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President's Report

Incoming APEGS President Andrew Loken, P.Eng., FEC

Thank You!

After my time on Council and Executive Committee, it is my turn to take over as president of APEGS. It is a great honour and a great responsibility. One point I must keep in mind is that the success of our self-regulated professional association is not possible without the active support and participation of the current members.

Our members are the volunteers who provide so many hours to all of our committees to carry out the regulatory, outreach and communications functions of the association. Our members are the supervisors who mentor and guide our members-in-training to become confident, competent professionals. Our members are the professionals who ensure the safety of our citizens and the environment by going to work and doing their jobs every day in a professional, competent and ethical manner. **Thank you, APEGS members!**

At the recent Annual Meeting, we showcased our committees so that more of our members would know what our volunteers do. This also gave members information to decide which, if any, committees they might like to serve on. I would like to highlight a few of those committees.

Kindergarten to Grade 12 Committee

K-to-12 is responsible for outreach to our future geoscientists and engineers. Its goal is to ensure that primary and secondary students, teachers and parents know about our professions as a career opportunity, have the education to enable them to choose these professions and have a sense of the satisfaction and responsibility of being an engineer or geoscientist.

Equity and Diversity Committee

Equity and Diversity has the goal of helping our professions more closely reflect the demographics of our province. It has five different subcommittees looking at the distinct challenges of attracting, educating and retaining members in under-represented groups. We hope to be able to bring more creative and intelligent persons to our professions who might otherwise not consider or have the opportunity to be professional engineers or geoscientists. The subcommittees focus on women, Aboriginals, international graduates, visible minorities and disabled persons.

Academic Review Committee (ARC)

ARC has the monumental task of evaluating the education of applicants from all over the world who have studied at thousands of universities. It is the responsibility of the volunteers on the committee to look at the programs of study that may have taken place in dozens of languages and determine if applicants have received the education that is necessary to begin a career as a geoscientist or engineer. We receive thousands of those applications every year and it is the committee's mandate to

Incoming APEGS President Andrew Loken, P.Eng., FEC with Past President Dwayne Gelowitz, P.Eng., FEC

process each one of those in an equitable, transparent and timely manner.

This is just a sampling of the committees and volunteer activities that go towards keeping our association successful. Thank you, volunteers!

As I begin this year of representing APEGS at home and across the country, I am building upon the activities and initiatives of the many presidents who have preceded me, our distinguished past presidents. I am glad that so many of them are available to give me advice as I move into this new role. In particular I want to thank Dwayne Gelowitz, P. Eng., FEC for his work last year that will make my year that much easier. I also want to thank my employer, Hatch, and particularly Mike Fedoroff for allowing me the flexibility to undertake this role.

Finally, I want to thank my lovely wife Flaviana for encouraging me to follow this dream and all of the countless ways that she helps me every day, including providing the key words that allowed me to write this message.

Andrew Loken, P.Eng., FEC
APEGS President

Andrea Beaty,

Author of *Rosie Revere, Engineer*

To children's author Andrea Beaty, science and engineering definitely aren't boring. As she sees it, engineering is about ideas, and ideas are always fun.

Beaty is the author of *Rosie Revere, Engineer*, the story of a young girl with a love of invention who rises above the skepticism of her friends and family to find her calling as a future engineer. To help encourage girls to consider a career in science professions, APEGS has purchased a copy of *Rosie Revere, Engineer* for every school in Saskatchewan.

One of the lucky ones

Born in southern Illinois, Beaty's interest in girls in science fields comes in part from personal experience. She studied biology and computer science and worked for a software company before she began writing children's books.

"I have to admit that gender issues didn't really affect me that much. Because I studied sciences, I guess looking back that I was often the only woman in my classes, but I was pretty oblivious to that at the time. Likewise, when I got into the workforce, I had great employers who had progressive policies so it didn't really affect me that much in that way either. But I know that isn't always the case with young women in the sciences," Beaty said.

Timbit Trebuchets

Above all, Beaty sees her book as aimed at helping all children meet their potential for the greater good of society – although Beaty injects her own unique sense of fun into the definition of greater good.

"We need more engineers. We need more people to invent things. We need an invention that will block Game of Thrones spoilers on the Internet. We need some way to get Tim Hortons' Timbits to Chicago, where I live – maybe a giant Timbits trebuchet or a Timbits pipeline."

Raising engineering princesses

From her observations of young children, Beaty believes that girls and boys start off with a roughly equal interest in science and technology; young girls (under 10) may even be slightly more curious than boys, which would give them an edge. But starting around middle school, girls start to lose interest in science and technology mainly, Beaty thinks, because of the subtle effects of peer pressure and cultural influence.

"Whenever I do school visits – and I do a lot of them – I always ask the kids what they want to be when they grow up. Inevitably, there is always an eager group of girls whose answer is 'princess'."

Instead of trying to tell the girls that this is a foolish choice, Beaty has started to counter the princess culture by getting girls to build on it.

"I say to them: OK, but what kind of princess do you want to be? Just sitting around a castle and putting on dresses would get pretty boring after awhile, so what would you like to do while being a princess? Would you like to be an engineer princess? Or a doctor princess?"

Beaty says that the girls almost instantly become excited by the question, even trying to outdo one another with ambitious visions of princesshood.

"I've also changed the way I talked to girls at book signings. At one signing, a girl came up wearing this elaborate fairy costume she had obviously made herself. I said 'Oh don't you look cute!' but I regretted that since the girl probably went away thinking that the only thing that defined her was how she looked. Now, I ask girls and boys the same question: 'What do you like to build?'"

Mentorship invaluable

For the adults with young "engineer princesses" lives, Beaty urges to go the extra mile to be better mentors.

"I know that professional associations like APEGS do a lot to encourage members to mentor college students but we have to go further than that. We need to take time to mentor little kids who show an interest in the sciences."

Along the way, mentors may learn new outlooks that will help them in their own lives and careers.

"One thing you learn from kids is how to get rid of the whole analytical-versus-creative divide. For the act of invention to be effective, the two must intermingle constantly. Looking over my career, I've found that writing computer programs and writing books is very similar. In both cases, I know the beginning and I know where I want to go and I have to figure out the stuff in between. And really, isn't debugging just another word for editing?"

Glorious Failure

In the other direction, engineers can teach kids the value of failure.

"Children are typically very afraid of failure. But of course engineers and other scientists understand that testing and trial-and-error are all part of the process. It's important when dealing with children not to freak out when they don't get things right. We have to teach our kids that glorious failure is an essential step to success."

In addition to *Rosie Revere*, Beaty has published 10 children's books with more on the way. Her books have been awarded the Friends of American Writers Award, Parents Choice Silver and Gold Medals, Bank Street College Best Books, National Association of Parenting Publications Gold Medals and the Prairie State Award.

For her next book, Beaty is considering a sort of sequel to Rosie Revere with the working title *Rosie Revere: How to Engineer* – a more educationally oriented book using rhymes to describe the science and engineering method.

Northern Employment and Training

Almost daily, the news media in Saskatchewan reminds us of the gap in Aboriginal education and employment. One company has made great strides in closing those gaps in parts of Saskatchewan's north.

Points Athabasca, a partnership between the Athabasca Basin Development (an investment group of northern communities and First Nations) and Graham Group, has been involved in providing mine construction and site services to the northern Saskatchewan mining industry for the past 15 years. The company mandate to employ people from the Athabasca region has resulted in the highest ever rate of employment in the local communities.

The success of Points Athabasca as a First Nations-owned business is due in part to the ability to engage the communities and the people in the vision and mission of the company. Gary Haywood, P.Eng., the vice-president of operations of Points Athabasca, described the company's approach and some of its significant successes.

According to Haywood, the company derives about 90 per cent of its business from Cameco whose own Aboriginal hiring policies have been helpful.

"The federal and provincial governments are also very helpful. There are numerous sources of funding out there for initiatives aimed at Aboriginal training," Haywood said.

Many Challenges

But even though funding has been relatively easy to get, the company has faced many challenges in delivering job training to northern communities. The communities themselves are very isolated and far from each other. There is a lack of information infrastructure, such as Internet or cell service. In the North, English is often the second language, which creates problems both for training and working.

Northerners also suffer from a school system that, in Haywood's view, is sub-par and does not adequately prepare them for further education.

"There are some really good schools in the North that are doing great things with the kids but in too many other cases you walk into the school and you just have to shake your head in disbelief," Haywood said.

Haywood notes that the schools have very poor teacher retention.

"With the teachers, you see the culture shock working in the other direction. You have teachers coming up here who in some cases are the only Caucasian person in the community and who don't understand the indigenous culture. It often works out best when northern communities can get their own young people to train as teachers and to return to teach."

The lack of training and employment opportunities close to home creates other barriers and frustrations for northerners. Haywood noted that there are many cases in the North of people who have been skilled trades apprentices for 20 years or more but who have been unable, due to distance or lack of qualifying opportunities, to get their Red Seal designation.

Signs of Hope

Yet in spite of these and other challenges, bit by bit the province and the country are making headway in closing the gap in Aboriginal education and training. Haywood noted that in 1970 there were only 300 Aboriginal post-secondary students in all of Canada. Today there are 27,500.

Points Athabasca itself is a case study in Aboriginal training and achievement. The company strives to employ predominantly northern and Aboriginal staff at all levels, including operators, supervisors, tradespeople and managers. Even their president and CEO, Brad Darbyshire, comes from a First Nations background as a member of the Buffalo River Dene Nation and former resident of the North.

Haywood outlined a pair of specific case studies of people who over come challenges.

CASE SUDY #1.

A Determined Young Woman

The first case examined a young woman from the Clearwater River Dene Nation currently working as a project coordinator with Points Athabasca. In 2011, she became one of the first Aboriginal women to graduate from Civil Engineering at the University of Saskatchewan. Along the way, she had earned a number of scholarships and was presented with the Lieutenant Governor's Award.

APEGS had played a part in her path to becoming an engineer. In grade 7, she was inspired by the popsicle-bridge building contest at her school, an initiative of APEGS's K-12 committee.

Like any northern student, she faced challenges. She had to adapt to a new environment, going from a small community to a city where she knew no one. She faced cultural differences since there were only three other Aboriginal people in her classes. On top of all of that, she faced the additional barriers of being one of the relatively few women in civil engineering.

According to Haywood, the strategies that helped this particular student succeed included: the Northern Aboriginal Student Association, which provides tutoring and additional classes; well-paid summer jobs courtesy of Cameco; and, most importantly, her own personal perseverance and the support of her family.

"She's just a very smart young woman who has impressed people all along the way with her drive for success."

CASE SUDY #2.

Turned His Life Around

Haywood's second case study involved a man from the Black Lake Denesuline First Nation who went through the Mentorship Program with Points Athabasca. He grew up and went to school in an inner-city area of Saskatoon. Far from preparing him for post-secondary education, his life in Saskatoon initially led him to gang and drug activity. He managed to turn his life around to become an active member of his First Nation, including at one time being elected councillor.

The man set his sights on the skilled trades but he first had to overcome a number of gaps left by his inadequate inner-city education. He completed his grade 12 at SIAST and continues to take academic upgrading through the Saskatoon Public School system. He has completed his first year of electrical apprenticeship and has enrolled in the Mechanical Engineering Technologist program at SIAST. He currently works as a junior project coordinator for Points Athabasca.

Along the road to his current success, the man has had the support of a number of programs, such as the Northern Career Quest wage subsidy jointly funded by government and industry. However, as in the previous case, Haywood credits the man's "fighting spirit" and entrepreneurial initiative as the keys to the man's success. The man also gives back to the Aboriginal community by getting involved in anti-gang and anti-drug initiatives in Saskatoon.

Much Yet to be Done

These individuals and others show what can be achieved but there is still a great need to be filled. Haywood noted that, according to Statistics Canada, there are fewer than 30,000 First Nations people in Canada who hold post-secondary degrees, representing about 0.5 per cent of all post-secondary graduates.

To move this number higher, companies in the North must continue to consult closely with northern communities to develop training opportunities almost on a student-by-student basis.

"It's worth the effort for companies to invest in something other than entry-level jobs for northerners. There is a lot of goodwill out there. I think everyone would like to see northerners succeed and not just be stuck as labourers."

He also sees an important role for APEGS.

"For the good of the mining industry and the province's economy as a whole, APEGS, the industry and individual professionals need to collaborate to support First Nations post-secondary education."

Confidential Information:

Regulatory, Ethical and Legal Considerations

Can you keep a secret? You had better be able to if you are going to function as a professional engineer or geoscientist.

APEGS legal Deputy Registrar and internal legal counsel Bob McDonald, P.Eng., LL.B., FEC, FGC (Hon.) outlined the background of confidentiality requirements for APEGS members and reviewed a number of case studies where engineers or geoscientists found themselves on the wrong side of confidentiality or conflict-of-interest court cases. The case law examples provided some guidance to professional engineers and geoscientists as to their confidentiality obligations and what information may be used for the benefit of a subsequent employer or client.

McDonald noted that, throughout Canada, engineers and geoscientists enjoy the privilege of being self-regulating. This privilege, however, depends on members of the professions maintaining and enforcing the highest levels of good character and ethical conduct. On the topic of confidentiality, McDonald pointed out that section 20 of the Regulatory Bylaws contains the Code of Ethics, which includes the specific instruction: "Members and licensees shall . . . act as faithful agents of their clients or employers, maintain confidentiality and avoid conflicts of interest." He also said that the ethical obligation is consistent with and similar to the obligations of confidentiality imposed by the common law and by confidentiality / non-disclosure agreements.

McDonald illustrated the ethical / legal guidelines with examples from case law. As the case law demonstrated, there can be a lot of money at stake when confidentiality is breached and the court's remedy is the finding of a constructive trust.

Pre-Cam Exploration & Development v. McTavish - McTavish was employed by Pre-Cam to inspect mining claims for a client, Murtack. McTavish noted that the mineral deposits extended beyond Murtack's existing claims. Seeing an opportunity, McTavish quit his job and staked his own claims on these adjacent properties.

The judge ruled that McTavish had breached a position of trust with Murtack by staking these competing claims.

"Neither Pre-Cam nor McTavish, its servant, could acquire these connected claims against the interest of Murtack," the judge said.

Guyer Oil v. Fulton – This case showed that conflict of interest isn't always as black-and-white as in the Pre-Cam case. Fulton was a petroleum engineering consultant for Guyer Oil. Shortly after, he acquired Crown mineral leases close to Guyer's wells. In this case, the court did not find a conflict because Fulton had used only publicly available information and his own skill in selecting his own leases.

Murphy Oil v. Predator Corp. – This was a case of out-and-out industrial espionage. Murphy had done extensive research into natural gas discoveries in BC. Predator, which had done no direct exploration, outbid them on adjacent properties. It was discovered that Mr. Longdo, a shareholder of Predator, had gotten confidential information from a friend in a wireline service company that had done work for Murphy.

The judge said, "When I assess the evidence of Mr. Longdo, it is clear that in several of his actions he lacked any moral conscience."

Predator was ordered to turn over the lands to Murphy as well as pay Murphy a steep cash settlement.

Canadian Metals Exploration Ltd. (CME) v. Wiese – In this a case that doing deals under the table lead to trouble for everyone. CME held an informal meeting of several directors, including Wiese. There was no agenda or minutes. The directors talked about new claims the company should make but the company was facing some issues with the BC Securities Commission so it was suggested that the claims be staked outside the company for the time being. However, as no minutes were taken, it was unclear who was to do what and what the long-term expectations were. Wiese proceeded to stake the claim under his own company. After the management of CME changed, they demanded that the claims be returned to CME.

Although the whole situation was a mess, the court found for CME. The judge ruled that Wiese had a fiduciary duty to ensure that expectations were clear and, in any case, he acquired knowledge about the claims as part of his fiduciary duty, so benefiting from those claims was a breach of trust.

McDonald emphasized that it was in members' interests to become well versed in the in-and-outs of conflict legalities. Avoiding conflicts of interest can be tricky since members of the professions deal with so much confidential information on a regular basis.

"Engineers and geoscientists often deal with confidential information in the context of their employment or consulting activities. The possession and knowledge of confidential information may establish the opportunity for creating a conflict of interest," McDonald said.

Photo courtesy of PAMI

The Not-So-Little Lab on the Prairies: PAMI Grows from Agricultural Roots

The Prairie Agriculture Machinery Institute (PAMI) should really think about getting a new name. While they are still on the Prairies and still an institute, they have grown far beyond their roots as a test station for farm equipment.

This world-class research institution based in Humboldt and Portage la Prairie has become a diverse centre of innovation for the transportation industry, biofuels, agricultural by-products, aerospace and even military equipment.

Phil Leduc, P.Eng., a PAMI consultant, outlined the history of the organization, its evolution and its goals for the future.

PAMI was established in 1975 following recommendations of a federal Royal Commission on Farm Machinery in 1971 to create a central agency for testing and evaluating farm machinery in Canada. It was originally supported by the provincial governments of all three Prairie provinces and had branches in Humboldt, Portage la Prairie, and Lethbridge. The Alberta government eventually pulled out of the agreement and took over the Lethbridge office, which maintains a close relationship with PAMI.

Making a Virtue of Necessity

PAMI's original mission was a straightforward one that was reflected by the institution's name: to evaluate and develop agricultural machines. Until the late 1980s, PAMI mainly relied on government funding. In 1988, due to a combination of government budget constraints and rising costs of machinery evaluations, the organization had to quickly brainstorm new sources of revenue and new justifications for its existence.

PAMI assumed responsibility for earning much of its revenues from fee-for-service work, which currently accounts for 90 per cent of its revenue, with base-grants from government providing the balance, Leduc said.

The focus of its work has also changed. Its current mandate is "To enhance sustainability and profitability in agriculture and other sectors through research, innovation, adaptation, and knowledge transfer."

Today PAMI offers its services over a diverse range of vehicles including semis, buses, ambulances, road construction and mine equipment. The organization has also developed proficiency in design and prototype fabrication.

Other Agencies Take Note

PAMI was not alone among research institutes in facing cutbacks in the late 1980s and 1990s. Nor was it alone in finding new revenue sources to continue its work. Leduc noted that the Saskatchewan

Research Council likewise operates through a combination of grants and for-fee work.

Leduc also sees the trend in cutbacks and privatizations continuing. He noted that governments tend to view R&D as a non-core service so they can become targets when budgets are tight. This can be seen in the most recent spate of closures and privatizations.

"Three federal forestry research facilities have been merged into one organization. The National Research Council has been instructed to focus on contract research. Agriculture Canada is facing funding cutbacks and numerous other research facilities, federal and provincial, are struggling."

PAMI faced these challenges early and has survived. Leduc hopes others can benefit from its experience.

The institute endured a great deal of pain in the early stages of this transformation. PAMI stopped equipment evaluation, its most loved service. Wages fell below government and private sector scales. The staff went through layoffs from reduced sales.

Ultimately, PAMI overcame the obstacles. A key to its survival was learning to pay attention not just to performing R&D but to selling R&D.

"Salesmanship doesn't come naturally to engineers. We tend to be introverts. We overcame it by taking sales and project management training. We even hired an 'agro' to help us out!"

They soon found an audience among multinational agriculture companies, who were familiar with using contract R&D in other jurisdictions. Acquiring these clients required PAMI to become more knowledgeable about confidentiality and intellectual property. Whereas much of its work as a purely government agency was considered public domain, staff now had to learn the protocols of conducting research under strict secrecy.

PAMI has also diversified its services through a branch company, Westest, that provides a wide range of testing services for heavy-duty vehicles such as buses, mining equipment and – under ultra-secret conditions – military equipment.

The institute's dedication to quality has helped its business grow.

"It's the same in any business. If you do a good job, clients tell their friends. If you do a bad job, clients tell everyone. If it's a restaurant, you have to keep cooking good food, update the menu, and keep your prices reasonable. It's the same for PAMI; our job is to keep our clients happy and coming back," Leduc said.

Eye on the Horizon

Looking down the road, Leduc maintained that design, prototype and test services would continue to be the core of PAMI's business. Among its traditional agricultural clients, Leduc predicted increasing development of robotic systems. He also predicted that PAMI's work with the mining industry will grow, as well as its work with bioenergy products.

Looking even further ahead, Leduc thinks that, literally, the sky is the limit.

"We are doing more and more work with all sorts of transportation systems - buses, trucks, trailers, rail, aircraft and rockets. Who knows where that goes from here – perhaps testing products destined for outer space?"

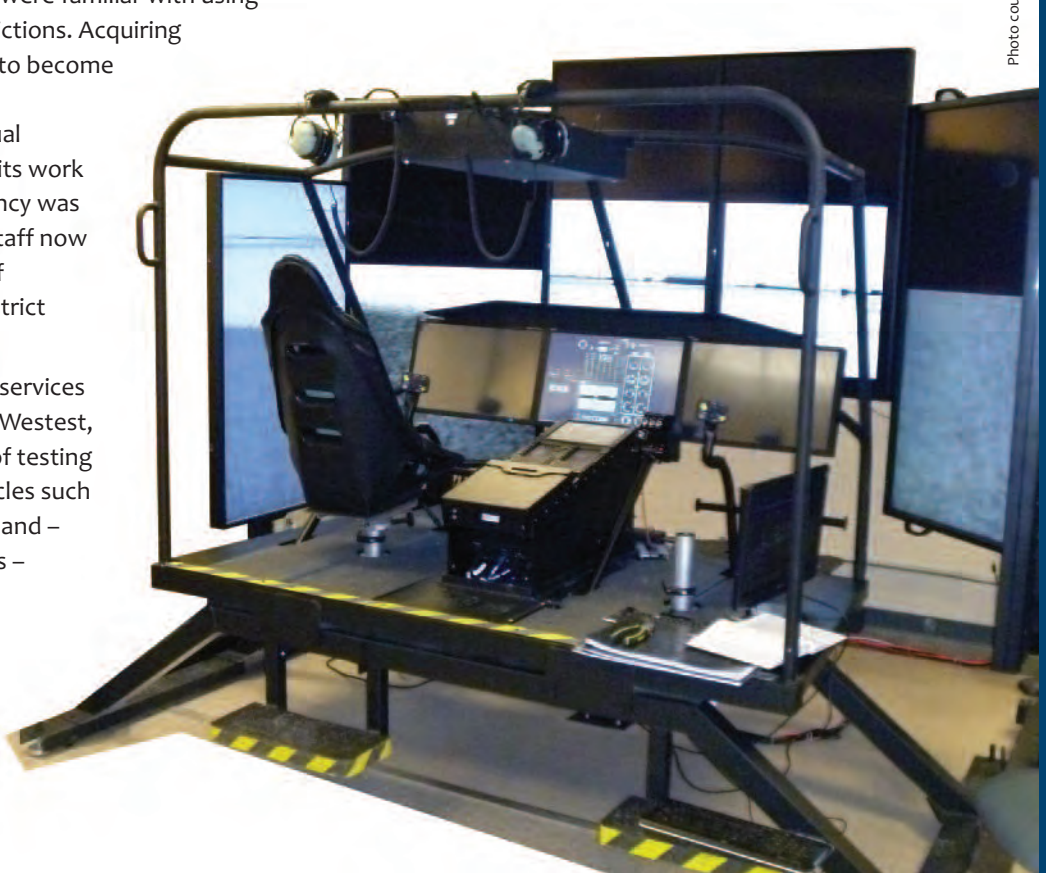

Photo courtesy of PAMI

Member Profile

BEN BOOTS, P.ENG., FEC

Our usual practice at *The Professional Edge* is to pick a member of APEGS at random to feature in Member Profile. In this issue, we made an exception and hand-picked a member we felt deserved special attention – Ben Boots, P.Eng., FEC, a mechanical engineer currently working with Stantec in Regina.

Ben has long been a valued member of *The Professional Edge* team. Ben has somehow managed a manipulation of APEGS board and committee rules (which normally restrict a person to two or three terms on any one committee) and served for roughly 15 years on *The Professional Edge* committee in various capacities, including an extended term as its chair. Finally, neither Ben nor the committee could dodge the rules any longer and Ben's time with *The Professional Edge* has come to an end.

Over the years, the editorial staff of *The Professional Edge* has come to rely on Ben's volunteer dedication and his quiet wisdom. He has contributed many good story ideas and countless hours of volunteer support to the magazine. He has also supported the editorial staff in some of the magazine's major transitions, such as the change to full colour printing in 2010.

We would like to wish Ben a fond farewell. We will miss him. We know, however, that APEGS as a whole will gain from our loss as Ben moves on to assume a leadership role on APEGS Council.

Tell us about your personal background.

I was born in Moose Jaw and lived there until grade 3. My dad worked for TransCanada Pipelines so we moved around a lot. From grades 3 to 8, we lived in Burstall. For a couple of years after that, we lived in Abbey. After that, I went to St. Thomas College, a boarding school in North Battleford, while my parents continued to be moved around. John Gormley was a classmate of mine there.

What was he like in school?

He was a pretty good guy – a very good speaker, even then. He was the class valedictorian.

What made you decide to study engineering?

I have always loved building things. I remember once as a kid I built a heavy-duty slingshot to kill gophers. It was basically a hockey stick, sewing elastic and a clothespin trigger. The clothespin gave out so the slingshot went off unexpectedly and broke a window.

My mother was fairly understanding about it. One of her sayings was "if money can fix it, it's not that bad." That's a saying that's stuck with me throughout my engineering career. I have always felt it is my role to spend money to fix things that can be fixed in order to prevent things that money can't fix, such as death or injury.

As much as I loved building things, it was still a tough choice deciding what to study. I have also always enjoyed teaching so I was also drawn to take education. I still enjoy the opportunities to do professional development presentations and mentoring.

Did you face any challenges in university?

Yes. I didn't know how to do homework. In high school, I was one of those students who always had a high average without working too hard for it. So it was rude awakening when I faced university-level expectations. In calculus, I flunked out – I went from a 98 per cent average in that subject in high school to a 48 per cent in my first mid-term exam in college. I learned my lesson after that, pulled up my socks and managed to graduate with distinction. My advice to young people today looking forward to college is to make sure you learn how to work and never stop working on learning.

Where did you work after university?

I went to work at the Kalium potash mine, now the Mosaic mine, at Belle Plaine. I worked up the ranks there from being a

Ben at work

construction management supervisor to being one of the guys responsible for long-range planning and budgeting. I worked for them just shy of 10 years and it was a very satisfying job.

Unfortunately, when the potash markets took a downturn in the late 1980s, the company laid a lot of people off. I was kept on to keep the mine running but the job wasn't exciting anymore.

In 1988, I got a job with what is now the Ministry of Environment in industrial and hazardous waste management. I was overqualified for the job I had so my supervisor encouraged me to apply for a higher position when one came open. In the paper, the ad for that job was right beside an ad for a job at the Buffalo Pound Water Treatment Plant. The latter job would mean more money and less commuting, so I thought, what the heck, and sent in two resumés. I got the Buffalo Pound job and it became another very satisfying 24-year long career for me.

What would you say has been your greatest achievement in your career so far?

I would have to say my whole tenure as a superintendent at the water treatment plant from 1992 to 2013. During that time, the plant treated the equivalent of nine lake volumes. During that whole time, we never once had a non-compliance issue. We safely treated the water the whole time. We had some problems from time to time but we never let inadequately treated water reach the city taps. I was also the project engineer for a number of major retrofits to the plant.

What are your interests outside of work?

We are a very outdoorsy family. I love canoeing. We have done quite a few extensive canoe trips, including along the North and South Saskatchewan rivers, as well as in the La Ronge area and the Churchill River. I also do a lot of hunting – birds, deer, elk, moose, you name it. We usually spend our vacations in northern Saskatchewan, such as the Narrow Hills Provincial Park.

I'm also quite involved in my church, St. Joseph's in Moose Jaw, where I lead the choir and play guitar, keyboard and organ. I sing well enough – I like to say that no one has ever paid me to sing but no one has ever paid me not to sing.

How did you get into hunting? Did you pick it up from your dad?

No, my mom and dad came from Netherlands so hunting wasn't a part of their lives. I got into it when we lived in Burstall. In that town, everyone hunted. During my formative years, all of my boyhood friends had 0.22s and shotguns so growing up my brother and I did a lot of hunting together.

Was Dutch culture a big part of your household?

Yes and no. We had some traditions, such as celebrating St. Nicholas Day. We always got a big package on St. Nicholas Day from our relatives back in the Netherlands. They sent all sorts of cheeses and other special Dutch foods that we couldn't get here. On the other hand, my parents always wanted to be seen as Canadian. They had made the decision when they emigrated that they were going to be part of Canada so they worked hard on integrating. Overall, you could say that we remembered our heritage but didn't dwell on it.

You were with *The Professional Edge* committee for a long time. What attracted you to that committee?

I liked that it produced something tangible. Many committees are about processes, which are important too, but in this case I've always found it satisfying to be able to point to something and say "this is what we did". I've also enjoyed participating in the evolution of the magazine as it went from black and white, to colour covers, to full colour and through various changes in the overall design and paper quality. I've also enjoyed working with all the people who have served with the committee, the APEGS staff and the editorial staff.

Who would you say has had the biggest influence on your life and your career?

For my life, of course I'd say my parents. As I noted before, my mom had a quiet wisdom that guides me to this day. My dad also taught my brother and me a lot about building and rebuilding things. He gave me the confidence to take something apart and put it back together. If something needed fixing, he would give us the tools and encourage us to give it a try so instilled a lot of self confidence. He also taught us a great work ethic. We were Dutch!

In terms of my career, I'd say Rob Plosz, P.Eng. and Bob Thompson, P.Eng. at Kalium, both in the solution mining side. Rob taught me a great deal about engineering, about being thorough in the analysis, being measured and careful in presentations. They were good role models in a competitive private industry.

I like to think I'm paying these influences forward. Two of my four children are engineers. My oldest has a Ph.D. in engineering and engineering physics from the U of S and my youngest just graduated from the engineering faculty at the Royal Military College in Kingston.

RIGHT: Ben (left) and son prepare for canoe trip.
BELOW: Ben (left) with moose after a successful hunt.

APEGS View

We've Moved!

APEGS is pleased to announce the opening of their new offices:

300 - 4581 Parliament Avenue
Regina SK S4W 0G3

T: 306.525.9547
Toll Free: 800.500.9547
F: 306.525.0851

www.apegs.ca

COUNCIL NOTES

April 10 and 11, 2014, Hotel Saskatchewan, Regina, SK
17 of 19 Councillors present

- Council approved participation and sponsorship of a reception at the 2014 PNWER meetings.
- The Geoscientists Canada Competency Profile project was presented. Council endorsed proceeding with a survey of the membership regarding this project.
- Draft 3 of the APEGS Software Engineering Experience Review Guideline was adopted.
- Dr. Hairuo Qing, P.Geo. and Dr. Lal Kushwaha, P.Eng., FEC have been appointed by the Governance Board to the Academic Review Committee for a three year term.
- The following members were approved as Life Members: Colin R. Campbell, P.Eng.; Sharat Chande, P.Eng.; David E. Dodds, P.Eng.; Nicholas M. Figgess, P.Eng.; Soonlim D. Fong, P.Eng.; Earl J. Gebhardt, P.Eng.; Donald B. Grant, P.Geo.; David G. MacDougall, P.Geo.; Keith G. Metcalfe, P.Eng., P.Geo.; Jon Mihaila, P.Eng.; John R. Morris, P.Eng.; Albert J. Regier, P.Eng.; Rabindra N. Sarkar (Robin), P.Eng.; Dr. Gregory J. Schoenau, P.Eng.; William J. Smith, P.Eng.; Rodney H. Spooner, P.Eng., P.Geo.; Garnet S. Wells, P.Eng.
- The Image and Identity Board made the following appointments: Robert Schultz, P.Eng. to the Connection and Involvement Committee for a three-year term; Meagan Elliott, P.Eng. and Shani Steinhubl, P.Eng. to the Awards Committee for a three-year term; Meagan Elliott was reappointed as Vice-Chair of the Awards Committee for a second two-year term; Peter Zrymiak, P.Eng. to the Equity and Diversity Committee for a three year term.
- Council appointed Shawna Argue, P.Eng., FEC, FGC (Hon.) as Chair of the Awards Committee for a second two-year term.
- Council approved sponsorship of the 2014 NCWiE conference (National Conference on Women in Engineering) in the amount of $10,000, subject to participation of up to 10 APEGS delegates attending the conference. Along with the sponsorship, Council recommended APEGS provide feedback and recommendations to reduce the cost structure of the event and to explore more mentor opportunities at the event.
- Council recommended that the Equity and Diversity Committee manage the request for speakers, panel members and promotional materials for the 2014 NCWiE conference.
- Council received and approved the draft 2013 audited financial statements.
- Council appointed Deloitte LLP as the auditor for the 2014 fiscal year.
- Rick Forbes, P.Eng., FEC was appointed to a second three-year term on the University of Saskatchewan Senate.
- The next Council meeting is scheduled for June 13, 2014 in Moose Jaw.

APEGS Election Results 2014

Voting for the APEGS elections was completed on April 28, 2014. A total of 1,759 votes were cast, representing 16.2 per cent of the 10,861 total ballots sent out. There was one spoiled ballot. Results of the Council elections are as follows:

Officers of Council - 1 year term

President . . . . . Andrew Loken, P.Eng., FEC
President-Elect . . Margaret Anne Hodges, P.Eng., FEC
Vice-President. . . . . Tara Zrymiak, P.Eng.

Councillors - 3 year term

Group VI (Chemical, Ceramic & Metallurgical) . . . . . Timothy Stobbs, P.Eng.
Engineering North District. . . . . Brett LaRoche, P.Eng.
Engineering South West District . . . . . Ben Boots, P.Eng., FEC
Geoscience North District . . . Sara-Jane Eaton, P.Geo.

New Website!

Check us out at
www.apegs.ca

2013 APEGS Salary Survey Summary Results

The Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) contacted 4,864 Professional Engineers, Professional Geoscientists, Engineers-in-Training, Geoscientists-in-Training and Licensees living in Saskatchewan. A total of 1,988 members completed the survey representing a 40.9 % response rate. Of those, 1,931 were employed full time and used in the analysis. Surveys were completed from mid February to late March 2014 and salaries reported were as at December 31, 2013. Insightrix Research Inc. compiled and tabulated all results. The detailed report from Insightrix can be found on the APEGS web site at **www.apegs.ca**

The main goals of the survey are:
to provide information to all members regarding monetary compensation for different levels of responsibility and advanced degrees; to provide information to employers to assist them in establishing appropriate pay levels for recent graduates and ensuring competitive compensation packages for experienced professionals; and to give students, career counsellors and other interested persons information on employment, including salaries, in the engineering and geoscience professions in.

Annual Salary by Final Year of Graduation (B.Sc.)

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Prior to 1976	64	$130,527	$45,000	$97,800	$127,500	$156,801	$230,000	3.3%
1977	13	$141,217	$30,000	$122,300	$135,000	$175,000	$215,000	0.7%
1978	17	$127,344	$0	$80,000	$120,084	$169,000	$255,000	0.9%
1979	13	$156,038	$96,000	$130,000	$158,000	$170,000	$272,000	0.7%
1980	19	$132,088	$75,364	$130,000	$131,000	$150,000	$175,000	1.0%
1981	10	$158,350	$116,000	$150,000	$156,900	$168,000	$200,000	0.5%
1982	19	$126,705	$50,160	$106,000	$122,000	$150,000	$220,500	1.0%
1983	13	$142,700	$86,000	$110,000	$144,000	$162,000	$201,600	0.7%
1984	19	$171,983	$80,000	$112,000	$131,352	$155,000	$850,000	1.0%
1985	25	$127,364	$85,000	$100,000	$119,000	$133,000	$210,000	1.3%
1986	26	$142,031	$90,000	$113,000	$140,681	$160,800	$205,000	1.3%
1987	36	$119,443	$52,000	$96,500	$120,000	$144,783	$180,000	1.9%
1988	26	$130,600	$101,500	$118,000	$133,000	$140,000	$165,000	1.3%
1989	27	$126,914	$67,000	$105,000	$129,000	$150,000	$196,000	1.4%
1990	26	$128,746	$80,000	$94,000	$120,000	$160,000	$195,000	1.3%
1991	20	$123,566	$40,450	$102,500	$120,800	$152,000	$200,000	1.0%
1992	20	$152,455	$54,800	$89,000	$126,500	$148,000	$505,500	1.0%
1993	28	$120,439	$79,500	$97,120	$120,000	$143,041	$175,000	1.4%
1994	40	$122,778	$68,500	$89,100	$118,500	$157,500	$190,000	2.1%
1995	28	$131,391	$85,000	$100,000	$126,300	$156,500	$180,000	1.4%
1996	45	$123,873	$78,000	$102,000	$125,600	$144,000	$173,000	2.3%
1997	46	$129,430	$78,000	$96,000	$120,185	$145,000	$209,000	2.4%
1998	36	$118,457	$79,123	$101,539	$111,320	$138,000	$168,000	1.9%
1999	49	$105,166	$65,000	$92,000	$103,000	$120,000	$148,000	2.5%
2000	62	$107,202	$70,000	$92,000	$105,000	$127,500	$150,312	3.2%
2001	68	$111,590	$75,000	$95,000	$107,000	$125,000	$165,000	3.5%
2002	70	$109,823	$65,000	$97,000	$106,000	$126,750	$149,900	3.6%
2003	68	$108,069	$63,024	$94,600	$105,500	$121,500	$155,000	3.5%
2004	72	$99,032	$62,000	$84,750	$100,000	$110,500	$140,000	3.7%
2005	79	$96,623	$64,000	$86,000	$95,000	$110,000	$135,000	4.1%
2006	75	$94,295	$62,000	$78,725	$94,000	$108,000	$132,000	3.9%
2007	93	$88,653	$61,000	$76,000	$88,400	$100,000	$120,000	4.8%
2008	111	$90,597	$61,000	$74,000	$80,643	$93,500	$115,640	5.7%
2009	99	$81,021	$60,000	$70,000	$80,000	$88,000	$105,000	5.1%
2010	114	$76,386	$56,400	$67,400	$75,000	$84,400	$100,000	5.9%
2011	117	$70,075	$55,000	$63,000	$68,000	$75,000	$91,000	6.1%
2012	141	$71,794	$51,100	$60,000	$64,000	$72,000	$86,455	7.3%
2013	99	$63,839	$42,000	$58,000	$62,400	$70,000	$80,400	5.1%

Annual Salary by Designation

	COUNT	MEAN	5	25	MEDIAN	75	95	%
P.Eng.	1168	$113,674	$73,000	$90,000	$105,000	$128,412	$180,000	58.75%
P.Geo.	100	$120,662	$81,500	$95,000	$110,300	$147,500	$180,000	5.03%
P.Eng. and P.Geo	11	$148,852	$83,982	$128,000	$152,500	$165,000	$260,000	0.55%
Engineering License		NA	NA	NA	NA	NA	NA	
Engineer-in-Training	658	$70,480	$52,000	$60,000	$67,781	$78,910	$95,233	33.10%
Geoscience License		NA	NA	NA	NA	NA	NA	
Geoscientist-in-Training	43	$78,937	$60,000	$68,000	$78,000	$85,000	$110,000	2.16%

*NA=Not available due to reporting rules

Annual Salary by Discipline

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Agriculture and Forestry	42	$104,918	$52,000	$65,000	$86,000	$105,000	$153,000	2.1%
Chem., Ceramic & Metal.	80	$107,021	$62,000	$80,000	$94,000	$134,500	$180,000	4.0%
Civil	413	$92,938	$57,000	$67,400	$85,000	$106,000	$157,000	20.8%
Elec. & Eng. Physics	283	$102,345	$57,918	$75,000	$100,500	$123,570	$160,000	14.2%
Environmental	118	$92,731	$54,500	$70,000	$92,000	$108,000	$150,000	5.9%
Geo., Mining, Petro. Eng. Geo. (Geo., Geophysics,	265	$114,325	$64,500	$82,000	$101,300	$133,000	$196,000	13.3%
Geochemistry, Hydrogeology)	121	$100,473	$55,000	$77,500	$96,000	$122,000	$160,000	6.1%
Industrial	53	$92,217	$57,500	$65,000	$80,100	$120,000	$170,000	2.7%
Mechanical & Industrial	405	$100,711	$55,700	$74,000	$93,000	$120,000	$162,000	20.4%
Software, Computer Eng.	53	$107,823	$54,000	$69,681	$92,000	$110,000	$172,000	2.7%
Other	153	$110,106	$58,000	$73,000	$100,000	$135,000	$210,000	7.7%

Annual Salary by Function

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Corp. Management	128	$139,565	$90,000	$114,000	$135,000	$158,000	$210,000	6.4%
Design	463	$91,576	$55,000	$65,000	$80,000	$100,000	$144,700	23.3%
Exploration	72	$101,152	$54,000	$76,500	$92,500	$123,772	$175,000	3.6%
Inspect./Quality Control or Resident Services	53	$76,070	$56,000	$61,320	$65,000	$82,300	$120,000	2.7%
Marketing/Sales	27	$105,758	$60,040	$68,040	$98,000	$125,351	$215,000	1.4%
Operating or Maintenance	138	$96,457	$60,000	$76,000	$92,750	$114,255	$145,600	6.9%
Project Administration	82	$87,594	$58,000	$69,024	$82,201	$100,000	$125,312	4.1%
Project or Op. Mgmt.	762	$108,155	$60,944	$80,000	$100,000	$129,000	$176,000	38.3%
Reg. Approvals/Enforcement	61	$91,700	$60,000	$75,000	$90,000	$105,700	$131,000	3.1%
Research/Planning	105	$94,597	$54,500	$72,000	$94,200	$112,000	$147,000	5.3%
Teaching	33	$111,190	$63,000	$85,000	$116,000	$136,566	$160,500	1.7%
Other	64	$86,926	$0	$60,000	$80,200	$110,000	$155,000	3.2%

Annual Salary by Industry

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Agriculture and Forestry	19	$82,537	$51,750	$62,500	$76,000	$102,420	$122,000	0.96%
Consulting	606	$96,771	$56,000	$66,150	$87,746	$119,500	$168,000	30.48%
Educational Services	66	$119,462	$45,000	$76,000	$114,500	$140,000	$170,000	3.32%
Manufacturing Durables	155	$91,042	$53,500	$67,155	$79,040	$102,000	$150,000	7.80%
Manufacturing Non-Durables	60	$108,114	$51,257	$77,250	$94,000	$142,800	$180,000	3.02%
Procurement and Construction	137	$91,887	$59,000	$66,400	$81,700	$105,000	$151,000	6.89%
Resource Industry Oil & Gas	83	$105,520	$60,000	$79,000	$100,000	$126,500	$165,000	4.18%
Resource Ind. except Oil & Gas	359	$115,903	$70,353	$88,040	$105,000	$135,000	$176,000	18.06%
Service For Profit	27	$87,186	$41,600	$59,000	$80,000	$98,000	$175,000	1.36%
Service Not For Profit	148	$93,362	$61,320	$73,000	$90,000	$105,000	$133,000	7.44%
Utilities	259	$107,280	$61,000	$82,000	$102,240	$123,570	$165,132	13.03%
Other	69	$94,107	$53,000	$70,167	$97,000	$115,000	$152,000	3.47%

Annual Salary by Degrees

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Bachelor's Degree or qualified for registration	1347	$98,129	$57,500	$70,000	$90,000	$115,000	$165,000	67.76%
Qualification between Bachelor and Master's degree	237	$106,769	$59,000	$82,500	$103,500	$128,400	$168,000	11.92%
Master's Degree	297	$105,447	$53,500	$78,000	$96,408	$121,200	$178,000	14.94%
Qualification between Master's and Doctorate Degree	31	$118,456	$30,000	$82,500	$121,000	$154,000	$220,000	1.56%
Doctorate Degree	76	$126,670	$49,513	$93,000	$121,597	$149,668	$170,000	3.82%

Annual Salary by Experience

	COUNT	MEAN	5	25	MEDIAN	75	95	%
<1 year	91	$65,803	$40,000	$58,000	$62,000	$70,300	$92,000	4.58%
1 year	54	$68,517	$47,000	$55,000	$64,500	$72,000	$120,000	2.72%
1.5 years	98	$68,794	$53,500	$60,000	$64,196	$76,500	$93,450	4.93%
2 years	128	$67,839	$52,000	$61,250	$65,000	$75,000	$88,000	6.44%
3 years	161	$79,453	$55,000	$66,120	$73,576	$82,500	$100,000	8.10%
4 years	123	$82,375	$60,000	$70,000	$80,000	$88,400	$110,000	6.19%
5 years	132	$91,531	$64,000	$75,000	$83,778	$95,000	$119,000	6.64%
6 years	114	$89,881	$64,000	$78,000	$90,000	$100,000	$129,000	5.73%
7-8 years	172	$98,033	$65,000	$84,000	$96,038	$111,000	$133,000	8.65%
9-10 years	143	$106,262	$72,000	$93,000	$104,000	$120,000	$142,000	7.19%
11-12 years	113	$112,428	$78,000	$97,044	$108,000	$126,500	$160,000	5.68%
13-14 years	96	$112,569	$80,000	$97,928	$109,500	$130,500	$160,000	4.83%
15-17 years	130	$126,260	$70,000	$100,000	$120,000	$140,000	$168,000	6.54%
18-20 years	85	$135,356	$75,000	$104,544	$126,364	$158,000	$203,000	4.28%
21-24 years	90	$142,023	$85,000	$110,000	$132,500	$150,000	$196,000	4.53%
25+ years	258	$137,465	$75,000	$110,557	$132,000	$158,000	$215,000	12.98%

Annual Salary by Sector

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Public Sector	572	$103,406	$60,000	$79,553	$98,600	$120,000	$161,318	29.1%
Private Sector	1393	$100,893	$56,000	$71,000	$91,380	$120,000	$170,000	70.9%

Total Salary

	COUNT	MEAN	5	25	MEDIAN	75	95	%
Base Salary	1931	$102,475	$58,240	$74,000	$94,500	$120,084	$168,000	100%
Salary including bonus	1931	$116,432	$60,000	$80,000	$104,000	$135,000	$215,000	100%

Salary Changes - Full Time Positions

	MEDIAN SALARY	% INCREASE	AVERAGE SALARY	%NCREASE
1987	$48,000		$49,269	
1989	$50,928	6.10%	$62,887	27.60%
1991	$54,110	6.20%	$57,578	-8.40%
1993	$54,480	0.70%	$56,703	-1.50%
1995	$56,400	3.50%	$59,142	4.30%
1997	$60,000	6.40%	$62,266	5.30%
1999	$62,500	4.20%	$65,401	5.00%
2001	$66,000	5.60%	$68,877	5.30%
2003	$68,800	4.20%	$71,210	3.40%
2005	$71,008	3.20%	$73,607	3.40%
2007	$74,000	4.20%	$77,374	5.10%
2008	$76,352	3.20%	$83,025	7.30%
2009	$80,000	4.80%	$86,908	4.70%
2010	$82,950	3.70%	$91,548	5.30%
2011	$84,224	1.54%	$91,154	-0.40%
2012	$89,472	6.23%	$96,219	5.56%
2013	$90,000	0.59%	$98,030	1.88%
2014	$94,500	5.00%	$102,475	4.53%

Regression Analysis

Stepwise linear regression was used to find the best model for estimating salaries. The formula produced explains over fifty percent of the variance in salary (51.6%). Any model explaining at least 50% of the variance in the dependent variable can be considered an effective model. Refer to the **"Classification Rating Guide"**, which can be found on **www.apegs.ca**, to determine the values for each factor.

FACTOR	B (COEFFICIENT)	BETA (RELATIVE IMPORTANCE)
Duties (A)	188	0.233
Experience (C)	283	0.226
Supervision Scope (G)	606	0.126
Receipt of professional designation	9,461	0.090
(Constant)	51,895	

Formula for expected salary (SE) *without bonus*:
SE = 51895 + (188 x A) + (283 x C) + (606 x G)
Add 9,461 if you have acquired professional status within your field (P.Eng or P.Geo)

Regional Centre of Expertise (RCE) Celebrates Local Projects

RCE on ESD in Saskatchewan committee recognized by Her Honour the Honourable Vaughn Schofield, Lieutenant-Governor of Saskatchewan.

The Regional Centre of Expertise (RCE) on Education for Sustainable Development in Saskatchewan celebrated the innovative and creative ways that individuals and organizations are promoting education for sustainable development (ESD) at its sixth annual Recognition Event on May 7, 2014.

This year sustainability projects submitted by school groups, businesses, higher education, and non-profit organizations were recognized. These include projects in local food production, sustainability awareness, green building design, and climate change adaptation projects (among others).

Special guests included Her Honour Lieutenant Governor Vaughn Solomon Schofield, the official Patron of RCE Saskatchewan and Professor Charles Hopkins, holder of the UNESCO Chair in Education for Sustainable Development at York University.

The RCE Saskatchewan Recognition Program provides recognition to innovative research, projects and activities promoting and building capacity for ESD in the Prairie region.

RCE on ESD program is a global initiative of the United Nations University to advance the United Nations Decade of Education for Sustainable Development. RCE Saskatchewan is one of more than 100 RCEs globally. The goal of the RCE is transformative education that is locally relevant and culturally appropriate.

For more information on RCE Saskatchewan's ESD Recognition Program visit: www.saskrce.ca/recognition

2014
Annual Meeting Photo Gallery

Robert Schultz Emcees the Professional Development Luncheon.

Flaviana Loken was one of the happy raffle winners at the President's Reception. The raffle raised $815 for the charity "Water for People."

ABOVE: The Lockwoods spent a moment with Andrea Beaty, author of *Rosie Revere, Engineer* at the Professional Development Luncheon. BELOW: Dr. Booze guides Margaret Anne Hodges and Leah McDonald through a wine tasting.

LEFT: The Friday BBQ and social had a multicultural theme. Guests pinned their homes on a world map.

ABOVE: Bob and Leah McDonald having fun at the photo booth at the President's Reception.

BELOW: A well attended BBQ and social on Friday evening.

The Brian Eckel Distinguished Service Award

The Distinguished Service Award was created in 1978 and renamed the Brian Eckel Distinguished Service Award in 2004 to recognize the contributions of the late Brian Eckel, P.Eng., P.Geo. to society, the profession and the Association. This award recognizes outstanding contributions to the community, the Association and technical and learned organizations. It honours distinctive and outstanding achievements in professional and technical fields. This award is an honour given only to those who truly exemplify the best standards in engineering and geoscience in Saskatchewan.

Brian Eckel, P.Eng., P.Geo. graduated from the University of Saskatchewan with a B.Sc. in Civil Engineering (great distinction) in 1982 and with an M.Sc. in Geotechnical Engineering in 1985.

He was involved in many economic and infrastructure projects in Western Canada throughout his career. Brian was an active volunteer, serving in a wide variety of capacities with APEGS, including serving as president in 2001-02. He also served the broader engineering and geoscience community, including the Consulting Engineers of Saskatchewan, the Saskatoon Geotechnical Society, the University of Saskatchewan's College of Engineering and a variety of technical and learned societies. He also served as member and executive member of the Saskatoon North Rotary Club and made numerous presentations to professional and community organizations.

This year's recipient of the Brian Eckel Distinguished Service Award is

Don C.K. Poon, P.Eng., C.Eng. MICE, CMC, CCCA, F.ASCE

Don Poon was born in Hong Kong and moved to Saskatoon in 1974. After graduating from Evan Hardy Collegiate, he attended the College of Engineering at the University of Saskatchewan and convocated in 1979 with a Bachelor of Science in Civil Engineering.

Don worked briefly in Hong Kong, but soon returned to Saskatchewan and began working at the predecessor firm of SAL Engineering Ltd. He became managing director of SAL Engineering Ltd. in 1990 and has guided this firm to the success it enjoys today.

Don's work focuses on municipal engineering, transportation nd project management. He dedicates his vast knowledge and experience to improving health, safety and quality of life for urban, rural and First Nation residents across Saskatchewan. As a strong and committed mentor to his employees, Don is helping shape the industry leaders of tomorrow.

Don furthered his impact on the industry and the global community by lecturing to a wide variety of groups and by contributing his enthusiasm, perspective and innovation to both local and international organizations.

During his career, he has been active in many organizations including APEGS, the Association of Consulting Engineering Companies - Saskatchewan, the American Society of Civil Engineers (ASCE), Western Canada Water, and the American Water Works Association (AWWA). He has held many executive positions within these organizations and has become a leader in his endeavours.

Don's contributions and achievements have been widely recognized with many awards, including the prestigious Lieutenant Governor of Saskatchewan Meritorious Achievement Award in 2012, as well as all the American Water Works Association and Western Canada Water awards for which he has been eligible. Don received the distinguished AWWA George Warren Fuller Award in 2005. Don recently became a Fellow with the ASCE, an honour held by fewer than five per cent of members globally.

Don met his wife, Judy, while they were both students at the University of Saskatchewan. They were married in 1979. They are the proud parents of a wonderful daughter, Candace, who is now attending the University of Saskatchewan. Don treasures his time with family and also enjoys playing soccer with friends in the Saskatoon Adult Soccer League.

Don has dedicated countless hours to his profession, his employees, his community and his clients. He continues each day to do so with visible enthusiasm and a sincere love for the engineering career that he has chosen.

The Exceptional Engineering / Geoscience Project Award

This award, founded in 2001, recognizes accomplishments in engineering and/or geoscience. The project team must be made up predominantly of Saskatchewan engineers or geoscientists. The project may be located inside or outside Saskatchewan.

This year the award recognizes

Campbell Collegiate, one of the largest public schools in the province, which was built in stages in 1962, 1965 and 1968. Today, roughly 50 years later, the building is showing its age.

As the school began to show signs of structural distress, two structural investigations were done to assess the problems. These investigations showed that the original installed foundations did not conform to the structural drawings and that the building's piles were inadequate to support their loads.

These investigations concluded that the 1968 portions of the foundation had to be underpinned. Based on design work provided by other companies, WSP (formerly GENIVAR) undertook the construction administration for this part of the project.

WSP went on from there to provide structural engineering, civil engineering, consulting services and all project management services for all disciplines on upgrading the 1962, 1965 and remaining 1968 areas of the foundation.

WSP's services included a structural analysis of the 1962 foundation, calculations to determine the foundation loads, and the design of the new reinforced concrete transfer beams and the new jacked, in steel pipe pile foundations.

WSP as prime consultant coordinated the structural, civil, mechanical and electrical work among disciplines for the underpinning work. WSP also reviewed shop drawings and provided site reviews for the construction administration of the work.

Part of WSP's civil engineering design services included a site grading plan, a new paved parking lot, a regraded football field, a new concrete sidewalk in front of the school and upgrades to the two interior courtyards. WSP also provided construction administration for the removal of contaminated materials from the site, which included hydrocarbons and asbestos.

Among WSP's partners on the project were Ritenburg & Associates Ltd., who provided electrical engineering design services, and MacPherson Engineering Inc., who provided mechanical engineering design services.

The general contractor on this project was GRAHAM Construction and Engineering Inc. GRAHAM worked closely with the school division board and the design team led by WSP. Since school was fully occupied and in session while the work was being done, GRAHAM had to work closely with Campbell Collegiate administration and staff to ensure that work was scheduled at appropriate times.

The end result of this work is a stable steel pipe pile foundation which supports the superstructure and will prevent any further settlement and future damages from occurring to the building. The new football field, paved parking lots, courtyard upgrades and sidewalks in front of the school have significantly improved the aesthetics as well as the site drainage.

The Environmental Excellence Award

The Environmental Excellence Award was established in 2005. It recognizes exceptional achievements by an individual or team in the application of engineering, geological or geophysical methods related to environmental protection and preservation.

This year the award recognizes

Clifton Associates for the Northgate Commodity Logistics Centre Project

On February 5, 2013, Ceres Global Ag Corporation announced its plans to develop a commodity logistics hub rail terminal in the former hamlet of Northgate, Saskatchewan, connecting to the BNSF Railway network in the United States.

Ceres has purchased 1,500 acres of land at Northgate, Saskatchewan where it is the process of constructing a new grain and oil commodity logistics hub including two high-efficiency rail loops, each capable of handling unit trains of up to 120 railcars. The logistics centre is a $90 million project that will make significant contributions to the province's economy.

There were several key challenges in the short time frame from inception in December of 2012 to getting equipment in the ground in the summer of 2013. This involved getting the project through the environmental assessment and review process. Some of the challenges included sensitivities related to heritage resources, rare and endangered wildlife, and protected plant species. Clifton Associates' and its client's commitment to environmental protection ensured that the project protected these valued ecosystem components while at the same time keeping the project schedule on track.

Clifton identified several potential heritage resources that required a heritage assessment and a mitigation plan.

The project also faced environmental challenges due to the presence of a nearby ferruginous hawk nest. The ferruginous hawk is a Schedule 1 threatened species that is protected by federal and provincial law. The close location of the nest had the potential to significantly delay the project. Faced with a small window of opportunity, Clifton relocated the hawk nest outside of the required kilometre setback late in the winter of 2013. These efforts included the installation of two artificial nesting poles at new locations.

The project faced a number of other regulatory issues including the locations of active migratory bird nests and protected plant species. Through close consultation with federal and provincial regulators, Clifton made plans to protect the nests and plants and worked with the construction contractor to assure that the plans were being adhered to and the environmental concerns closely monitored while keeping the project on schedule.

An array of project-specific environmental protection measures were developed that allowed the client to meet both project delivery and regulatory objectives.

The Promising Member Award

The Promising Member Award, established in 1995, recognizes exceptional achievements by professional members in the early stages of their careers in Saskatchewan.

This year the award recognizes Brent Wolfater, P.Eng.

Brent Wolfater is a consulting engineer with AECOM in Saskatoon.

Brent learned about hard work from his parents, being raised on a farm near Tompkins, SK. His first job off the farm was working for the Rural Municipality of Carmichael as a labourer. He quickly realized that picking rocks for $7/hr may not be the ideal career.

The mandatory co-operative experience program at the University of Regina helped Brent to choose the Industrial Systems Engineering program. Through this program, he was able to graduate with a Bachelor of Applied Science degree without debt.

After graduation Brent joined Schlumberger, a multinational oilfield service company, as a wireline field engineer. He travelled the world for both training and work during his four-year career with Schlumberger, spending two of those years in the rainforests of Peru. His career was rewarding, but it had its drawbacks. Brent chose to return to Saskatchewan in 2008 to have the chance to be at home most evenings spending time with his family.

Since joining AECOM in 2008, Brent has worked on a diverse number of projects for companies in mining and power generation; for universities, municipalities, the province, and even a brewing company.

Brent enjoys helping others grow through mentoring, coaching and sharing his lessons learned. He has volunteered with Big Brothers, Regina Engineering Students' Society and as the ACEC-SK Young Professionals Group Chair.

In his spare time, Brent enjoys camping, being outdoors and spending time with his family.

Friend of the Professions Award

The Friend of the Professions Award was established in 2013 to recognize exceptional achievements or unique contributions in the promotion of the professions by someone who is not a member of APEGS.

This year, APEGS is pleased to present the Friend of the Professions Award to Leslie Bell.

Leslie Bell was a marketing and communications consultant for over 30 years. She worked with a client base that included resource-based companies and professional associations. During that time, Leslie was fortunate to work with many well-educated, dedicated men and women members of APEGS to provide a public and positive image for professional engineers and geoscientists.

Leslie's experience in business and community boards gave her a broad perspective to balance her clients' needs and objectives to reach their target audiences.

After long and rewarding careers, Leslie and her husband, Ron, retired and now spend time travelling with their two sons and their families, as well as with friends throughout the world.

The McCannel Award

The McCannel Award was established in 1983 to honour service to the Association of Professional Engineers and Geoscientists of Saskatchewan and to the profession as a whole. The McCannel Award is named for Roy McCannel, a founding member of the Association.

This year, the McCannel Award recognizes Douglas J. Kozusko, P.Eng.

Doug Kozusko is a senior project engineer in the engineering and geoscience division for the Water Security Agency. Doug received his Bachelor of Science and Master of Science degrees from the University of Manitoba.

Before moving to Saskatchewan in 1995, Doug worked for 20 years for the Manitoba government on a range of water resources development projects. He served on the Manitoba Conservation Districts Commission and the Canada-Manitoba Flood Damage Reduction Program Steering Committee, and authored a number of technical papers and presentations.

Doug joined the Saskatchewan Water Corporation in the fall of 1995 as a planning engineer developing a water management plan for the Milk River Basin.

Doug was transferred to the Saskatchewan Watershed Authority and served as a senior project engineer. During the "Big Dig" Wascana Lake project in 2004, he oversaw the rehabilitation of the Wascana Weir and spillway.

Doug has been a representative of his employer as a member of the Wakamow Valley Advisory Committee and its capital works subcommittee since 2001. In 2007 Doug was seconded to support the Fishing Lake Flood Protection Project and is now the project manager. Doug received the Premier's Award for Excellence in the Public Service in the leadership category for the Fishing Lake Flood Protection Project as part of the 2011 flood response.

Doug served as Councillor to APEGS for the South West District from 1996 to 2002. While on Council, he acted as liaison councillor on the Education Board, Governance Board, and numerous standing committees.

Doug has been an active judge in school science fairs and national engineering week contests. Doug volunteered in 1999 and 2000 as a student mentor in civil engineering.

Doug is an avid curler and has been a volunteer curling official since 1998. He has officiated at many bonspiels including the Women's Scotties, Men's Brier, and the first "Roar of the Rings" Olympic Curling Trials held in Regina in 2001.

Doug and his wife, Deborah, will celebrate their 38th wedding anniversary this year. They have three children and four grandchildren.

APEGS Outstanding Achievement Award

The Outstanding Achievement Award was created in 1998 to honour members who show technical excellence and achievement in engineering and/or geoscience in Saskatchewan.

This year's recipient is a distinguished member of our association,

Richard Burton, P.Eng.

Rich Burton was born and raised in Moose Jaw, where he attended Westmount public school and Riverview high school.

After high school, he received his bachelor degree in engineering physics and master's and Ph.D. in mechanical engineering, all from the University of Saskatchewan.

He has been at the U of S ever since. From 1974 to 2012, he rose up the ranks of the faculty from lecturer to professor in mechanical engineering and to assistant dean of undergraduate programs for five years. He continues to serve as a Professor Emeritus to this day.

Throughout his career, he has taught over 25 undergraduate and graduate courses. He has been a team leader for college and departmental accreditations. He has served as a Chair and member of numerous departmental and college committees.

His research has focused primarily on fluid power systems. He has supervised over 75 graduate students and published over 200 conference and journal papers. He has the distinction of being a continuous holder of NSERC Discovery Grants since 1979.

He is a fellow of the American Society of Mechanical Engineers (ASME) and received ASME's Robert Koski Award in 2011.

He has been a member of the Canadian Engineering Accreditation Board visiting teams for numerous universities, an executive member and former Chair of the ASME Fluid Power Systems and Technology Division, a founding member of Fluid Power Net and has served on numerous other international boards and committees. He is a technical reviewer for over 10 journals and chairs numerous conference sessions.

Rich and his wife, Ann, have two children and five grandchildren. Outside of the classroom, his main interests are gardening and grandchildren. He and Ann also enjoy cycling, and recently did a bike tour in France – with many stops along the way for food and wine, of course. Rich is proud to be one of "those guys" who rides his bike all year long.

Celebrating Our Own

Agrology Institute Recognizes David Gullacher, P.Eng.

The accomplishments of Saskatchewan's outstanding agrologists were recognized at the Saskatchewan Institute of Agrologists' 2014 Adaptation Convention during the Honours and Awards Gala in Saskatoon on April 9, 2014.

Among those recognized was David Gullacher, P.Eng. who received an Honourary Life Membership.

Under Gullacher's tenure, the Prairie Agricultural Machinery Institute (PAMI) has undertaken many projects that have supported the advancement of crop production and livestock management. The most notable has been direct seeding, researching seed and fertilizer placement and the Western Beef Development Centre, which is now a division of PAMI. The Western Beef Development Centre plays a unique and vital role in the development of the cattle industry.

The Honorary Life Membership may be presented out of respect and in recognition of Saskatchewan achievements in and service to agriculture, bioresources, food or the environment, but without the usual prerequisites, duties or obligations of membership contained in *The Agrologists Act*, 1994 and the Institute's Bylaws.

APEGS Member Grants

The first recipients of the APEGS Member Grants, Russel Munro, P.Eng. (left) and Edgar Ferguson Earnshaw, Engineer-In-Training, (right) each receive a cheque for $7,500 from Dennis K. Paddock, P.Eng., FEC, FCSSE, FCAE, FGC (Hon.), APEGS Executive Director and Registrar.

Fellows of the Canadian Society for Senior Engineers (FCSSE)

Dennis K. Paddock, P.Eng., FEC, FCSSE, FCAE, FGC (Hon.), APEGS Executive Director and Registrar, presents Jon A. Gillies, P.Eng., FEC, FGC (Hon.) (left) and Bland G. Brown, P.Eng., FEC (right) with the Fellow of the Canadian Society for Senior Engineers (CSSE) at the APEGS Awards Banquet May 3, 2014.

The CSSE is a member society of the Engineering Institute of Canada (EIC), along with nine other member societies that represent specific engineering disciplines. CSSE reflects all engineering disciplines. It has full voting privileges and the opportunity to represent its members within EIC on national engineering issues

News Beyond Our Borders

www.oiq.qc.ca/

Quebec engineers unhappy with their professional order

Montreal Gazette - Quebec engineers, under the microscope due to rampant corruption allegations, are fighting among themselves about insurance.

A rebellion is brewing among engineers angry at the Quebec Order of Engineers over changes they say are costing some of them thousands of dollars annually in insurance premiums.

Rebellion leaders say the organization is "taking advantage of what has happened at the Charbonneau Commission to increase regulation for their own purposes." The Order is "creating an empire, hiring people and hiring people and nobody knows what these people are doing."

Jean-François Proulx, a key rebellion organizer, told *The Gazette* he has been advised by his lawyer not to talk to reporters, after the Order launched a $750,000 libel lawsuit against him.

Engineers working on their own as consultants or on staff at small firms are the hardest hit by the insurance changes. In the past, Quebec engineers could shop around for professional responsibility insurance. Last year, the Order gave one company a monopoly.

Members complained that premiums shot "up considerably, by thousands of dollars."

A mandatory drug-insurance program has also increased costs for some engineers.

On its site, the Order said in the past some members did not have the right kind of professional insurance. It says it is required under Quebec law to provide drug insurance to members. And it notes that 22 professional orders in Quebec have imposed training requirements on members.

University of Calgary Club that built an electric motorcycle

Huffington Post - The University of Calgary has many student clubs but one of the most interesting – from an engineering perspective at least - is one called Team Zeus. It's only three years old but these undergrads are building an electric racing motorcycle.

The group's goal is to get their electric bike, called the Zephyr, on a racetrack this summer. It's being built on a Suzuki GSXR 600 racing bike frame that's been stripped down and rebuilt as an electric motorbike.

And the race they will be participating in isn't some endurance race where we see who developed the best batteries. Like MotoGP and Formula One, this race is all about machines going as fast as they possibly can. Team Zeus is aiming for a top speed of 160 km/h and a range of 20-30 kilometres.

The biggest difference between electric motorbikes and their gas-powered brethren is the transmission, or lack thereof.

"Most electric bikes don't have a transmission at all. They just directly connect the motor to chain so essentially there's no gear shifting. The torque is quite noticeable. Once you twist the throttle you go basically. It catches a lot of people by surprise the first time they ride it," said a club member.

The group got its start from watching the movie *Charge*. The documentary follows several teams on their way to the world's first electric motorbike grand prix on the Isle of Man in 2009.

They'll be competing against groups that will spend hundreds of thousands of dollars on their bikes. But it's not about the money or even the credits.

"It's all extra-curricular but I think I've learned more from Team Zeus than from a lot of my courses," says a student. "This is cutting edge, brand new technology. We're actually getting in here with professionals who are doing the same thing and making the same mistakes we are."

Paving roads for more girls in engineering

Toronto Star - Toronto high school students comprise Ryerson University's Youth Think Tank, which is working to get more females in engineering and science programs.

The initiative is funded by Hydro One as part of its Women in Engineering University Partnership.

The electricity firm has donated a four-year grant of $1.4 million to four universities, Ryerson, Western University, the University of Waterloo and University of Ontario Institute of Technology, to find ways to increase the number of women in the field. Motorola Solutions Foundation is also a supporter with more than $65,000 in funding.

Hydro boasts a 20 per cent female engineer rate, more than double the national average for companies its size, and wants to see even more women join its ranks.

The aim of the program is not only to provide support and mentoring at university level, but also to get girls at that crucial decision-making time in high school. Only about 20 per cent of students who enrol in undergraduate engineering programs in Canada are female, and the gender gap is even wider in engineering industries. For example, women make up just 10 per cent of electrical engineers in Ontario.

APEGA feels pressure of new applicants

Canadian Consulting Engineer - The Association of Professional Engineers and Geoscientists of Alberta (APEGA) is struggling to keep up with the large number of applications it is receiving from engineering and geoscience graduates. APEGA received 6,200 applications for membership in 2013, a statistic that — astonishingly — means approximately 1 in 10 of newcomers to the province is applying to the association. About 60 per cent of the applications come from other Canadian provinces, while 40 per cent are from other countries.

The licensed members who volunteer to sit on the board examining new applications are putting in about 20 hours a month reviewing files. The reviewers have to deal with around 200 files a year, many of which have complex issues. Meanwhile, APEGA staff are also racing to keep up.

The Alberta association's membership has grown by 17 per cent annually for the last three years. It is now the second largest licensing association in the country, with approximately 72,000 members. Only Professional Engineers Ontario is larger, with 87,900 members (although PEO does not include geoscientists). The Ordre des Ingénieurs du Québec has 60,000 members, and the Association of Professional Engineers and Geoscientists of British Columbia has 29,000 members.

Philip Mulder, director of communications with APEGA, says the reasons why they have so many applications is obvious. "There's work available for professional engineers and geoscientists in Alberta right now and into the foreseeable future," he says. "While this is good news, it does result in a large number of applications to APEGA."

The association would like the University of Calgary and University of Alberta to increase their enrolment quotas for engineering students, but has been disappointed in this goal so far. The association notes out: "for every engineering student admitted to the faculty, 3.5 others are turned away due to a lack of operating funds."

Yet the province will be needing professionals for the $200 billion of capital projects planned for the next decade.

News From The Field

INFRASTRUCTURE

Federal funds to upgrade railway crossings in Sask.

CJME - Saskatchewan will be getting upgrades to some federally-regulated railway crossings as part of an effort to improve safety.

The federal government announced $9.2 million in funding being made available as part of a cost-sharing agreement with railways and governments that have authority over local roads. Of that, Saskatchewan will see $655,650 that will be used for upgrades on federally-regulated crossings.

The federal funding follows a Transportation Safety Board report released in March that called for research into low-cost alert systems. The report looked at an August 2012 fatal collision in Broadview where a train hit a camper van in broad daylight. The collision that killed four people happened at a railway crossing that had only standard reflector warning signs.

RM roads, bridges get $25.5 million

Yorkton This Week - The Government of Saskatchewan today announced $25.5 million in funding for 80 road, bridge and culvert projects in 64 rural municipalities.

The Municipal Roads for the Economy Program (MREP) provides funding for municipal roads impacted by increased truck traffic, as well as bridge and culvert projects. Funding for the program is consistent with last year's budget.

MREP is administered by the Saskatchewan Association of Rural Municipalities (SARM). Grants cover up to 50 per cent of the costs of road projects and 30 to 90 per cent of the costs of bridge and culvert projects.

Saskatchewan sees $466M in investment in first quarter

Regina Leader-Post - Non-residential construction - typically larger projects of an industrial, commercial or institutional nature - totalled $466.1 million in the first quarter of 2014, the highest on record for the quarter since reporting began in 1997.

Non-residential construction was up 4.9 per cent in the first three months of 2014, compared with the last three months of 2013. Saskatchewan had the second highest percentage increase among the provinces. Nationally, non-residential construction dropped 0.6 per cent over this same period.

Ontario, Alberta and Saskatchewan recorded the largest gains in the first quarter, mainly as a result of higher spending on commercial construction projects, according to Statistics Canada.

Industrial projects were up 35.2 per cent in the first quarter of 2014 over the first quarter of 2013. Institutional projects were up 9.8 per cent over this period.

Hospital start will bring relief

Saskatoon Starphoenix - The provincial government has decided to replace the Saskatchewan Hospital in North Battleford using a P3 model. The government issued a request for qualifications from interested parties, with construction ideally to begin in summer 2015.

What's particularly noteworthy about this repeatedly delayed project is that the new psychiatric hospital will incorporate into its design an adjacent provincial correctional facility with 96 rooms that will treat mental health problems of male and female inmates. It's a first in Saskatchewan, and a rarity in Canada.

P3 Canada and Regina bypass project

Regina Leader-Post - Up to $200 million will be provided through the P3 Canada Fund for the construction of the Regina Bypass. The province of Saskatchewan will fund the remainder of project costs, at a level determined through a competitive P3 procurement process.

A Request for Qualifications (RFQ) has been issued by the province to identify private sector proponent teams interested in bidding on the project. The successful proponent team, once selected, will design, build, finance, operate and maintain the project over a 30 year period. The Regina Bypass will be owned by the province of Saskatchewan.

Construction of the bypass is anticipated to take three and a half years and the P3 model is expected to deliver the project on time and on budget.

Students, teachers help design new schools

Global News - This past fall, Saskatchewan announced it would invest in nine new joint-use schools to address the province's booming population and bursting classrooms.

Saskatoon's Hampton Village is one of the neighbourhoods slated for a new school.

Come 2017, a Catholic school will be situated on one side, a public will be on the other, joined together by shared facilities, like a gym and library.

After brainstorming and 140 blueprints to choose from, 11 students identified an open concept as the number one priority necessary for learning. Their ideas will be passed to the design consultaant.

Four new schools will be built in Saskatoon, three in Regina, one in Martensville and one in Warman.

All are a public private partnerships and the tender will be bundled as one package, expected to cost about $400 million. The Saskatchewan Construction Association is in talks with the provincial government, encouraging a split in the construction of the nine schools, into three separate projects.

Ceres Global Ag rail connection at Northgate

Ceres Global Ag Corp. press release - Ceres Global Ag Corp. announced it reached an arrangement with US Customs and Border Protection (CBP) to complete the final railway construction to allow Ceres to connect its commodity logistics hub at Northgate, Saskatchewan to BNSF Railway.

This construction and the commensurate start-up of international services is expected to allow cross-border shipments to begin later in the year as handling facilities are completed at the new logistics hub. Upon completion, it will include a grain handling and shipping facility, a facility for transloading and shipping crude oil and a logistics centre to unload imported equipment and materials for Saskatchewan's resource industry.

ENERGY

Canada Museum inaugurates biodigester

Biomass Magazine - The Canada Agriculture and Food Museum (CAFM) has unveiled its newest addition, a biodigester provided by the Saskatchewan Research Council (SRC).

This new piece of equipment, designed and manufactured by a team of energy and bioprocessing specialists at SRC, will allow CAFM to demonstrate to visitors how animal waste can be processed to produce energy.

Biodigesters convert organic material into a renewable energy called biogas, as well as produce valuable by-products such as nutrient rich fertilizers. The biogas produced from this unit is the equivalent of 23 liters (6.08 gallons) of gasoline over a one week period.

Saskatchewan wind project moves forward

Journal of Commerce - The Morse wind energy project in Southern Saskatchewan is moving forward after the purchase of wind turbines from Siemens Canada.

Preparations are being made to start construction this summer.

Algonquin Power & Utilities Corp. has entered a partnership with Siemens Canada to supply, deliver and commission 10 wind turbines for the project near Morse, which is about 180 km west of Regina.

The deal includes a 10-year service and maintenance agreement and is Siemens' first wind turbine installation in the province.

The 23 megawatt project will be on 1,120 acres of private lands, with additional land under lease or option for future expansion.

It will provide renewable energy to more than 8,000 Saskatchewan households, which represents about 10 per cent of the total wind power generation capacity in the province.

SaskPower has offered Algonquin a 20 year contract for the procurement of 23 megawatts of wind generation to match the capacity of the proposed turbines.

The capital cost to construct the Morse wind project is estimated to be $81.3 million. SaskPower is proposing to construct a new substation southeast of Morse, as well as a new transmission line.

The expected date of operation for the projects is in early 2015.

MINING

Mining exploration spending forecast to mirror '13

Saskatoon Starphoenix - The amount of capital invested in mining exploration in Saskatchewan this year will mirror last year's total of $236 million, says Gary Delaney, P.Geo., chief geologist with the province's Ministry of the Economy.

"Most of the focus is between potash and uranium, but we will see a few million in gold and I suspect we might see a little more optimism in the diamond area," said Delaney, who spoke at the fourth annual Saskatchewan Mining conference.

The ministry conducts a survey to see how much was spent last year and what people are planning to spend this year (estimated at $234.6 million).

That ranks Saskatchewan fourth in mining exploration expenditures in Canada.

Spending in 2014 will be split fairly evenly between juniors (who don't have production) and major producers, he said.

It has been a rough few years for junior miners trying to raise capital. Between 2012 and 2013, the amount of money junior companies were able to raise dropped by 50 per cent.

Some bright spots noted in the report included:

Uranium: Delaney said the large amount spent on uranium exploration is quite healthy considering the price of the commodity is depressed (with spot prices in the $30 range).

"This reflects two things," Delaney said. "There is interest in Saskatchewan because we have these very high grade deposits like McArthur River and Cigar Lake ... And there has also been a shift in the exploration paradigm with the Patterson Lake South discovery."

Diamonds: Other news from 2013 that created buzz was North Arrow Minerals' announcement of a diamond discovery at its Pikoo project north of Deschambault Lake, where two surface kimberlites had been found.

"That has really rejuvenated interest in diamonds," Delaney said. "There is a large number of dispositions that have been given out there."

Saskatchewan potash mine takes step forward

Journal of Commerce - The construction of the first potash mine in Saskatchewan on First Nations land has taken an important step forward, after the Muskowekwan First Nation (MFN) voted overwhelmingly in favour of the project.

"The majority supported the council's vision to build a self-sufficient treaty-based economy for our future generations," said Muskowekwan Chief Reginald Bellerose.

"Many members have told me they can't wait for construction to begin so that they can participate in the project," said Chief Bellerose.

Muskowekwan Resources Limited, which is wholly owned by the First Nation, has entered into a joint venture agreement with Encanto Potash Corp. to develop a solution mine.

It will produce about 2.8 million tonnes of potash per year for at least 50 years.

The joint venture partnership is unique because the MFN is a co-proponent and will benefit in a variety of ways, including increased employment, contracting, training and business opportunities.

As the owner of the mineral rights, MFN will earn royalty revenue annually for the minimum 50-year operational life of the project. At current potash prices, this royalty revenue would be about $80 million per year.

Rio potash asset right next to BHP

The Australian - Mining giant Rio Tinto has a big potash deposit in the same Saskatchewan basin where rival BHP Billiton is spending $3.8 billion just to be prepared to mine the mineral when the anticipated fertilizer production spike kicks in.

In Rio Tinto's annual strategic report of 2013 the miner describes the potash discovery as the eighth "tier-one" discovery in the past decade from its exploration group.

Rio's partner Acron, from Russia, has filled in the details, revealing the deposit has estimated resources of 1.4 billion tonnes of potash with an average grade of 31 per cent.

The Australian reports that this compares to BHP's 6.6 billion tonnes of total resources at an average grade of 26 per cent.

ATCO awarded camp management contract with K+S Potash Canada GP

Wall Street Journal - ATCO Structures & Logistics (ATCO) has been awarded a contract to operate a 1,470 person camp for K+S Potash Canada GP in southern Saskatchewan. ATCO will provide catering, housekeeping, janitorial and maintenance services for the facility that houses workers constructing the K+S Potash Canada Legacy Project.

ATCO pursued this project with its local Aboriginal partner, the George Gordon First Nation (GGFN) as the K+S Potash Canada Legacy Project is located on the traditional lands of the GGFN.

ATCO has partnered with the George Gordon First Nation on other large projects in Saskatchewan.

http://news.thinksask.ca/

Shore Gold, Cree sign MOU for Star-Orion South project

Canadian Mining Journal – Saskatoon-based Shore Gold, operator of the Star-Orion South diamond project near Prince Albert, has signed a memorandum of understanding with the Chakastaypasin Cree Nation, Peter Chapman Cree Nation and James Smith First Nation concerning the project. The sides have agreed to discuss potential education and training, employment, business and participation opportunities for members of the nations.

The project is located in the Fort a la Corne forest that is used by the Cree for traditional activities. The local reserve lands lie immediately to the south of the project area.

Shore has published a feasibility study for Star-Orion estimating 279 million tonnes of probable reserves containing 34.4 million ct of diamonds. This reserve will support mining for 20 years.

UNIVERSITIES AND RESEARCH

IMII, Mitacs and U of S Partner to lead minerals industry innovation in Canada

Marketwired - Saskatchewan's International Minerals Innovation Institute (IMII), the national research and training organization Mitacs, and University of Saskatchewan are partnering on a novel research and training initiative through an investment valued at more than $600,000.

The Mitacs Industry Executive in Residence-Minerals (MIER-Minerals) will identify and create new research initiatives that will lead to innovation in the minerals sector, strengthening companies and enhancing Canada's economy.

The MIER-Minerals is the first of several such positions Mitacs will support nationally across various industry sectors. The goal is to support innovation, research and training to enhance the global competitiveness of these industries and encourage collaboration between companies and universities across Canada.

Engin Özberk, IMII Executive Director and Senior Technical Advisor, will assume the role of the MIER-Minerals director at the U of S.

Working with the U of S College of Engineering and other academic units, Özberk will focus on eight areas of strategic importance to the minerals industry: workplace health and safety, environmental sustainability, exploration, mining, processing, social license, policy research and economics of global commodities.

These themes have been identified through industry-researcher consultations undertaken by IMII, a non-profit organization funded jointly by Saskatchewan industry and government to support research, increase education and training, and help address the shortage of specialists in mining engineering and sciences needed by the minerals industry.

Özberk will also work with other Saskatchewan and Canadian post-secondary institutions to build relationships and multi-disciplinary projects across the country, as well as internationally in these priority areas.

University of Saskatchewan synchrotron to build new beamline

CBC News - The provincial government has given the University of Saskatchewan $2.1 million for nine research projects.

More than half of the money will be used for the new BioXAS beamline project. The three beamlines look at the role metals play in the human body and the outside world.

The beamline will be useful in researching Alzheimer's disease and multiple sclerosis.

The beamline will also allow research into metal-based drugs, explaining why they work in the human body. The new beamline will allow researchers to zoom in on images, something that isn't available at other synchrotrons.

Researchers hope to have the beamlines up and running this year.

Students create pop bottle stage

Regina Leader-Post - University of Regina engineering student Daniel Molder never expected to harken back to medieval theatre traditions to complete his final-year design project. And yet there he stood on Saturday, jumping up and down on a stage he and his partner Josh Schattenkirk had designed and constructed out of used pop bottles at the behest of the U of R theatre department.

"I thought maybe I'd end up doing something involving gears, hydraulics or motors, but I'm very glad I did this," Molder chuckled.

Molder and Schattenkirk's project was one of the many presented by fourth-year engineering students at the faculty's annual project day.

"Engineering can apply anywhere to do with anything, and this just confirms that to me," he said.

The pop bottle stage was born out of discussions with the theatre department, in its quest to "reach out into the greater community," explained department head Kathleen Irwin.

"We needed something that could be defined as a portable stage, and ... to that we added the idea of a sustainable stage," she said. "Suddenly, this began to have traction with the engineering students who could see a really cool alignment with their skills and current issues surrounding sustainability."

Molder and Schattenkirk were given a list of parameters for their portable stage - it must be easy to move, cost less than $5,000, take less than 15 minutes to set up, and be able to hold two people and have the capacity for backdrop curtains.

The result was a modern take on the medieval pageant wagon, built from modules that click onto a wheeled cart. Each two-foot-wide module contains 60 empty plastic bottles encased in a recycled wood and Plexiglas cube.

So where could this new stage be used? Irwin sees its application in everything from public speaking to theatre at the university, in elementary and high schools, and by community groups.

URANIUM AND NUCLEAR

Saskatchewan village benefiting from deal with uranium companies

Canadian Press - It's been just over a year since a small village in northern Saskatchewan signed a major deal with two uranium mining companies and the mayor says the community is already seeing dividends.

Cameco and Areva signed a $200 million collaboration agreement with Pinehouse and Kineepik Metis Local in late 2012. Benefits to date include $1.3 million invested in the hockey arena to install an artificial ice plant and $6 million in wages, work placements and scholarships.

Cameco CEO Tim Gitzel says his company reaps many benefits from its mining activities in northern Saskatchewan and feels it has a corporate responsibility to invest in communities such as Pinehouse.

A new annual report also says Pinehouse Business North provided a little over $19 million in contracting services to Cameco and Areva mine sites in 2013.

A special community event was held in Pinehouse on Wednesday to celebrate the one-year anniversary of the collaboration agreement.

The Saskatchewan Science Centre is looking for YOU!

We inspire children every day. Now it's your turn.

Our mission is to ***ignite scientific curiosity and innovation in Saskatchewan communities***. We provide interactive exhibits and a place for children and adults to explore, play, and learn.

As part of our ***Innovators in the Schools*** series, we bring motivated and engaging people involved in science, innovation, and technology together with groups of school children. These speakers will entertain and educate the students about the amazing work that they do and what it's REALLY like to work in science related fields. The children will ask questions like "Why did you become an engineer?" and "What exactly do you do every day?" We need professionals to talk to these children and share their experiences.

Don't be shy. Future generations of Professional Engineers and Geoscientists are in schools right now, and they want to know more about the interesting careers that are available to them when they grow up.

You don't need to be famous. All you need is a passion for what you do and a willingness to share that passion with the future of our province. Can you get a group of kids excited about a future in engineering or geosciences?

For more information, please contact **Kim Mack** at **306-791-7920** or email **kmack@sasksciencecentre.com**.

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Calendar of Events

http://kentglowinski.files.wordpress.com/

Re-Fresh: Ideas and Opportunities on Water Reuse
June 25-26, 2014, Calgary, AB
www.awcreusesymposium.ca

27th Canadian Biosolids and Residuals Conference
July 4-7, 2014, Vancouver, BC
www.bcwwa.org

2014 ASABE and CSBE | SCGAB Annual International Meeting
July 13-16, 2014, Montreal, QC
www.asabemeetings.org

CSCE Short and Medium Span Bridge Conference
July 15–18, 2014, Calgary, AB
www.smsb2014.ca

Our Water, Our Future
International Conference on Marine and Freshwater Environments
August 6-8, 2014, St. John's NL
www.engr.mun.ca/NRPOP/Web/iMFE2014

2nd Annual Manitoba Building Expo
September 10, 2014, Winnipeg, MB
www.manitobabuildingexpo.com

Western Canada Water 2014 Annual Conference and Exhibition
September 22-26, 2014, Regina, SK
www.http://wcwwa.ca/events/

Warming of the North 2014 Conference
September 28-30, 2014, Ottawa, ON
www.umanitoba.ca/faculties/management/ti/2772.html

GeoRegina
2014 Canadian Geotechnical Society Annual Conference
September 28-October 1, 2014, Regina, SK
www.georegina2014.ca

Prosperity Through Process Advancements
Metallurgy and Materials Society of CIM
September 28-October 1, 2014, Vancouver, BC
web.cim.org/COM2014/conference

A Balance of Changing Priorities
2014 Canadian Dam Association Annual Conference & Exhibition
October 4-9, 2014, Banff, AB
www.cda.ca

Tunnelling in a Resource Driven World
Tunnelling Association of Canada 2014 Annual Conference
October 26-28, 2014, Vancouver, BC
www.tac2014.ca

16th Canadian National Conference on Drinking Water
October 26-29, 2014, Gatineau, QC,
www.cwwa.ca

Buildings for Tomorrow
Canadian Conference on Building Science and Technology
October 28-31, 2014, Toronto, ON
obec.on.ca/CCBST2014/NEWS

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