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DEADLINE FOR APEGNB SCHOLARSHIPS: JUNE 30, 2007

2007 Annual General Meeting



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APEGNB Igloo Building Competition 2007

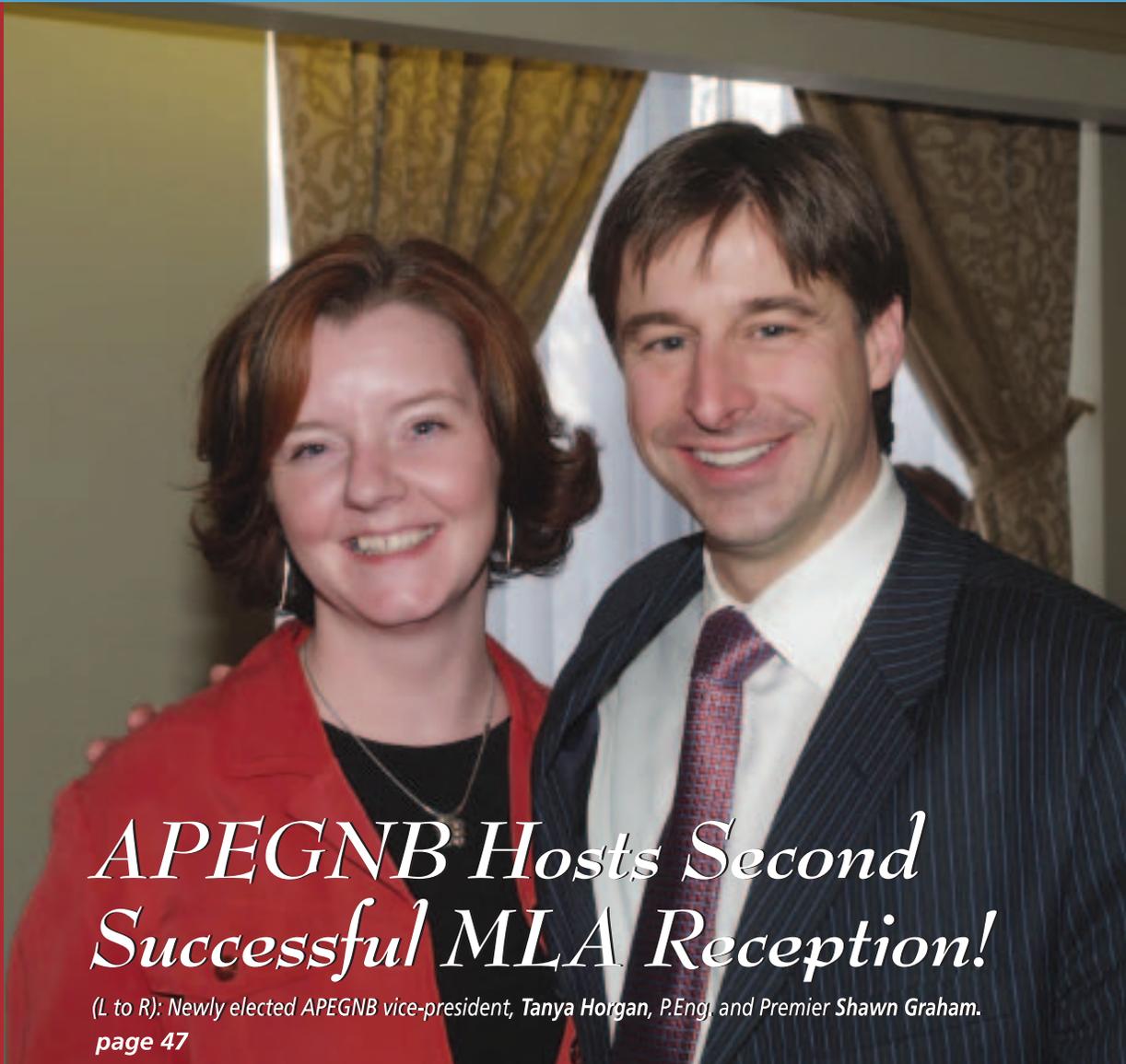


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Presidential Firsts



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APEGNB Hosts Second Successful MLA Reception!

(L to R): Newly elected APEGNB vice-president, Tanya Horgan, P.Eng, and Premier Shawn Graham.
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183 Hanwell Road, Fredericton, New Brunswick, Canada E3B 2R2

Tel: 506-458-8083

Fax: 506-451-9629

e-mail: info@apegnb.com
www.apegnb.com

EDITOR: **Melissa Mertz**

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APEGNB STAFF

Andrew McLeod Executive Director	mcleod@apegnb.com
Tom Sisk , P.Eng. Director of Professional Affairs	sisk@apegnb.com
Sandra Stairs Director of Registration	sandra@apegnb.com
Melissa Mertz Director of Communications	melissa@apegnb.com
Rachael Christenson Accounting	rachael@apegnb.com
Michelle Richard Registration Coordinator	michelle@apegnb.com
Stéphanie Duguay Administrative Assistant	info@apegnb.com

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PRESIDENT'S MESSAGE

David Crandall, P.Eng.

Thank you for providing me with the opportunity to serve as your Association's 88th president. It is truly an honour to represent APEGNB at provincial and national events.

There are a number of people who must be acknowledged for their work in moving our Association forward this past year. Our past president, **Iris Auclair-Bernard**, P.Eng., and outgoing Council members **Jane McGinn**, P.Eng; **Claude Mallet**, P.Eng.; **Mireille Vautour**, P.Eng. and **Phil Booker** have done an outstanding job in positioning our Association for greater success in the years to come.

In addition, I'd like to welcome our new Council members, **Eldo Hildebrand**, P.Eng.; **Holly Young**, P.Eng.; **Trevor Gamblin**, P.Eng.; **Georges Roy**, P.Eng.; **Raphaël Roy**, P.Eng.; and **Marc Richard**, LL.B. I look forward to working with all of you.

APEGNB's 87th **Annual Meeting** in Saint John was well attended despite a winter storm. Representatives from CCPE, Alberta, Manitoba, Saskatchewan, Ontario, Newfoundland and Labrador, Nova Scotia and PEI provided updates from their individual associations. We also had the opportunity to learn about the fascinating careers of guest speakers **Larry Bill**, P.E. and **Craig Wood**, MIT, during the technical presentations. Larry traveled from Ohio to show us the ups and downs of designing wooden roller coasters while Craig explained the process Roush Industries of Detroit uses to design their world-famous high-performance vehicles. Congratulations to **Tanya Horgan**, P.Eng., and her hard-working committee for hosting another memorable annual meeting.

Before the Annual Meeting concluded, APEGNB proudly honoured the work of two individuals and two companies. On behalf of Council, I would again like to congratulate the award winners:

- **Dr. Robert Landine**, P.Eng.— C.C. Kirby Award
- **ADI Limited and Neill and Gunter Inc.**—Corporate Award of Excellence
- **Alex Gomez**—Outstanding Student Award

Now that my term of office is officially underway, Council's priorities this year continue to be **limitation of liability** and **limited licensure**. The government has acknowledged that limitation of liability is a very important issue and they are committed to introducing new legislation that addresses our concerns. We are hoping that this issue will be resolved in the very near future.

APEGNB will also continue to advance the concept of limited licensure with the New Brunswick Society of Certified Engineering Technicians and Technologists (NBSCETT).

The official opening of **APEGNB's new office building** will take place in late June or early September depending on when the landscaping and parking lot are completed. I hope our members will take this opportunity to visit and tour the new headquarters.

On March 28, APEGNB Council hosted its second annual **MLA reception** in Fredericton. This reception, gave us the opportunity to discuss issues impacting our

professions with our elected representatives and senior government decision makers.

I encourage all members to get involved in some aspect of the Association. All members should be promoting the profession to the public, attending Branch functions and using their P.Eng. and P.Geo. designation whenever possible.

My wife, Donna, and I will soon be travelling to Newfoundland and Alberta to participate in their associations' annual meetings. In addition, we'll also be in Winnipeg for the CCPE annual meeting and Kanakaskis for the CCPG annual meeting within the next several months. The issues our sister associations face are very similar to ours but the dynamics differ across Canada. It will be interesting to get their perspectives and share this information with Council.

It's going to be a busy year for APEGNB Council, the committee volunteers and APEGNB staff as we continue to ensure that our Association remains a relevant and dynamic regulatory body. 



Printemps 2007

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Spring 2007

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MÉSSAGE DU PRÉSIDENT

David Crandall, ing.

Je vous remercie de m'offrir cette occasion de devenir le 88^e président de notre association. C'est un honneur de pouvoir la représenter aux activités provinciales et nationales.

Il y a plusieurs personnes que j'aimerais remercier de leur contribution à l'avancement de notre association au cours de cette année. L'ancien président, **Iris Auclair-Bernard**, ing., et les membres dynamiques du conseil — **Jane McGinn**, ing., **Claude Mallet**, ing., **Mireille Vautour**, ing. et **Phil Booker** — qui ont contribué de façon remarquable à mettre l'AIGNB sur la voie du succès pour les années à venir.

De plus, j'aimerais souhaiter la bienvenue aux nouveaux membres du conseil, **Eldo Hildebrand**, ing., **Holly Young**, ing., **Trevor Gamblin**, ing., **Georges Roy**, ing., **Raphaël Roy**, ing. et **Marc Richard**, LL.B. Il me tarde de travailler avec chacun d'entre vous.

Malgré la tempête de neige, la 87^e **assemblée annuelle** de l'AIGNB à Saint John a attiré un nombre considérable de personnes. Des représentants du CCI, de l'Alberta, du Manitoba, de Saskatchewan, de l'Ontario, de Terre-Neuve-et-Labrador, de la Nouvelle-Écosse et de l'Île-du-Prince-Édouard, ont fait le point sur l'état de leurs associations respectives. Pendant les communications techniques, nous avons également eu l'occasion d'apprendre à propos des carrières passionnantes de nos conférenciers **Larry Bill**, ing. et **Craig Wood**, MS. Larry est venu de l'Ohio pour nous faire connaître les hauts et les bas dans la conception des montagnes russes en bois et Craig nous a expliqué le procédé qu'utilise Roush Industries à Détroit dans la conception de leurs véhicules à haut rendement de renommée internationale. Nous félicitons **Tanya Horgan**, ing. et son comité, pour leur travail remarquable d'organisation d'une autre assemblée annuelle mémorable.

Avant la clôture, l'AIGNB a fièrement reconnu le travail de deux personnes et de deux entreprises. Au nom du conseil, je félicite à nouveau les lauréats suivants :

- pour le Prix C.-C.-Kirby : **Dr. Robert Landine**, ing.
- pour le Prix d'excellence (société) : **ADI Limited et Neill and Gunter Inc.**
- pour le Prix d'excellence dans les études : **Alex Gomez**

Maintenant que mon mandat a officiellement commencé, je confirme que les priorités du conseil cette année demeureront la **limitation de responsabilité** et le **permis d'exercice restreint**. Le gouvernement a reconnu que la limitation de responsabilité était un problème de taille et il s'est engagé à élaborer de nouvelles législations qui répondront à nos préoccupations. Nous espérons que ce problème sera rapidement solutionné.

L'AIGNB poursuivra également la promotion du concept de permis d'exercice restreint auprès de la Société des techniciens et des technologues agréés du génie du Nouveau-Brunswick (STTAGNB).

Le 28 mars, le Conseil de l'AIGNB a organisé sa deuxième réception annuelle à l'intention des députés provinciaux, à Fredericton. La réception nous a offert l'occasion d'aborder des questions d'intérêt pour nos professions avec nos représentants élus et des décideurs cadres du gouvernement.

Alors que mon rapport est mis sous presse, Fredericton se prépare à accueillir la seconde **réception annuelle à l'intention des députés de l'AIGNB**. Cette réception, organisée par le conseil, nous fournit un moment privilégié pour discuter, avec les représentants élus et les décideurs principaux du gouvernement, des problèmes qui influent sur nos professions.

J'encourage tous les membres à s'impliquer d'une façon ou d'une autre dans l'association. Chaque membre devrait faire la promotion de la profession auprès du public, en participant aux activités organisées par la direction générale et en affichant aussi souvent que possible leur titre (ing. et géosc.).

Ma femme, Donna, et moi irons bientôt à Terre-Neuve et en Alberta pour assister aux assemblées annuelles de leurs associations respectives. Au cours des mois qui viennent, nous serons aussi présents à l'assemblée annuelle du CCI à Winnipeg, ainsi qu'à l'assemblée annuelle du CCGP à Kanakaskis. Les problématiques vécues par nos associations sœurs sont considérablement similaires aux nôtres, mais la dynamique diffère d'un océan à l'autre. Nous désirons entendre leurs perspectives et en faire part au conseil.

Le conseil de l'AIGNB, le comité des bénévoles et le personnel de l'AIGNB entament une année chargée, tout en s'assurant que l'association demeure un organisme de réglementation pertinent et dynamique.



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UNB WELL REPRESENTED AT 2007 CFES CONGRESS

F

rom January 2 to 8, (from L to R) **Chris Doley, Dave Thompson, Matthew Marleau, Martha Eggenberger, Katelyn Kent and Charlie Godsoe** represented UNB engineering students at



the Canadian Federation of Engineering Students (CFES) Congress in Montreal, QC.

CFES represents 44 member schools and more than 54,000 students across the country. It is the national voice for engineering students in Canada and offers a number of services for its members, including: *Project Magazine*, the Canadian Engineering Competition, complementary

education courses, the annual Congress and other national meetings.

CFES is currently working to establish an International Engineering Competition with our partners in Europe. This will be the first competition of its kind in the world!

Congress 2007 was a banner year for UNB. A bid to host the Canadian Engineering Competition in

March 2009 was presented and WON! This will be the first time in history that this competition will be hosted at the University of New Brunswick.

Also, two UNB engineering students are now on the CFES national council. Matthew Marleau was elected Atlantic Regional Ambassador and Martha Eggenberger was elected CFES President for 2007-2008.

Funding to attend Congress was provided by the Engineering Endowment Fund (EEF), the Engineering Undergraduate Society (EUS), UNB's Student Union, and the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB). With their help, UNB's aspiring engineers are making their mark on the world!

To learn more about the CFES, visit www.cfes.ca.



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LOCAL GEOLOGY STUDENT TOURS MINES IN CHILE

Submitted by David Shinkle

Thanks to the Society of Economic Geologists (SEG), 16 students from around the world were able to attend a field course from January 5 to 13 on the ore deposits of northern Chile. My supervisor, Professor David Lentz, P.Geo., from the Department of Geology at the University of New Brunswick, and I were fortunate to be part of that group.

This incredible field course, led by Dr. William X. Chavez of New Mexico Tech and Dr. Erich U. Petersen of the University of Utah, took us on a tour of a different mine every day of the course.

Not only were we able to take as many pictures and ore samples as we could carry, the field trip leaders and mine geologists provided us with a marvelous learning experience that involved extensive presentations on the history, geology, and safety procedures of the mines.

Once the group travelled down into the open pits, the mine geologists and field



High grade ore being trucked out of the open pit at the Spence Mine.

January 7

We visited a prospect within the Quetena Cu breccia system where the field trip leaders and local prospectors gave us a detailed lecture on the "Toki Cluster" porphyry Cu-Mo deposits located adjacent to the Domeyko Fault Zone.

January 8

Students learned about El Abra copper oxide/porphyry Cu-Mo system (owned by Phelps Dodge and Codelco) and discussed copper oxide zone genesis and supergene enrichment. We visited the Radomiro Tomic copper oxide/porphyry Cu-Mo system (owned by Codelco) where we discussed the

Cu-Mo systems (owned by Antofagasta PLC and the AMP Society) where we discussed the exotic mineralized fanglomerates at the mine, as well as the mobility of metals within porphyry systems.

January 11 and 12

The Spence Cu-Mo porphyry deposit (owned by BHP Billiton) and the Zaldivar porphyry Cu-Mo system (owned by Placer Dome Inc) were the featured mines. The visit to Spence involved a review of Paleocene/Oligocene age porphyry "belts", whereas the visit to Zaldivar involved an evaluation of leached capping, the geochemistry of supergene oxidation processes, as well as copper oxide genesis and preser-

...mine geologists provided us with a marvelous learning experience that involved extensive presentations on the history, geology, and safety procedures of the mines



Group photo at the Zaldivar Mine from left to right (back row) Pablo Iradi, Edgardo Guizado, Romina Caba, David Shinkle, John Porter, Jane Stammer, Gabriel Graf, Edward Lewis, Thomas Eggers, Jean-François Ravenelle, Professor David Lentz, Constanza Jara, (front row) Cesar Vilca, Jean-Phillipe Paiement, Regina

Baumgartner, Diana Kuiper, John Morkeh, Todd Bonsall, Pablo Morelli, Amy Shute, with Professor William Chavez (left) and Professor Erich Petersen (right) on the ground in front.

Chuquicamata porphyry system as well as Oligocene Belt porphyry systems in general.

January 10

We toured the El Tesoro exotic copper deposit and Sierra Gorda tourmaline breccia

vation. We also were able to view the Escondida open pit from a distance.

Every mine allowed the group access to the open pit and also provided lunch, except for Spence, due to logistical and safety issues.

THE REWARDS

The course not only provided a unique opportunity to learn about Cu-Mo porphyry systems but it gave students from North America, South America, and Europe the chance to network with each other and with industry representatives.

Experiences such as this are important for the future of mining and exploration in that they provide the next generation of geologists a glimpse of how the mining industry operates, and how the future of mining will benefit from educating the students of the present today. 

THE ITINERARY

January 5-6

After meeting to discuss the course itinerary, logistics, and safety issues on January 5, we prepared to see the Lomas Bayas (owned by Xstrata) porphyry Cu-Mo system on January 6.

87TH ANNUAL MEETING

February 15-16, 2007
Saint John, NB

Taking Care of Business

More than 120 people attended the 87th Annual Meeting held at the Saint John Trade and Convention Centre.

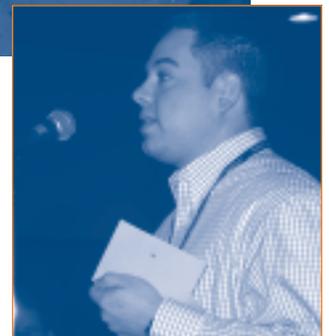
President Iris Auclair-Bernard, P.Eng., calls the Annual Meeting to order.



(L to R): David Crandall, P.Eng.; Iris Auclair-Bernard, P.Eng.; Andrew McLeod, Executive Director



Boyd Touchie, P.Eng., (left) Graham Fraser, P.Eng., (centre) and Mark Bellefleur, P.Eng., seek clarification on a few issues.

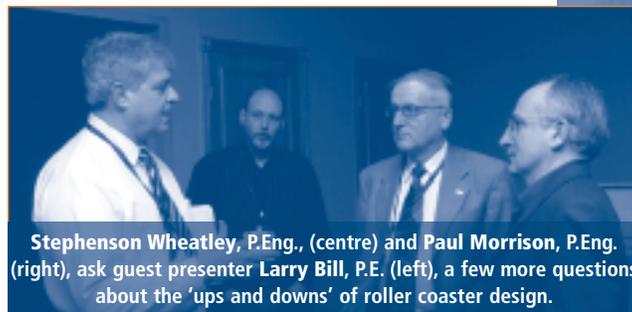


Adrenaline Engineering

“Adrenaline Engineering”, the theme of Friday afternoon’s technical sessions, attracted a record number of participants.

Larry Bill, P.E., manager of the award-winning Gravity Group of Cincinatti, OH, enthralled the audience with case histories of unique wooden roller coaster designs.

Craig Wood, MIT, a graduate of the University of New Brunswick who is now employed in the powertrain engineering division of Roush Industries, explains how his company designs and creates high-performance vehicles.



Stephenson Wheatley, P.Eng., (centre) and Paul Morrison, P.Eng. (right), ask guest presenter Larry Bill, P.E. (left), a few more questions about the ‘ups and downs’ of roller coaster design.

Honouring the Best



C.C. Kirby Award

Dr. Robert Landine, P.Eng., accepts APEGNB's highest honour, the C.C. Kirby Award from president Iris Auclair-Bernard, P.Eng.



Outstanding Student Award

Alex Gomez, an electrical engineering student at the University of New Brunswick, receives APEGNB's first Outstanding Student Award from president Iris Auclair-Bernard, P.Eng.



Corporate Award of Excellence

President Iris Auclair-Bernard, P.Eng., presents Donald Belliveau, P.Eng. (centre) of Neill and Gunter and Paul Morrison, P.Eng., president of ADI Limited, with APEGNB's Corporate Award of Excellence for the refurbishment of the Coleson Cove Generating Station.

Proud Families and Colleagues



The family of Dr. Robert Landine, P.Eng.



Alex Gomez's family (including his mother who traveled from Colombia).



The team who helped ADI Limited and Neill and Gunter win the Corporate Award of Excellence.

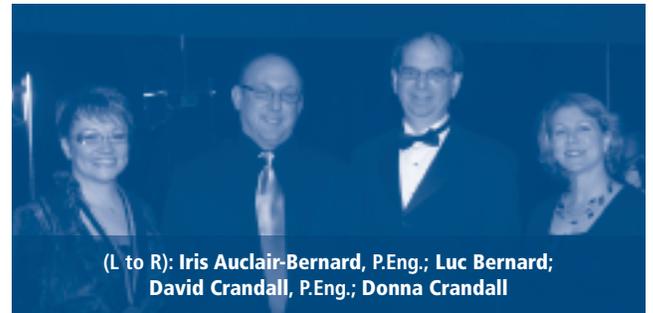
Catching Up with Friends



Ken Reeder, P.Eng., (left) and Arthur Gunn, P.Eng.



CENB President Pat Chouinard, P.Eng., chats with Iris Auclair-Bernard's mother, Eveline.



(L to R): Iris Auclair-Bernard, P.Eng.; Luc Bernard; David Crandall, P.Eng.; Donna Crandall



Moncton Councillor, John Gallant, P.Eng. (left) and Pam and Jim Nyers, P.Tech.

FREDERICTON ENGINEER ELECTED 88TH PRESIDENT OF APEGNB

DAVID CRANDALL, P.Eng., a civil engineer who is vice-president of ADI Limited in Fredericton, was elected president of the Association of Professional Engineers and Geoscientists of New Brunswick.

"This is an important time for engineers and geoscientists," says Crandall. "New Brunswickers will be relying on our 4,800 members to help put New Brunswick on the path to self-sufficiency. I am honoured to represent their views and interests at such a pivotal time."

Crandall says New Brunswick engineers and geoscientists play a key role in improving the health and wealth of this province.

"Our members have a history of contributing to the province's economic success through innovation. From designing superstructures and exploring alternative energy solutions to bringing our mineral wealth to the surface, APEGNB members are called upon by a wide variety of industries to apply their skills to improve the lives of all New Brunswickers.

"In addition to spurring economic activity, engineers and geoscientists ensure that the roads we drive on, the water we drink, the technology we use, the buildings we work in and the environment we enjoy are safe and secure. APEGNB ensures that the professionals carrying out this work are qualified to do so. The safety and well-being of the public is at the forefront of everything we do."

During his term as president, Crandall will also focus on cultivating a thriving and profitable environment for APEGNB's members. "When our engineers and geoscientists succeed, so does New Brunswick."

Crandall is joined on APEGNB Council by seven other newly elected officials:

Tanya Horgan, P.Eng., an environmental engineer with Irving Oil in Saint John was elected vice-president of APEGNB.

Dr. Eldo Hildebrand, P.Eng., assistant dean of engineering at the University of New Brunswick was elected councillor for APEGNB's Fredericton District.

Holly Young, P.Eng., a municipal engineer with the City of Saint John, was elected councillor for APEGNB's Saint John District.

Georges Roy, P.Eng., a senior engineer with Roy Consultants Group in Edmundston, was elected councillor for the APEGNB's Northwestern District.

Raphaël Roy, P.Eng., an electrical project manager with Groupe Roy Consultants in Bathurst was elected councillor for APEGNB's Northeastern District.

Allan Higgins, P.Geo., general manager of Brookville Manufacturing in Saint John was elected geoscientist-at-large.

Marc Richard, LL.B., executive director of the Law Society of New Brunswick, will serve a two-year term as lay councillor.

Election results were announced during APEGNB's 87th Annual Meeting held in Saint John on February 16.



2007-08 APEGNB Council

Back row (L to R): **Christa Bourque**, LL.B, Lay Councillor; **Trevor Gamblin**, P.Eng., Saint John Councillor; **Marc Richard**, LL.B, Lay Councillor; **Paul Rennick**, P.Geo., Geoscientist-At-Large; **Raphaël Roy**, P.Eng., Northeastern Councillor; **Paul Cormier**, P.Eng., Northwestern Councillor; **Ray Ritchie**, P.Eng., Northeastern Councillor; **John Gallant**, P.Eng., Moncton Councillor; **Serge Levesque**, P.Eng., Fredericton Councillor; **Eldo Hildebrand**, P.Eng., Fredericton Councillor; **Holly Young**, P.Eng., Saint John Councillor.

Front row (L to R): **Georges Roy**, P.Eng., Northwestern Councillor; **J. Allan Giberson**, P.Eng., CCPE Director; **Iris Auclair-Bernard**, P.Eng., Past President; **Tanya Horgan**, P.Eng., Vice-President; **David Crandall**, P.Eng., President; **Andrew McLeod**, Executive Director.

Absent: **Bruce Broster**, P.Geo., CCPG Director; **Larry Dionne**, P.Eng., Moncton Councillor; **Allan Higgins**, P.Geo., Geoscientist-At-Large.

U DE M'S INDUSTRIAL ENGINEERING DELEGATION LEARNS LOGISTICS

Submitted by *Tina Levesque*, Université de Moncton industrial engineering student

Thanks in part to a grant from APEGNB's outreach program, nine students from the Université de Moncton attended the 27th student conference of IIE (Institute of Industrial Engineers) Canada, held from January 11 to 14 in Montreal.

Hosted by École de Technologie Supérieure (ÉTS), the event attracted 400 students from across Canada who gathered to learn more about logistics networks.

Logistics networks have become the springboard towards a new future in industrial engineering and the conference focused specifically on the role of industrial engineers in operations and logistics management.

During the conference, students toured the distribution centres of companies such as Proviso, IKEA, HBC and Couche-Tard to gain a better understanding of day-to-day plant operations.

Hot topics in industrial engineering such as supply chain management systems and occupational health and safety were discussed during a variety of educational sessions.

Delegates also participated in a competition that required teams to use their knowledge and skills in a real-world application. After a visit to the steel structure factory of ADF, each team (including a four-person team from U de M) was given a few hours to assess the problem, propose solutions and prepare a presentation. A jury comprised of professionals from ADF and professors then evaluated the presentations.

Although the U de M team prepared an exceptional presentation, it was the team from the ÉTS that took first place with an innovative solution based on RFID (radio-frequency identification) technology.



U de M Delegation

(Front Row L to R): **Maryse Foisy-Clavette**; **Tina Levesque**; **Christine Duguay**; **Marie-Christine McLaughlin**

(Back Row L to R): **Robert Méthé**; **Jason Sirois**; **Pierre O'Brien**; **Rémy Bernier**; **Denys Babineau**

To round out the conference, display booths and a wine and cheese reception provided delegates with the opportunity to network with employers and company representatives.

The Moncton delegation is grateful for the support of APEGNB and all of their sponsors. The students are already making plans to participate in next year's conference in Toronto.



L'Association des ingénieurs et des géoscientifiques du Nouveau-Brunswick (AIGNB) est heureuse d'annoncer l'élection de **David Crandall**, ing., au poste de président.

M. Crandall, un ingénieur civil occupant le poste de vice-président d'ADI Limited de Fredericton, préside désormais l'un des organismes de réglementation les plus importants de la province.

« Il s'agit d'un moment important pour les ingénieurs et les géoscientifiques, précise M. Crandall. Les Néo-Brunswickois compteront sur nos 4800 membres pour contribuer à placer le Nouveau-Brunswick sur la voie de l'autosuffisance. Je suis honoré de pouvoir défendre leurs points de vue et leurs intérêts en cette période cruciale. »

David Crandall souligne que les ingénieurs et les géoscientifiques du Nouveau-Brunswick jouent un rôle clé dans l'amélioration de la santé et de la sécurité de la province.

« Nos membres contribuent depuis toujours au succès économique de la province grâce à l'innovation. De la conception de superstructures à l'exploration de solutions de recharge en matière d'énergie, en passant par notre richesse en minéraux, les membres de l'AIGNB sont appelés par différentes industries à mettre à contribution leurs compétences en vue d'améliorer la vie des Néo-Brunswickois.

En plus de stimuler l'activité économique, les ingénieurs et géoscientifiques veillent à ce que les routes que nous empruntons, l'eau que nous buvons, la technologie que nous utilisons, les immeubles où nous travaillons, et le milieu dont nous bénéficions, soient propices à notre santé et à notre sécurité. L'AIGNB assure que les professionnels en exercice ont les compétences requises pour ce travail. La sécurité et le mieux-être constituent la base de toutes nos réalisations. »

Au cours de son mandat à la présidence, M. Crandall mettra également sur le maintien d'un environnement profitable aux membres de l'AIGNB. « Lorsque nos ingénieurs et nos géoscientifiques connaissent du succès, le Nouveau-Brunswick connaît aussi du succès. »

UN INGÉNIEUR DE FREDERICTON ÉLU 88^E PRÉSIDENT DE L'AIGNB

Sept autres nouveaux élus se joignent au Conseil de l'AIGNB et à M. Crandall :

Tanya Horgan, ing., ingénieure en environnement auprès de Irving Oil à Saint John, a été élue vice-présidente de l'AIGNB.

Eldo Hildebrand, ing., vice-doyen de la faculté d'ingénierie de l'Université du Nouveau-Brunswick, a été élu conseiller de la section de Fredericton de l'AIGNB.

Holly Young, ing., ingénieure municipale à la ville de Saint John, a été élue conseillère de la section de Saint John de l'AIGNB.

Georges Roy, ing., ingénieur principal auprès du Groupe Roy Consultants d'Edmundston, a été élu

conseiller de la section nord-ouest de l'AIGNB.

Raphaël Roy, ing., gestionnaire de projets en électricité auprès du Groupe Roy Consultants de Bathurst, a été élu conseiller de la section nord-est de l'AIGNB.

Allan Higgins, géosc., directeur général de Brookville Manufacturing de Saint John, a été élu représentant provincial des géoscientifiques.

Marc Richard, LL.B., directeur général du Barreau du Nouveau-Brunswick, sera conseiller non professionnel pour un mandat de deux ans.

Les résultats de l'élection ont été dévoilés durant la 87^e assemblée annuelle de l'AIGNB qui a eu lieu à Fredericton le 16 février.



Conseil de l'AIGNB 2007-2008

Dernière rangée (dans l'ordre habituel) : **Christa Bourque**, LL.B., conseillère non spécialisée; **Trevor Gamblin**, ing., conseiller de Saint John; **Marc Richard**, LL.B., conseiller non spécialisé; **Paul Rennick**, géosc., représentant provincial des géoscientifiques; **Raphaël Roy**, ing., conseiller du Nord-Est; **Paul Cormier**, ing., conseiller du Nord-Ouest; **Ray Ritchie**, ing., conseiller du Nord-Est; **John Gallant**, ing., conseiller de Moncton; **Serge Levesque**, ing., conseiller de Fredericton; **Eldo Hildebrand**, ing., conseiller de Fredericton; **Holly Young**, ing., conseillère de Saint John.

Première rangée (dans l'ordre habituel) : **Georges Roy**, ing., conseiller du Nord-Ouest; **J. Allan Giberson**, ing., membre du CA du CCI; **Iris Auclair-Bernard**, ing., présidente sortante; **Tanya Horgan**, ing., vice-présidente; **David Crandall**, ing., président; **Andrew McLeod**, directeur exécutif.

Absents : **Bruce Broster**, géosc., membre du CA du CCGP; **Larry Dionne**, ing., conseiller de Moncton; **Allan Higgins**, géosc., représentant provincial des géoscientifiques.

UNE DÉLÉGATION DU GÉNIE INDUSTRIEL DE L'UNIVERSITÉ DE MONCTON COMPREND MIEUX LES RÉSEAUX LOGISTIQUES

Présenté par **Tina Levesque**, étudiante en génie industriel à l'Université de Moncton

Gâce, notamment, au soutien financier du programme de sensibilisation de l'AIGNB, neuf étudiants de l'Université de Moncton ont pu assister à la 27^e conférence canadienne de l'Institut des ingénieurs industriels (IIE) qui s'est déroulée du 11 au 14 janvier à Montréal.

Accueilli par l'École de Technologie Supérieure (ETS), l'événement a réuni 400 étudiants canadiens qui voulaient mieux comprendre le fonctionnement des réseaux logistiques.

Les réseaux logistiques sont devenus un tremplin vers un nouvel avenir pour le génie industriel, et la conférence portait donc spécifiquement sur le rôle des ingénieurs industriels dans les domaines de la gestion des opérations et de la logistique.

Durant la conférence : les étudiants ont eu l'occasion de visiter des centres de distribution, dont Provigo, IKEA, HBC et Couche-Tard, pour mieux comprendre le déroulement des activités quotidiennes en usine.

Dans le cadre des diverses séances d'information, on a également discuté de sujets d'actualité du domaine du génie industriel, dont les systèmes de gestion de chaînes d'approvisionnement et la santé et la sécurité au travail.

Les délégués ont également pris part à une compétition où les équipes devaient appliquer leurs connaissances et habiletés dans une situation réelle. Après une visite des installations de l'usine de structures d'acier de la société ADF, chaque équipe (dont une équipe de quatre de l'U de M) disposait de quelques heures pour diagnostiquer le problème, proposer des solutions et présenter un exposé. Un jury de professionnels de la société ADF et de professeurs a par la suite évalué les exposés.

L'équipe de l'Université de Moncton a préparé un exposé exceptionnel, mais c'est l'équipe de l'ETS qui a remporté les honneurs en proposant une solution novatrice qui utilise la technologie d'identification par radio fréquence ou RFID (radio-frequency identification).

Pour compléter le tout, les délégués ont eu l'occasion d'établir des contacts avec des employeurs potentiels et



Délégation de l'U de M

Première rangée (dans l'ordre habituel) : **Maryse Foisy-Clavette**; **Tina Levesque**; **Christine Duguay**; **Marie-Christine McLaughlin**

Deuxième rangée (dans l'ordre habituel) : **Robert Méthé**; **Jason Sirois**; **Pierre O'Brien**; **Rémy Bernier**; **Denys Babineau**

des représentants de compagnie en visitant des stands et en assistant à un vin et fromage.

La délégation de Moncton tient à remercier l'AIGNB, ainsi que tous ses commanditaires de leur appui. Les étudiants planifient déjà leur participation à la conférence qui aura lieu à Toronto l'an prochain.

FREDERICTON BRANCH

Tom MacNeil, P.Eng. – Chair



A

fter a successful year in 2006 for the Fredericton Branch, we have begun our 2007 agenda. The first event of the year was our

Branch Dinner and Annual General Meeting, held at the Delta Fredericton, on January 25.

The evening began with the Annual General Meeting where we provided an overview of the Branch activities for 2006, a statement of finances and a tentative schedule of events for 2007.

In early 2007, **Ed Smith**, P.Eng, undertook an audit of the Branch finances, and found all to be in order, but had some recommendations for improving revenue tracking.

During the Annual General Meeting, the 2007 Branch Council was introduced. This year's group includes six new members who will bring many new ideas and an abundance of enthusiasm.

The **2007 Fredericton Branch Council** is as follows:

Executive

- Chair **Tom MacNeil**, P.Eng
- Vice-Chair **Tammy Paradis**, P.Eng
- Secretary **Tammy Lamey**, P.Eng
- Treasurer **Bill Lamey**, P.Eng

Councillors

- Andy Small**, P.Eng
- Andrew Munro**, MIT – (MIT New Professionals Co-Chair)
- Erica Gorman**, MIT- (MIT - New Professionals Co-Chair)
- Heather Gorman**, MIT
- Jared McGinn**, P.Eng/P.Geo
- Tracy Cochrane**, P.Geo – (Communications Chair)

Representatives

- Military Engineers **Capt. Randy Dunn**
- APEGNB Provincial Councillor **Serge Levesque**, P.Eng
- Past Chair **Trevor Hanson**, P.Eng

The evening was highlighted by a keynote address delivered by **Darren Zwicker**, the Director of Recruitment for JDI, entitled, **The Challenges of Recruiting Technical Professionals for New Brunswick**. The Branch was pleased to welcome a group of international engineers to the dinner, who attended on behalf of the Multi-Cultural Association of Fredericton.

The next event on the agenda was the **Curling Night**, held on March 13. The event provided an opportunity for engineers and geoscientists to try their hand at curling and solve the age-old mystery of why the rocks actually curl!

A new initiative being undertaken this year is an **MIT / New Professionals Group**. The objective of this initiative is to engage new members into the professions. The group has a number of technical and social events planned for the year.

We welcome any feedback from the membership. Please feel free to contact any members of the Branch Council with your comments or suggestions.

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Pierre Michaud, MIT – Chair

In January, the Saint John Branch hosted two great events. The first event was the **annual curling funspiel** at Thistle St. Andrews.

More than 60 participants came out to test ice skills, meet the Branch executive and fellow APEGNB Saint John area members. A great time was had by all. Rumor even has it that a few members of another professional association were quite impressed with this engineering event. So much so, that they asked to host a joint event with the Saint John Branch in the future! A special thanks to **Marlo Rose**, MIT, and **Martha Ross**, MIT, for organizing this fun event.

The second event was a technical session on the **Applications of Infrared Technology**. We had two guest speakers present. **Trevor Gamblin**, P.Eng., of Jacques Whitford Limited explained how the technology is used to detect problems in building envelopes; and **Chris Taylor**, P. Eng., of New Brunswick Power Nuclear, discussed how they apply this technology as a preventive maintenance tool at the Point Lepreau Generating Station. Thanks to both Trevor and Chris for the great presentations.

In February, Saint John successfully hosted the **APEGNB Annual Meeting**. The Phoenix

Dinner Theatre provided lively entertainment on Thursday night. The Annual Meeting was well attended and it was nice to see lots of new faces. Our two guest speakers, **Lawrence R. Bill**, P.E., and **Craig Wood**, MIT, captivated the audience by explaining how to design wooden roller coasters and race cars. Thanks to the efforts of APEGNB staff and the Branch's organizing committee: **Tanya Horgan**, P.Eng.; **Holly Young**, P.Eng.; **Chad Connors**, P.Eng.; **Michelle Paul-Elias**, P.Eng.; and **Pierre Michaud**, MIT, the event ran smoothly. We would also like to thank all the delegates for allowing us to share our hospitality with you.



Pierre Michaud and Tanya Horgan at the Annual Meeting in February.

In March, the Saint John Branch sponsored the sixth annual **Explore Engineering Camp** held from March 5 to the 7 and hosted by the Department of Engineering at UNB Saint John. The camp was open to all students in grades 9 through 12 and introduced them to the fascinating world of engineering and university. A special thanks to **Dr. Dale Roach**, P. Eng., and UNBSJ for organizing the camp.

In May, we are planning a **Technical Tour**. The details are being finalized and will be communicated in the near future. The **Annual Golf Tournament** will take place on July 21, 2007 at Rockwood Park. Details for these events are being finalized, so be sure to check out the branch page for the latest information at www.apegnb.com

Finally, local members are continuing to support the **Millidgeville North Middle School's Young Engineer's Program** by volunteering their time. The program is designed to provide students (and possibly future engineers) the opportunity to speak with and meet engineers from the local community. Thank you to the following local volunteers who supported this fantastic program: **Steven Driscoll**, P. Eng.; **Tanya Horgan**, P.Eng.; **Trevor Langlais**, P.Eng.; **Susan Ryan**, P.Eng.; **Robert Stewart**, P.Eng.; **Martin Legere**, MIT; and **Solange Laberge**, P. Eng.

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NORTHWESTERN BRANCH

Éric Ouellette, P.Eng. – Chair

F

rom February 16 to 18, the Northwestern Branch of APEGNB engineered the coolest winter fun in New Brunswick by hosting the

province's very first **APEGNB Igloo Building Competition**. Presented in partnership with the Town of Grand Falls, the purpose of the competition was to celebrate Canada's ancestral engineering history, showcase engineering principles in a fun and memorable way and encourage kids to pursue careers in engineering.

I am pleased to report that the APEGNB Igloo Building Competition was a huge success—surpassing all of our expectations. Approximately 2000 people visited the site during the weekend of the competition.

A total of 10 igloo building teams, comprised of contractors, students, local companies and engineers, applied their creativity and talents to build a igloo.

All teams had **rules** to follow. Personnel from the Workplace Health, Safety and Compensation Commission (WHSCC) and the APEGNB steering committee enforced the rules throughout the weekend.



Each igloo team was provided with a 25' by 25' area for construction of their igloo. They also received an additional 25' by 25' area of "engineered snow" from which to carve their blocks. (The engineered snow was basically snow that was broken down into powder with a snow blower and compacted with a snowmobile trail-making machine.) I can tell you that nobody complained their blocks were falling apart!



Engineering the coolest winter fun in New Brunswick!
L'ingénierie: Créer le plaisir le plus "COOL" de l'hiver au Nouveau-Brunswick!

All teams were **judged according to five criteria** in order to accumulate precious points and win the competition. The criteria were:

1. Minimum igloo dimensions and use of approved igloo-building tools
2. Team composition
3. Structural strength/integrity
4. Aesthetics (determined by the voting public)
5. Safety

Public judging was held on the last day of the competition from 10:00 a.m to 2:00 p.m. Every person who walked onto the site was given a ballot to vote for the best-looking igloo. During the course of those four hours, more than 600 people cast their votes. The four-person teams that received the first, second and third highest number of points were awarded individual medals of gold, silver and bronze respectively. The winning team also had their name engraved on a stunning three-dimensional, "ice block" trophy—currently on permanent display at the Town Hall in Grand Falls.

Competition results are as follows:

2007 Gold – Falls Construction (Grand Falls, NB)



2007 Silver – Restigouche Construction (Saint André, NB)



2007 Bronze – Université de Moncton Campus d'Edmundston (Edmundston, NB)



Money raised through registration fees and sponsorships was used to establish an **engineering scholarship**. I am proud to report that the APEGNB Northweastern Branch will be awarding one \$1,500 scholarship to a deserving graduating high school student within the Northwestern Branch limits who plans on taking engineering in the fall.

The reason we are able to award a scholarship this year is because of the **overwhelming support from many local businesses**—both in the form of in-kind and monetary donations. Special thanks to the Town of Grand Falls. They made this event possible with their generous contribution of Centennial Park.

I also want to thank all members of the steering committee, the volunteers, participants and sponsor—with special thanks to my wife **Christine** who, for some reason, is always right by my side with all of my wacky projects!

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Spring 2007



Other **sponsors** we are grateful to acknowledge include:

- Beton Brunswick
- Gagnon Crushing
- Diving Dan
- Jessy Jane's Car Wash
- Gemtec
- McCain
- Université de Moncton
- Kent
- Northern Construction
- Ronald Lapointe Architect
- Brian Morin (photography)
- Claude Roy (translation)

The Northwestern Branch also went all-out to build APEGNB's **flagship ice igloo** at the entrance of the site. This igloo was built block by block and took the volunteer crew



approximately 50 to 60 hours to build. This doesn't even include the many nights we spent at the Gemtec office to produce more than 500 blocks. Although the ice igloo was not part of the competition, it did house the competition's trophy and serve as our polling station on Sunday. There were lots of cameras clicking as visitors dropped by to vote and check out the trophy.

The success of this competition did not come easy. A great deal of hard work was invested to organize and deliver this event within the short time frame that was available to us. Since our first meeting in November 2006, the Branch held a total of 10 meetings in order to make the igloo building competition a reality.

If you missed this year's event, please take note that we will be going for the **World**

Guinness Book of Records with our ice igloo next year. The current record is for an igloo measuring 24 feet wide and 12 feet high inside. APEGNB's 2007 ice igloo had a 10-foot diameter and an interior height of 7 feet. It was basically a trial run for the world record next year. Given that the construction technique used to build the 2007 ice igloo was very successful, we are confident that the

world record is ours to take away from our Quebec neighbours. All we need to do is increase the production of ice blocks and hope the weather is as cooperative!

Please visit the official APEGNB igloo building competition website to view more pictures, press coverage and information on the event: www.igloocompetition.ca

See you next year in the igloo!



2007 APEGNB Igloo Building Competition Steering Committee

- Eric Ouellette**, P.Eng.—Chair
- Christine Ouellette**—Secretary
- Jean Sebastien Roy**, P.Eng.
- Karine Savoie**, P.Eng.
- Allie Degrace**
- Danny Trites**



SPECIAL HELP FROM:

- Melissa Mertz** – APEGNB Director of Communications
- Danny Braun** – World Pond Hockey Championship
- Jean Paul Proulx** and **Denis Boucher** – Town of Grand Falls





RAPPORT DE LA SECTION DU NORD-OUEST

Éric Ouellette, ing. – président

L

a section du Nord-Ouest de l'AIGNB a mis au point une activité hivernale des plus « cool », du 16 au 18 février, en organisant le tout premier

Concours provincial de construction d'igloos de l'AIGNB. Présenté en partenariat avec la Ville de Grand-Sault, le concours avait pour but de rendre hommage à un concept ancestral d'ingénierie typiquement canadien, de présenter des principes d'ingénierie de manière amusante et mémorable, et d'encourager les jeunes à envisager une carrière en ingénierie.

J'ai le plaisir de vous annoncer que le Concours de construction d'igloos de l'AIGNB a connu un succès monstre, surpassant toutes nos attentes. Environ 2000 personnes ont visité le site du concours durant la fin de semaine.

En tout, dix équipes de constructeurs d'igloos, formées d'entrepreneurs, d'étudiants, d'entreprises locales et d'ingénieurs ont exercé leur sens créatif et déployé leurs talents pour bâtir un igloo.

Toutes les équipes devaient respecter des **règlements**. Des membres du personnel de la Commission de la santé, de la sécurité et de l'indemnisation des accidents au travail (CSSIAT), et du comité organisateur de l'AIGNB ont veillé à l'application de ces règles durant tout le week-end.

Chaque équipe avait droit à une aire de 25 pi X 25 pi pour construire son igloo, ainsi qu'à



un espace additionnel de mêmes dimensions pour y fabriquer ses blocs. (La neige « calibrée » pour l'occasion, était essentiellement de la neige mise en poudre à l'aide d'une souffleuse et compactée à l'aide d'une dameuse de sentiers



Engineering the coolest winter fun in New Brunswick!
L'ingénierie: Créer le plaisir le plus "COOL" de l'hiver au Nouveau-Brunswick!

de motoneige.) Je peux vous assurer que personne ne s'est plaint que ses blocs s'effritaient!

Toutes les équipes ont été **jugées en fonction de cinq critères** permettant d'accumuler les points nécessaires pour remporter le concours. Les critères étaient les suivants :

1. Taille minimale de l'igloo et utilisation des outils de construction autorisés
2. Composition de l'équipe
3. Résistance/intégrité structurale
4. Aspect esthétique (établi par scrutin public)
5. Sécurité

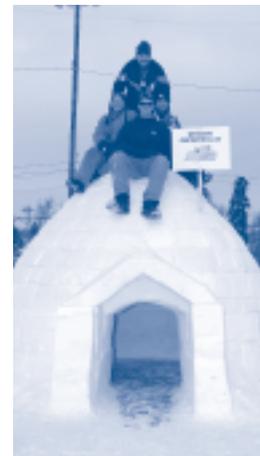
Le **vote du public** a eu lieu le dernier jour de la compétition, de 10 h à 14 h. On remettait un bulletin de vote à chaque personne arrivant sur le site afin de choisir l'igloo le plus joli. Plus de 600 personnes ont voté durant cette période de quatre heures. Les équipes de quatre personnes s'étant respectivement classées aux premier, deuxième et troisième rangs quant au nombre de points ont reçu des médailles individuelles d'or, d'argent et de bronze. On a aussi gravé les noms des membres de l'équipe gagnante sur un époustouflant trophée

tridimensionnel en « bloc de glace », aujourd'hui exposé en permanence à l'hôtel de ville de Grand-Sault.

Voici les résultats du concours :

Or 2007 – Falls Construction (Grand-Sault, N.-B.) →

Argent 2007 – Restigouche Construction (Saint André, N.-B.)



Bronze 2007 – Université de Moncton, campus d'Edmundston (Edmundston, N.-B.)



L'argent amassé à l'inscription et auprès des commanditaires a permis d'établir une **bourse d'études en ingénierie**. Je suis fier d'annoncer que la section du Nord-Ouest de l'AIGNB offrira une bourse de 1500 \$ à une étudiante ou un étudiant méritant du secondaire, vivant dans les limites de la section du Nord-Ouest, et qui prévoit s'inscrire à un programme d'ingénierie à l'automne.

Nous pouvons offrir une bourse cette année grâce à l'**appui massif des nombreuses**





entreprises locales, sous forme de dons en argent et de contributions non financières. Nous remercions particulièrement la Ville de Grand-Sault, qui a généreusement accepté de prêter le parc du Centenaire pour qu'ait lieu l'événement.

Je remercie aussi tous les membres du comité organisateur, les bénévoles, les participants et les commanditaires, et spécialement mon épouse **Christine** qui, pour une raison quelconque, m'accompagne toujours dans tous mes projets les plus farfelus!

Nous exprimons aussi nos hommages à ces autres **commanditaires** :

- Beton Brunswick
- Gagnon Crushing
- Diving Dan
- Jessy Jane's Car Wash
- Gemtec
- McCain
- Université de Moncton
- Kent
- Northern Construction
- Ronald Lapointe Architect
- Brian Morin (photography)
- Claude Roy (translation)

La section du Nord-Ouest y est aller à fond pour construire l'**igloo porte-bannière** de l'AIGNB à l'entrée du site. Cet igloo a été construit bloc par bloc par des bénévoles



qui y ont consacré de 50 à 60 heures. Et cela ne comprend pas les nombreuses nuits passées au bureau de Gemtec pour produire plus de 500 blocs. Bien que cet igloo ne faisait pas partie du concours, il a tout de même servi à exposer le trophée et de lieu de vote durant la journée de dimanche.

Bien des photos ont été prises par les visiteurs qui passaient voter et jeter un coup d'œil au trophée à remporter.

Ce concours a remporté un grand succès bien mérité. Il a fallu travailler très fort pour organiser et présenter cette activité, et ce, en peu de temps. Depuis notre première réunion en novembre 2006, la section s'est rencontrée à dix reprises pour organiser ce concours de construction d'igloos.

Si vous avez manqué le concours de cette année, veuillez noter que l'an prochain nous allons tenter de faire inscrire notre igloo dans le Livre Guinness des records. Un igloo mesurant 24 pieds de largeur sur 12 pieds de hauteur à l'intérieur détient le record actuel. L'igloo 2007 de l'AIGNB avait un diamètre de 10 pieds et une hauteur intérieure de 7 pieds. Ce n'était en fait qu'un essai en vue du record mondial de l'an prochain. Étant donné que la technique de construction mise en

œuvre pour construire l'igloo 2007 s'est avérée très efficace, nous sommes convaincus de pouvoir battre le record mondial établi par nos voisins du Québec. Il ne suffit maintenant que d'accroître la production de blocs de glace, et d'espérer que la température soit de la partie.

Veuillez consulter le site officiel du concours de construction d'igloos de l'AIGNB pour voir d'autres photos, les reportages et toute autre information au sujet de l'événement : www.igloocompetition.ca

À l'an prochain dans l'igloo!



Concours de construction d'igloos 2007 de l'AIGNB Comité directeur

Eric Ouellette, ing.—président
Christine Ouellette—secrétaire
Jean Sebastien Roy, ing.
Karine Savoie, ing.
Allie Degrace
Danny Trites

COLLABORATEURS PARTICULIERS :

Melissa Mertz – Directrice des communications de l'AIGNB
Danny Braun – Championnat mondial de hockey sur étang
Jean Paul Proulx et **Denis Boucher** – Ville de Grand-Sault



MONCTON BRANCH

Mark Bellefleur, P.Eng. – Chair

G

reetings on behalf of the Moncton Branch! The 2006-2007 year is coming close to an end for this executive. We still have social and technical activities as well as outreach events in the planning.



(From L to R): **Dwight Scott, P.Eng.**; **Alex Gomez; Owen Scott**; **Dr. Gabriel LaPlante, P.Eng.**, mechanical engineering professor at the Université de Moncton.

On March 1st, we were proud to invite APEGNB's 2007 Outstanding Student of the Year, **Alex Gomez**, and **Owen Scott**, from the Fredericton chapter of Engineers Without Borders (EWB). They delivered a one-hour presentation on EWB's current and future activities. The 30 members in attendance enjoyed an interesting exchange of ideas.

Plans are underway to host two more **technical sessions** before the arrival of summer. **Dwight Scott, P.Eng.**, (dgscott@nb.sympatico.ca) is talking with **Colonel Kevin Horgan** who is

the Commanding Officer of 1 Engineering Support Unit located here in Moncton. The Unit specializes in heavy design and project management for deployed operations with most engineers working in vertical or horizontal construction. They have been heavily engaged in operations in Afghanistan and currently have personnel deployed in the reconstruction task in Kandahar. Complete details will follow when the date is finalized.

One of the Moncton Branch's **National Engineering Week (NEW) activities** this year was to sponsor a wine and cheese/meet and greet hosted by the engineering students association at the Université de Moncton. The focus of the 'Speed Meeting' was to help students learn from engineers what to expect when they graduate and what type of experiences have they encountered in the workforce. More than 25 engineers and 40 students attended. We plan to make this an annual event in order to encourage engineering students to register with APEGNB immediately upon graduation.

As this report goes to press, plans are underway for the Moncton Branch Hockey Team to attend the **Atlantic Engineer Hockey Tournament** April 13-15, 2007 in St. John's Newfoundland. All who participated last year in Moncton had a great time and all Moncton Branch members are welcome to get involved this year. If you're interested in lacing up your skates for the next

tournament, e-mail **Serge Doucet, P.Eng.**, at sdoucet@maricor.ca.

The Branch will host its **Annual General Meeting** in May at Maverick's Steak House (Tuesday, May 8). There will be a cash bar for the "Meet and Greet" from 5 pm to 6 pm followed by the meeting from 6 pm to 7 pm. Branch members are invited to dine with us after the meeting. (Each member is responsible for the cost of his or her dinner.) Please note that there are openings for Branch councillors. Nominations can be sent to **Philippe Losier, ing.**, vice-chair (plosier@royalpipe.com).

If any member wishes to volunteer on any of the Branch committees, please notify us, we would love to work with you! For those who haven't noticed, we currently have four MIT's on the team and always have room for more. It is a great place to meet new friends and to gain new experiences within the APEGNB. If you are interested in joining the executive, please contact **Mark Bellefleur, P.Eng.**, at mbellefleur@touchieengineering.nb.ca.



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RAPPORT DE LA SECTION DE MONCTON

Mark Bellefleur, ing. – président

S

alutations à tous les membres de la section de Moncton. L'année 2006-2007 tire à sa fin pour la présente équipe de la direction. Nous organisons encore des activités sociales et techniques, de même que des événements de sensibilisation.

Le 1^{er} mars, c'est avec plaisir que nous avons accueilli le lauréat du prix Étudiant exceptionnel de l'année 2007 de l'AIGNB, **Alex Gomez**, et **Owen Scott**, de la section de



(Dans l'ordre habituel) : **Dwight Scott, ing.** **Alex Gomez, Owen Scott**; **Gabriel LaPlante, ing.**, professeur en génie mécanique à l'Université de Moncton.

Fredericton des Ingénieurs sans frontières (ISF). Ils ont présenté un exposé d'une heure sur les activités actuelles et futures des ISF. Les 30 membres présents ont eu droit à un échange d'idées intéressant.

On travaille actuellement à l'organisation de deux autres **séances techniques** qui auront lieu avant l'arrivée de l'été. **Dwight Scott, ing.**, (dgscott@nb.sympatico.ca) est en communication avec le **colonel Kevin Horgan** qui est le commandant de l'Unité de soutien technique 1 ici à Moncton. L'Unité se

spécialise dans la conception lourde et dans la gestion de projets pour les opérations de déploiement, et la majorité des ingénieurs sont affectés à des travaux de construction verticale ou horizontale. Ils contribuent grandement aux opérations en Afghanistan, et à l'heure actuelle, certains membres du personnel ont été déployés à la reconstruction de Kandahar. Les détails complets vous seront communiqués lorsque la date de la visite aura été fixée.

Cette année, dans le cadre de la **Semaine nationale du génie (SNG)**, la section de Moncton a parrainé un vin et fromage/ séance d'accueil organisé par l'association des étudiants en génie de l'Université de Moncton. La « réunion rapide » avait pour objet de permettre aux étudiants d'apprendre des ingénieurs ce qui les attend à leur sortie de l'université et de permettre aux ingénieurs de raconter leurs expériences en milieu de travail. Plus de 25 ingénieurs et 40 étudiants y ont assisté. Nous avons l'intention d'en faire une activité annuelle en vue d'encourager les étudiants en génie de s'inscrire auprès de l'AIGNB dès la fin de leurs études.

L'équipe de hockey de la section de Moncton prendra part au **Tournoi de hockey des ingénieurs de l'Atlantique** qui aura lieu du 13 au 15 avril 2007 à St. John's (Terre-Neuve-et-Labrador). Tous les participants de l'an dernier à Moncton se sont bien amusés, et nous invitons tous les membres de la section d Moncton à y prendre part cette année. Les intéressés à chausser leurs patins sont priés de communiquer par courriel avec Serge Doucet, ing., à l'adresse sdoucet@maricor.ca.

La section tiendra son **assemblée générale annuelle** en mai au restaurant Maverick's Steak House (le mardi 8 mai). L'assemblée, qui se déroulera de 18 h à 19 h, sera précédée d'une séance informelle d'accueil de 17 h à 18 h avec bar payant. Nous invitons tous les membres à souper avec nous après l'assemblée. (Chaque membre doit payer son propre repas.) À noter qu'il y a des postes de conseiller de section à pourvoir. Veuillez faire parvenir toute candidature à **Philippe Losier**, ing., vice-président (plosier@royalpipe.com).

Les membres qui souhaitent siéger bénévolement à tout comité de la section sont priés de communiquer avec nous. Il nous fera grand plaisir de travailler avec vous! Pour ceux qui ne l'auraient pas encore remarqué, l'équipe compte quatre MS, et on peut toujours en accueillir davantage. Il s'agit là d'un excellent moyen de se faire des amis et d'acquérir de l'expérience au sein de l'AIGNB. Ceux et celles qui veulent devenir membre de l'équipe de direction peuvent communiquer avec Mark Bellefleur, ing., à l'adresse mbellefleur@touchieengineering.nb.ca.



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ASK THE DPA

Tom Sisk, P.Eng., Director of Professional Affairs



I am responsible for our company's engineering drawings and other documents. Could an aperture card (i.e., IBM punch card and microfilm) of the original drawing with the seal included be classified as the original document?

Also, does APEGNB have any issues with such a copy being used as a legal document? I have been told that the only way that it can be maintained legally is on optical media (e.g., CD-Rom).

If you have a regulatory, enforcement or ethical question that you'd like answered, e-mail APEGNB's Director of Professional Affairs.
sisk@apegnb.com

Answer

Unfortunately, there is no quick and easy answer to your question. Without specific details, we can only discuss the generalities of the process.

The requirement of APEGNB relates more to the use of the seal (stamp) to signify acceptance of professional responsibility for a design or opinion rather than the physical longevity of the document. However, the "Guideline for Use of Professional Seal" (available on our website under "Publications") may offer some insight into your query.

Because an electronic version of a document can be considered an original for other legal purposes (e.g., Evidence Act), the Guideline notes that electronic documents with the image of the signed seal (at full size) are considered to have met the requirements of accepting professional responsibility.

The original intent also provided that an electronic copy need not display the seal image as long as a notation was made on the electronic version that a properly sealed, viewable paper version existed. Also note that there is risk to the professional should a signed image of the seal be "hijacked" and used without his/her knowledge on some other document.

Other than a source of information for ongoing maintenance purposes, the usual need for sealed drawings and documents long after a project is completed is to prosecute a lawsuit either by the designer, owner or some third party. It is also usual for the designer (or employer) to have retained paper copies for their own defense unless some other contractual arrangement had been made. Nonetheless, both sides of any lawsuit would have access to the available documents under disclosure rules.

As is common in other professions, many engineering firms have some "drop dead date" at which point documents are routinely purged from storage. The professional's liability insurance carrier may also have stipulations as to reasonable retention times. This is complicated by the fact that engineers are essentially liable forever under the present Act. But, the reality is that most suits are brought within a maximum of 15 to 20 years.

Your legal people may have other needs for the retention period for drawings, but perhaps a workable method for storage would be to have a responsible archivist scan or otherwise capture the drawing (including seals and signatures). Again, your legal people can advise on the paper trail that would be established to show the document hadn't been altered during the archival process. As long as the captured document could be returned to a legible full-size form some time in the future, a case could be made that the intention of the Act was met. **The technological danger is that today's storage medium may be obsolete and/or unavailable when it becomes necessary to bring the document back for examination.**

It is obvious that documents related to very recent or ongoing projects would be retained in their paper form for some period of time as a matter of convenience in constructing the project. 

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THEY SAID IT BEST

"Tell me and I'll forget. Show me and I'll remember. Involve me and I'll understand."

—CONFUCIUS

"Success is more a function of consistent common sense than it is of genius."

—DR. AN WANG, COMPUTER ENGINEER, INVENTOR AND CO-FOUNDER OF WANG LABORATORIES

"Truth does not scream, it convinces."

—LUIS A. FERRÉ, ENGINEER, INDUSTRIALIST AND FORMER GOVERNOR OF PUERTO RICO

"If I have a thousand ideas and only one turns out to be good, I am satisfied."

—ALFRED NOBEL, CHEMIST, ENGINEER AND INVENTOR OF DYNAMITE

"With the growing urgency of climate change, we cannot have it both ways. We cannot shout from the rooftops about the dangers of global warming and then turn around and shout even louder about the "dangers" of windmills."

—DAVID SUZUKI, CANADIAN GENETICIST AND ENVIRONMENTAL ACTIVIST

APEGNB HELPS STUDENTS TRACK FIREBALLS

Submitted by Dr. James Whitehead – Assistant Professor, Science and Technology Studies, St Thomas University



Some kids have their eyes to the ground, always finding interesting stones, lost objects and the occasional coin. Admittedly, I fell into this category, with my rock-hounding interests developing into a geology-related career. While others may have their head in the clouds (with perhaps loftier goals in sight!), you may find some looking up at the skies for other reasons entirely.

The 2" to 3" ABS reducer (camera mount) simply sits on top of the 3" ABS pipe transformer housing. This provides an adequate weather seal without further sealing. Easy access can be gained to the camera by simply pulling the camera mount off the top.

sheets, thereby increasing their science literacy in the process! These exercises will explore several related topics, including explaining what meteorites can tell us about the history of the solar system, how to distinguish meteorites from terrestrial rocks, what fireballs and meteors are, as well as explaining how data generated by the cameras can be used to illustrate the use of various math calculations.

Determining potential fall sites using trajectory data is a perfect way to hone math skills with real-world applications. With the potential promise of a meteorite at the end of the trajectory, these calculations may foster a competitive edge between teams of students!

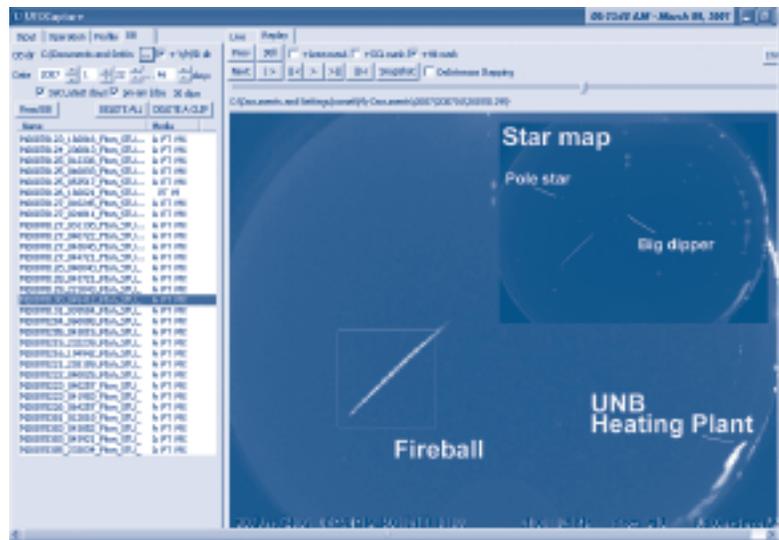
Hopefully, both students with an interest in the skies, and those who prefer to keep

A project funded by an APEGNB outreach grant will enhance learning opportunities of those students with either an interest in the space above us, or in earth science beneath our feet.

An 'All-Sky Camera' was constructed and mounted on the roof of St. Thomas University's Margaret Norrie McCain Hall in Fredericton. It will automatically track and record the paths of meteors and large fireballs—the latter of which may drop meteorites on our province. Plans are underway to construct and install two more All-Sky Cameras in schools in Rexton and the Grand Falls/Woodstock area.

Having several such cameras around the region will allow these records to be used to triangulate the 3D trajectory and define the potential fall site of these meteorites.

Currently, another camera exists in Halifax, while two others are being developed in Saint John and Moncton as part of this project. With only one meteorite ever having been recovered in the Atlantic provinces (Benton, NB, 1949), we're long overdue for another discovery!



Sample output screen generated by the motion capture software of the All-Sky Camera

The APEGNB-funded components of this project will also support the development of worksheets that will aid teachers in delivering the space and earth science components of the Atlantic Science curriculum.

Education students at St. Thomas University will be engaged in developing these work-

their nose to the ground, will find something of interest in this project. Even if meteorites are not immediately recovered, the skills that students develop will ultimately be the real reward.

Readers wishing to be added to a mailing list for updates on this project, or want to learn more, can e-mail me at jamesw@stu.ca.

Further information is available at <http://people.stu.ca/~jamesw>



Determining potential fall sites using trajectory data is a perfect way to hone math skills with real-world applications.

'VEHICLE OBSTACLE BOWLING'— LOTS OF FUN FOR GRADE FIVERS

Submitted by *Josie Seely, P.Eng., and Tom Sisk, P.Eng.*
Engineering Outreach Coordinator
University of New Brunswick

This year, *National Research Council Canada (NRC), the Fredericton Branch of APEGNB, UNB Engineering, and the New Brunswick Department of Education (District 18) asked nine, grade five classes in Fredericton to compete in the National Engineering Week Challenge.*

Here's how one of the Engineer Mentors, Tom Sisk, P.Eng., describes the four-week experience:

Having been involved with various outreach projects over the last 20 years, standing at the front of a classroom doesn't cause too much anxiety—maybe just a bit of expectation. But what about the case of arriving on the first day at a new school to be met by the teacher on her way home with the flu? This was my introduction to **Ms. Jessome's** combined Grade 4/5 class at Barker's Point School.

From January 25 to February 19, I spent a total of four days with the students to introduce them to the 2007 National Engineering Week Challenge.



This year's project was titled Vehicle Obstacle Bowling. Ideally, it involved guiding the students through the engineering process to the successful completion of a vehicle that could avoid an obstacle and knock down water-bottle bowling pins.

I was extremely fortunate that first day when the supply teacher, ironically also Ms. Jessome, was able to maintain order with an authoritative, no-nonsense approach, tempered with magic tricks. Where were these kinds of teachers when I was in Grade 5?

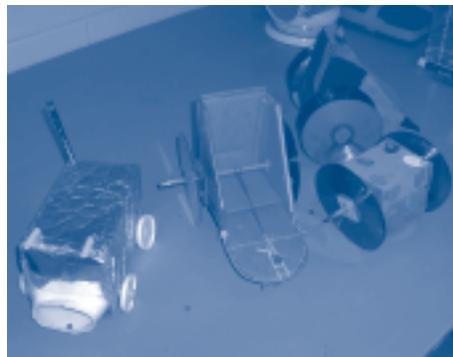
The concept was to build a stored-energy vehicle within tight design constraints, all the while describing the science behind the various stages of construction. Because the challenge covered several grade levels, it was to be expected that the curriculum to date might not have covered too many of the basics of friction, inertia, and mass.

So, we began our four-week program. By and large, the class was attentive and intrigued by the chance to build something literally out of nothing. We talked about the basics of constructing a self-propelled vehicle that also had to negotiate a barrier and still be able to knock over water bottles three metres away. The physical constraints

By and large, the class was attentive and intrigued by the chance to build something literally out of nothing.

imposed by vehicle size and not being able to use some sort of big gun, rocket launcher or battery power seemed insurmountable that first day.

I had spent part of the preceding weekend with scissors, cardboard and hot-melt glue attempting to have some props to show the class. This turned out to be good idea as it provided some proof that there was at least



a possibility of assembling a vehicle. It also gave a bit of a test bed to try some concepts without using up the resources provided in the kit of materials.

Part of the process involved getting the students to work in teams. These were essentially made up on the spot and cut across grade level, gender and academic standing. Each team had a designer, a materials manager and a spokesperson. From my previous experiences in other schools, I expected these teams to have widely varying dynamics. I was not disappointed.

Some teams really embraced the team concept with a leader emerging quickly and the others following efficiently. Others seemed to have all leaders and spent considerable time discussing each idea without identifying a consensus. Still others had lots of enthusiastic workers, but needed specific direction. Just like the world of "big people"!

Each team member was provided with a quad-ruled notebook and ruler. The notebook was to document their designs, track materials and generally become part of their classroom work.

We spent some time talking about basic drawing and practiced the three views of their designs. Each student attempted to show side, top and rear views of a few simple objects. A simple chart was drawn up so each worker could record any materials taken from the material store. They also used the book to record any queries that arose from week to week.

Our talks ranged from friction, inertia, making axles; how to make wheels from margarine containers; how to make strong structures out of flimsy material; and how many engineers they each knew. (Answer: A surprisingly large number!)

Over the four-week period (the original Ms. Jessome recovered in a day or two), the science class included more vehicle-related topics (energy storage, mass, inclined planes). This made my visits more productive as everyone was eager to continue as soon as I walked in with my box of stuff and the latest revisions to the sample vehicle. Ms. Jessome and I decided that a competition day would be held on our fourth day together. She scheduled at least one extra workday around the normal classroom schedule which helped greatly. This required that considerable focus be maintained to first get a rolling chassis, then a power source and finally the ability to negotiate the dreaded obstacle.

By trials day, student teams had produced four viable vehicles and took over the

school cafeteria—marking the course in tape on the floor. Recognizing the capabilities of our vehicles, an executive decision was made to emphasize the fun aspects of our time together by relegating the "obstacle" to the bottom of the materials bin. With this simplified format, we carried out distance trials, time trials, and a test to see which vehicle could knock over the most bottles in a direct hit. Energy was supplied by either stored elastic energy or via an inclined plane, at the choice of the team.

Vehicles were launched, teams cheered, pictures taken and statistics gathered. At the end of the trials, we spent time back in the class tabulating the data, identifying the various winners and discussing the possibilities for next year. All in all, it was a rewarding and memorable experience for everyone! 



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*Special Thanks to the
National Engineering Week
Challenge Volunteers:*

APEGNB Mentors

- Mike Taylor, P.Eng.
- Tom Sisk, P.Eng.
- Trevor Hanson, P.Eng.
- Josie Seely, P.Eng.
- Heidi Smith, MIT
- Kris Kierstead, MIT
- Laurie Mersereau, P.Eng.
- Mark Arsenault, MIT
- Corey Griffin, P.Eng.

Teachers

- Andre Robichaud
- Curry Smith
- Denise Bullock
- Louise Morrison
- Cindy Doak
- Natalie Taggart
- Brenda Johnston
- Pauline Tappley

District Math Mentor

- Grant Williams

Bangladesh

Submitted by *Dr. Nadim Reza Khandaker, P.Eng.*
Visiting Researcher McGill University, Department of Civil Engineering.



Women in Shibaloy cooking rice using groundwater



While working in Bangladesh as an advisor to a CIDA (Canadian International Development Agency) project on arsenic mitigation, I came across a small village that had an indigenous solution for obtaining arsenic-free drinking water for its own consumption.

I conducted a field evaluation program independent of my work with CIDA and I discovered that, along with removing the iron from the groundwater, iron removal filters in the village were also removing the associated arsenic in the groundwater—thereby producing arsenic-safe water to



Hand pump on a bore well called a tube well with snout painted red indicating that the water from this well has arsenic content above the allowable limit.



A hand pump in a homestead in Shibaloy, the water from which is being used for household needs.



Dr. Khandaker (centre) tests for arsenic in groundwater samples.



Kids in rural Bangladesh need to be protected from arsenic poisoning by providing arsenic safe water.



Kolschi—20 Litre pitcher used to carry and store water in Bangla villages.

meet the villagers' cooking and drinking water needs. Drinking or cooking with water containing unacceptable levels of arsenic over time (chronic arsenic poisoning) leads to



Example of skin lesion in palm of hand due to chronic arsenic poisoning.

lesions of the skin, cancer of the organs, and cardiovascular diseases.

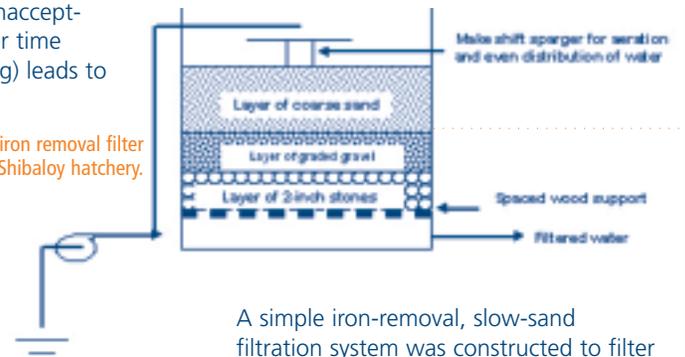
Like much of Bangladesh, Shibaloy, a village in the Manikjonj district of Bangladesh, relies on groundwater for its drinking water. Unfortunately, the groundwater beneath Shibaloy contains high levels of arsenic, like much of Bangladesh, as well as iron.

Shibaloy unwittingly had the solution to its arsenic contamination problem in its own fish hatchery – more specifically, in its fish hatchery's iron-removal groundwater filtration system. This iron-removal system was built by the village fish hatchery based on an established iron-removal slow-sand filter design. The fish hatchery is run by a local nongovernmental organization called Prism.

How the filtration system works

The fish hatchery in Shibaloy uses groundwater and provides fish farmers with fish hatchlings. Dissolved iron must be removed ahead of time so it doesn't oxidize and coagulate fish spawns, preventing germination.

Sketch of the iron removal filter in the Shibaloy hatchery.



A simple iron-removal, slow-sand filtration system was constructed to filter the groundwater used by the hatchery. It uses coarse sand as the filter media.

Inside a cement-lined, brick-walled tank lays the filter bed consisting of layers of

sand, gravel and a layer of two-inch wide stones. The filter bed lies on crisscrossed wooden beams spaced to allow for the passage of filtered water, which is then collected in a holding tank.

The filter reduces iron concentrations in the groundwater from around 9.0 mg/L to non-detectable levels (detection limit of 0.01 mg/L). When the filter becomes clogged, the sand in the filter bed is changed. Coating of the waste sand with iron oxyhydroxide makes it red.

Pitcher filters

When people in the adjacent villages started to build small household sand filters—earthen Kolschi pitchers—to remove the iron from their own well water, they chose to use the discarded iron-coated sand from the fish hatchery.

The pitchers are packed with the sand and have holes plugged with cotton in the base to allow for the flow-through of filtered water in drops. These homemade filters have the capacity to process roughly two



Pictures of home made iron arsenic removal filters in Shibaloy. Notice the red color (above) of the sand indicating that the sand is coated over time with iron oxyhydroxide, which contributes to the removal of arsenic.



Iron removal filter in the Shibaloy hatchery.

The Shibaloy experience points to the possibility of a safe, cheap, and socially acceptable means for cleaning the drinking water in Bangladesh.

litres of water per hour and cost about two dollars in materials to build.

A test of selective households in Shibaloy showed that, to the delight of the villagers, the homemade filters were not only successful in removing iron but also effective at removing arsenic from well water containing both arsenic and iron.

The groundwaters where the filters were successful at removing arsenic to 10 ppb or non-detectable levels (this satisfies both the World Health Organization and Canadian standards of 10 ppb levels of total arsenic) had a relatively high concentration of iron (>5.0 mg/L), near neutral pH (6.8-7.2), and total arsenic concentration less than or equal to 100 ppb.

In Arsenic Contamination: Bangladesh Perspective; Feroz Ahmed, M. Ed.; ITN-Bangladesh, Center for Water Supply and Waste Management: Dhaka, Bangladesh, 2003; pp 419-428].

The Shibaloy experience thus points to the possibility of a safe, cheap, and socially acceptable means for cleaning the drinking water in Bangladesh. These findings, when presented to international audiences at conferences related to arsenic mitigation, were well received, and the participants were definitely intrigued by the possibility of using simple sand filters to remove arsenic from groundwater high in both arsenic and iron. Prism, the local nongovernmental organization mentioned earlier, functioning in Shibaloy, is locally promoting and monitoring the proper use of these slow-sand filters for removing iron and arsenic from groundwaters contaminated with arsenic, having high associated dissolved iron.



About the Author

Dr. Nadim Khandaker, P.Eng., earned his Bachelors degree in chemical engineering from the University of Massachusetts, Lowell; a Masters degree in environmental engineering from the University of Arkansas; and Doctorate degree in environmental engineering from Pennsylvania State University. Dr. Khandaker is a licensed professional engineer in New Brunswick. Prior to his ventures in arsenic mitigation efforts worldwide, he worked as a process engineer with ADI in New Brunswick. For the better part of the present decade, Dr. Khandaker has been working in arsenic mitigation in Bangladesh, Nepal, Cambodia, New Mexico, and Arizona with organizations such as UNICEF, CIDA projects, WaterAid, Sandia National Laboratories, and the University of Arizona. At present, he is a visiting researcher at McGill University. Dr. Khandaker also holds a permanent academic research position with North South University, Bangladesh.

The arsenic is removed from the solution by co-precipitation with the rapidly forming insoluble iron hydroxides. The sand filter then removes the insoluble arsenic-rich iron hydroxides. Further experiments carried out under controlled environments showed that the red iron oxyhydroxide coatings on the sand particles also serve as sites where soluble arsenic species can adsorb.

Clearly, arsenic can be removed from iron-rich waters by aeration followed by slow sand filtration. Roughly sixty percent of the tubewells in Bangladesh contain more than 2.0 mg/L iron [Jalil, M.A.; Feroze, A.M. *The role of iron in arsenic contamination and remediation.*

"BEST PRACTICE" FOR HIRING ENGINEERS

Public sector experts emphasize qualifications and long-term savings for taxpayers

by Harold Murphy, Technical Advisor, InfraGuideUniversity

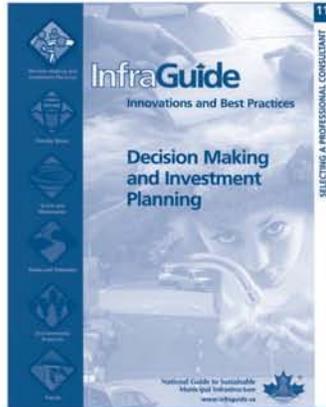


What is the best way to hire an engineer for an infrastructure project? Leaders in the public sector, such as provincial governments, municipalities and public utilities now have the answer.

The National Guide to Sustainable Municipal Infrastructure (InfraGuide) has just released a Best Practice for Selecting a Professional Consultant.

This Best Practice promotes the principles of Qualifications-Based Selection (QBS) rather than price-based selection as the best method for selecting professional engineers and other consultants.

This is interesting—and encouraging—because this document was written predominantly by the public sector for the



public sector. The Best Practice, which was developed using extensive interviews and research, suggests that many infrastructure agencies do, in fact, recognize that QBS encourages innovation, life-cycle cost savings and sustainability.

Supported by this new "Best Practice," public officials will now have the necessary ammunition to make meaningful and effective changes to the way they invest in infrastructure.

For more information on the implementation of the InfraGuide Best Practice, please contact:

ACEC President
Claude Paul Boivin

E-mail: cpboivin@acec.ca or
Tel: 1-800-565-0569

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- 5 Get access to reliable and proven **professional liability insurance programs**.
- 6 Receive **industry documents**, studies and reference materials developed specifically for the industry by practicing professionals, including human resource manuals, an extensive list of standard agreements, business and practice management guides, membership directory—all at member prices.
- 7 Participate in **CENB information sessions**, committees and working groups.
- 8 Obtain the **CENB Salary Survey**.
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- 10 Be part of an organization that looks out for the future of the engineering industry.

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CENB

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Email: cenbexec@nb.sympatico.ca

CENB SHOWCASE DINNER & AWARDS CEREMONY

April 26, 2007
Delta Hotel Fredericton

Once again, the Consulting Engineers of New Brunswick is pleased to provide its member firms with the opportunity to highlight their creative achievements of 2006 in "The 9th Annual CENB Showcase Awards".

Take advantage of this event to have your firm recognized by the public, your peers, and potential new clients. As in previous years, three awards of excellence will be presented in each of the following categories:

- Benefit to Society
- Innovation
- Technical Excellence

For more information, please contact: **CENB Awards Committee**
c/o **Tim McCluskey, P.Eng.**
Awards Committee Chairperson
Tel: (506) 633-6650
Fax: (506) 633-6659
E-mail: timmc@cbcl.ca



Event Details

April 25—6:00 pm **Networking Opportunities:**

Meet and Greet Reception

April 26

Information Sessions:

Loss Prevention Seminar and Quality Based Selection of Consulting Engineers

April 26—6:00 pm

Showcase Dinner & Awards Ceremony:
Commences with a reception and features **Live Entertainment** (Fredericton's Downtown Blues Band) and Prizes!

STRENGTHENING TIES BETWEEN INDUSTRY AND ACADEMIC RESEARCHERS

Preparations for the Communications Networks and Services Research Conference 2007 (CNSR 2007) are well underway. This prestigious event, the fifth in the series, will be held at the Delta Fredericton May 14 to 17, 2007. Information and communication technology (ICT) researchers, practitioners and industry representatives from Atlantic Canada and around the world will gather to share the latest in cutting-edge research and expertise.

The conference general chair, **Dr. Brent R. Petersen**, P.Eng., of the University of New Brunswick, says the gathering is a pivotal event in Canadian ICT. "The most compelling aspect of the CNSR conference is that it provides a unique forum for a variety of interchange at many levels. Topics cover an extremely broad range which makes CNSR 2007 of genuine interest to a wide spectrum of people working in ICT."

CNSR 2007 is a component of the CNSR initiative, which encompasses five New Brunswick- and Nova Scotia-based research projects funded by the Government of Canada's Atlantic Innovation Fund (AIF) through the Atlantic Canada Opportunities Agency (ACOA). That initiative involves partners from universities and businesses in Atlantic Canada, including Dalhousie University, Université de Moncton, and the University of New Brunswick (UNB), as well as Aliant, Inc., with Bell Canada Enterprises, Inc., Leadership International Inc., Nautel Ltd., Nortel, Ltd., and Seimac Ltd. Its objective is to improve existing technologies and to develop new applications in communication networks and services.

Five CNSR principal researchers are delivering research results in the following areas:

- **Internet Data Traffic Analysis and Tools Development** – Principal Investigator: **Dr. Jalal Almhana**, Université de Moncton
- **Generic Smart Transceiver Systems for Wireless Communications** – Principal Investigator: **Dr. Zhizhang (David) Chen**, Dalhousie University
- **Adaptive Websites** – Principal Investigator: **Dr. Ali Ghorbani**, University of New Brunswick
- **Integrated Radio Frequency and Digital Signal Processing Designs Using Software Radios** – Principal Investigator: **Dr. Jacek Ilow**, Dalhousie University
- **Next Generation Wireless Telecommunications Systems for Mobility** – Principal Investigator: **Dr. Bernd Kurz**, University of New Brunswick

The Communications Society of the Institute of Electrical and Electronics Engineers, Inc. (IEEE), and the Association of Computing Machinery (ACM), with the Special Interest Groups Design of Communication (SIGDOC) and Web (SIGWEB), are international technical co-sponsors of CNSR 2007. The call for papers generated more than 100 submissions from researchers in 28 countries. Additional tutorials are planned for May 14.

Three noted authorities will present keynote addresses that provide an illuminating overview of recent advances and trends in wireless communications:

- David D. Falconer of Carleton University
- Norm Lo of Research In Motion, Ltd.
- Gregory J. Pottie of UCLA

The Conference will include a special presentation from **Sharon Morrow** of the Alexander Graham Bell National Historic Site of Canada.

Adaptive Web Sites

Dr. Ali Ghorbani's project is an excellent example of the quality and scope of the CNSR initiative's research. With Leadership International Inc., UNB's Dr. Ghorbani and his team are striving to enhance web usage through the creation of adaptive web sites.

Most web sites treat users in the same way. Dr. Ghorbani's team is seeking to develop an intelligent, self-improving web site — the Adaptive Web or aWeb — that can learn from user access patterns and automatically adapt to user interests. An adaptive web site would analyze raw usage logs to determine usage patterns, learn access patterns and adapt itself accordingly. The aWeb is one of the first attempts to devise a web site that has autonomous learning and reasoning capabilities.

Adaptive Web Sites are useful in many web domains, especially those that have multiple end-user types, those that must work with multiple devices, those that have a large navigation space, or those that cover a large amount of information. Examples include most eCommerce catalogue applications, tutoring systems (eLearning), online encyclopedias or wikis or online news (eNews).

In these cases, an adaptive web site can improve the end-user experience by providing appropriate information and layout, synthesized according to their background, the site information, the end-user device, and other contextual information. The aWeb system is the culmination of the team's efforts to create a design framework and run-time platform for adaptive web site development.

Dr. Ghorbani believes that the CNSR initiative has strengthened the ties between industry and academic researchers. "Industry has become more committed to participating in research partnerships and in this conference. These relationships demonstrate the great value of both the funding provided by AIF through ACOA, and of the tremendous collaboration between researchers and industrial partners."

For more information, please visit www.cnsr.info/Events/CNSR2007/ or e-mail: cnsr2007@unb.ca



CUTTING EDGE COMMUNICATIONS RESEARCH: Dr Ali Ghorbani (centre sitting) introduces members of the Intelligent and Adaptive Systems (IAS) and Network and Information Security (NIS) research groups at the University of New Brunswick in Fredericton.

From left: **Ebrahim Bagheri**, **Reza Zafarani**, **Reza Sadoddin**, **Iosif Viorel Onut**, **Mark Kilfoil**, **Farnaz Gharibian**, **Mehran Nadjarbashi**, **Mohammad Barouni**, **Hamid Baghi** and **Chaouki Regoui**.



CCPE MESSAGE

By Marie Lemay, P.Eng., ing.

Chief Executive Officer, Canadian Council of Professional Engineers

The engineering profession strives to serve the Canadian public by developing a stronger, safer society. I am very proud that the Canadian Council of Professional Engineers (CCPE) has been working in partnership with key organizations to help enhance what the public has come to value.

In collaboration with five other national engineering organizations, we have been working to help shape the future of our profession in Canada through the establishment of the Canadian Engineering Leadership Forum (CELFF). Using an approach never taken before by the engineering profession, CELFF is a landmark initiative that combines the expertise of Canada's leading national engineering associations.

The foundation of CELFF is based on discussions of common issues and priorities important to Canada's engineering profession that took place, prior to 2005, between the chief executive officers of CCPE, the Association of Consulting Engineers of Canada (ACEC), the Canadian Academy of Engineers (CAE), and the Engineering Institute of Canada (EIC).

In 2005, CCPE brought the profession's leadership together by hosting a joint meeting in Ottawa with the presidents, presidents-elect and chief executive officers of ACEC, CAE, and EIC. Joining them at this ground-breaking meeting was the National Council of Deans of Engineering and Applied Sciences (NCDEAS). The combined leadership shared information about the work being done by each organization and discussed the formation of a common vision for the engineering profession. Several topics to be incorporated in the vision include the

A COMMON VISION FOR CANADA'S ENGINEERING PROFESSION

profession's image, education, ethics, influencing government and the public, and trends.

After initial discussions, member organizations recognized the need to attract students to become involved in the process—indeed, they are the future of our profession—and invited the Canadian Federation of Engineering Students (CFES) to participate in the initiative. On June 3, 2006, at CCPE's annual general meeting, the six member organizations signed the CELFF Memorandum of Understanding in Whitehorse, Yukon.

The Forum is an information-sharing body, not a decision-making body. Our focus is on what we can do as a group to come up with a grand vision for the profession over the next 30 years, with the objectives of both enhancing the profession itself and better responding to the needs of Canada as a whole.

We recognize that all member organizations have their own resources and opinions but, as a group, we will all benefit from improved communications and a better understanding of each others' mandates and activities to avoid duplication of efforts, harmonize policies, and optimize resources on joint initiatives aimed at advancing engineering in Canada. All CELFF members are equal partners. As such, the Forum is an excellent opportunity for students to provide input and influence decision-makers. I am delighted that CFES has signed on to the initiative, and emphasized this fact when I spoke to students about CELFF at the 2007 CFES Congress in Montréal. I was both inspired and encouraged to personally witness the students' enthusiasm. The student body recognizes the significance of CELFF and what it represents, which was reinforced by what CFES President **Shawn Mondoux** had to say about the Forum:

"I am very pleased that CFES was invited to participate in CELFF. It's extremely important that the profession's future leaders are involved in shaping engineering over the years to come. Knowing our voice matters, and that we can make a difference in society, provides us with a great sense of purpose and achievement."

What will be the issues, challenges and opportunities for engineers over the next 30 years? What would define success for this new 30-year vision? In order to address these and other questions, the CELFF leadership has discussed the hosting of an engineering summit.

The proposed summit will be a grass roots exercise to develop a common aspiration and vision for a vibrant engineering community that works in the public interest and contributes actively to the evolution of society.

While its objectives still need to be defined more clearly, the proposed summit will be a venue for developing processes to better serve society, to foster cohesion within the profession, to gain a better understanding of trends and how to react to them, and to better communicate with the public through improved messaging. An engineering summit task force is currently developing the long-term objectives as well as the preliminary design of a two-year consultative process in lead up to the summit.

As we move forward with CELFF activities and continue to examine the possibility of hosting an engineering summit, we will be focusing on our common strengths and abilities in order to help our profession go, not where we think it is going to be, but where we **want** it to be. 

Printemps 2007

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Spring 2007



MOT DE LA DIRECTION DE CCI

Marie Lemay, ing.

Chef de la direction, Conseil canadien des ingénieurs

L

a profession d'ingénieur s'efforce de servir le public

canadien en bâtissant une société plus solide et plus sûre. Je suis très fière que le Conseil canadien des ingénieurs (CCI) travaille en partenariat avec des organisations clés pour aider à améliorer ce que le public en est venu à apprécier.

Nous avons, avec cinq autres organisations nationales de génie, conjugué nos efforts pour aider à façonner l'avenir de notre profession au Canada, et ce, en mettant sur pied le Forum des leaders du génie canadien (FLGC). Grâce à une approche encore jamais adoptée par la profession d'ingénieur, le FLGC est une initiative repère qui permet de combiner le savoir-faire des grandes associations nationales de génie au Canada.

Le FLGC a été créé à la suite de discussions d'intérêt commun et de priorité commune pour la profession d'ingénieur, discussions qui ont eu lieu avant 2005 entre les chefs de direction du CCI, de l'Association des ingénieurs-conseils du Canada (AICC), de l'Académie canadienne du génie (ACG) et de l'Institut canadien des ingénieurs (ICI).

En 2005, le CCI a réuni les chefs de file de la profession d'ingénieur en organisant, à Ottawa, une réunion conjointe avec les présidents, les présidents élus et les chefs de direction de l'AICC, de l'ACG et de l'ICI. Le Conseil canadien des doyens d'ingénierie et des sciences appliquées (CCDISA) s'est également joint à cette réunion inaugurale. Les chefs de file y ont échangé des informations sur les travaux réalisés par chaque organisation et discuté de l'édification d'une vision commune pour la profession. Parmi les éléments à intégrer à cette vision, mentionnons l'image de la profession, l'éducation, la déontologie, l'influence sur le gouvernement et le public et les tendances.

Après les discussions initiales, les organisations membres ont reconnu qu'il fallait inciter les

UNE VISION COMMUNE POUR LA PROFESSION D'INGÉNIEUR AU CANADA

étudiants à participer au processus - puisqu'ils représentent l'avenir de notre profession. La Fédération canadienne des étudiants et étudiantes en génie (FCEEG) a donc été invitée à participer au Forum. Le 3 juin 2006, lors de l'assemblée générale annuelle du CCI, les six organisations membres ont signé le protocole d'entente du FLGC à Whitehorse, au Yukon.

Ce forum se veut une entité de partage d'information, non de prise de décision. Le groupe axe sa priorité sur ce qu'il peut faire pour parvenir à une vision globale de la profession dans les 30 prochaines années, ses objectifs étant non seulement d'améliorer l'image de la profession comme telle, mais aussi de mieux répondre aux besoins de la population canadienne dans son ensemble.

Nous reconnaissons que chaque organisation membre a ses propres ressources et ses propres points de vue, mais en tant que groupe, nous pouvons bénéficier de communications améliorées et mieux comprendre les mandats et les activités de chacun afin d'éviter le chevauchement des efforts, d'harmoniser les politiques et d'optimiser les ressources sur des initiatives conjointes axées sur l'avancement de la profession d'ingénieur au Canada.

Les membres du FLGC sont des partenaires égaux. À ce titre, le forum est une excellente occasion pour les étudiants de communiquer leur point de vue et d'influencer les décideurs. Je suis très contente que la FCEEG participe à cette initiative et je l'ai d'ailleurs souligné lorsque j'ai parlé du FLGC aux étudiants lors du congrès de 2007 de la FCEEG qui s'est tenu à Montréal. J'étais à la fois inspirée et encouragée pour témoigner personnellement de l'enthousiasme des étudiants. La FCEEG reconnaît l'importance du Forum et ce qu'il représente, et les propos du président actuel de la FCEEG, **Shawn Mondoux**, l'ont confirmé :

« Je suis très heureux que la FCEEG ait été invitée à prendre part au FLGC. Il est

extrêmement important que les futurs chefs de file de la profession d'ingénieur interviennent dans le façonnement de leur profession dans les années à venir. Le fait de savoir que notre voix compte et que nous pouvons agir concrètement dans la société nous donne un grand sens de l'objectif et de l'accomplissement. »

Quels seront les défis, les questions et les occasions qui se présenteront aux ingénieurs dans les 30 prochaines années? Qu'est-ce qui définira le succès pour cette nouvelle vision sur 30 ans? Pour aborder ces questions et d'autres aspects, les leaders du FLGC ont discuté de la possibilité d'organiser un sommet du génie.

Le sommet proposé serait un exercice populaire visant à élaborer des aspirations et une vision communes pour une communauté d'ingénieurs vivante qui travaille dans l'intérêt du public et qui contribue activement à l'évolution de la société.

Bien qu'il reste à définir plus clairement ses objectifs, le sommet proposé sera l'occasion de mettre au point des processus afin de mieux servir la société, de favoriser la cohésion au sein de la profession, de mieux comprendre les tendances et de savoir comment y réagir, ainsi que de communiquer de manière plus efficace avec le public. Un groupe de travail sur le sommet du génie travaille actuellement à l'élaboration d'objectifs à long terme de même qu'à la conception préliminaire d'un processus de consultation sur deux ans en prévision du sommet.

Alors que nous entamons les activités du FLGC et que nous continuons d'examiner la possibilité de tenir un sommet du génie, nous nous concentrons sur nos forces et nos capacités communes afin de faire avancer la profession dans le sens que nous **voulons**. 

UK CIVIL ENGINEER DISCOVERS FAMILY CONNECTION TO C. C. KIRBY

Submitted by Paul Kirby, CEng

One evening, at the end of January, whilst sitting at my computer undertaking some family history research, I came across a reference to the C. C. Kirby Award established by the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB). From the website, I gleaned that this award was named in honour of Charles C. Kirby, founder of the Association.

Interestingly, I had already located a distant relative of mine, one **Charles Conyers Kirby** who had lived in Saint John, New Brunswick. He had worked for the railways in that area and I wondered if 'my' Charles Conyers was also APEGNB's founder?

Being a chartered civil engineer and a railway buff myself, this was something that just had to be investigated further. Contact by e-mail with APEGNB's Director of Communications, Melissa Mertz, soon revealed the necessary proof that the Association's founder was indeed my second cousin twice removed. (In other words, Charles Conyers was the great grandson of my great, great, great grandparents.)



So, who am I? My name is **Paul David Kirby**, a member of the Institution of Civil Engineers (MICE) in England. I live in Sutton Coldfield, near Birmingham, having retired after more than 33 years in the water industry.

I initially started my working life with the British railways – a reversal of C. C. Kirby's career. Railway civil engineering gave me a very good grounding. I covered virtually all aspects of the profession within the space

of five years. I then moved on to engineering associated with sewage treatment (water reclamation as it is termed today). I received excellent additional training in heavy civil engineering works that prepared me to gain professional status.

I attained MICE in 1971 before moving into the area of water supply and distribution, where I could indulge my penchant for pipework systems. Laying pipework in the highway may not appear overly strenuous, until one realizes the work involved in taking large diameter water mains through heavily populated urban areas. And I do mean large—24"/600mm, 32"/800mm, 42" and 60" diameters.

Managerial roles followed until my specialist/practical knowledge of utility works in the highway. The legal aspects of this led to my becoming heavily involved in liaison work at local, regional and national levels. This resulted in the chairmanship of a number of regional highway authority/utility liaison groups and the introduction of new national legislation controlling utility works in the highway.

I was appreciated for being a utility engineer, with a reasonable understanding of highway construction, and was able to fairly discuss the practical engineering aspects with the highway authorities. In-depth knowledge of the legal aspects of utility/highways work often led to advising legal professionals engaged in litigation work.

Upon retirement, my interests turned to family history. (There was no time for genealogical pursuits while working!)



Soon, I found among the branches of the family tree, another civil engineer by the name of **Conyers Kirby**, father of Charles Conyers Kirby.

Now, Conyers is a common name amongst my ancestors; I have 15 of them

going back as far as the 18th century plus numerous other individuals who have it as a second given name.

Charles' father trained in water/sanitary engineering. He married **Selina Rhys**, a local

girl from Neath and set up home in the St. Woolos area of Newport, Monmouthshire, England. Conyers Kirby eventually became the town surveyor and water engineer.

Research, through my Institution, revealed that Conyers Kirby was elected an Associate of the Institution of Civil Engineers in November 1865. In the latter years of his municipal career, Charles' father was also engaged in consultancy work.

It was into this business he drafted his other sons (Charles' brothers), **William Conyers**, **Henry Conyers**, **Francis Conyers** and **Gordon Conyers**. Conyers must have been very proud of his name as he also conferred it on daughters, **Margaret** and **Gwladys**, as well! Thus, it was within an atmosphere of civil engineering, that APEGNB's founder, C.C. Kirby, was brought up. Tragedy beset the family in 1894 when Gwladys died at age 9.



Why C. C. Kirby went to Canada in 1907 is something yet to be established. Conjecture might indicate an influence from the fact that his brother Francis had emigrated to Illinois some four years earlier. Francis was still there in 1946 where he

died three days after Charles. Interestingly, many of my own branch of Kirbys were associated with the railways in Britain, though mostly as engine drivers.

These were not the only Kirbys to "hop the pond". Members of another branch arrived in the United States in 1915, on the last outward journey of the *Lusitania*, before that ship was torpedoed off Ireland on June 7 of that year – but that is another story!

Needless to say, I am proud to know that my distant relative established the regulatory body of New Brunswick's engineers and went on to become one of the founders of the Canadian Council of Professional Engineers in 1936. I can only hope that my own contribution to the engineering profession would make C.C. Kirby just as proud. 

FLORENCEVILLE DNR OFFICE EARNS 'GOLD' FOR GREEN BUILDING PERFORMANCE

The new \$1.3 million Natural Resources (DNR) district ranger office in Florenceville, NB, has earned "gold certification" for green building performance from the Canada Green Building Council.

Supply and Services Minister **Roly MacIntyre** made the announcement in early February during an Industry Day conference in Fredericton.

"This achievement signifies national recognition for the work my department is doing in energy performance and efficiency in new public buildings," MacIntyre said. "It proves our construction projects are among the leading 'green' projects being undertaken in the Maritimes."

MacIntyre said the gold award is a first for Supply and Services as it carries out infrastructure investments in new government buildings according to the principles of Leadership in Energy and Environmental Design (LEED), a nationally-recognized standard used to measure

"It proves our construction projects are among the leading 'green' projects being undertaken in the Maritimes."

green building performance. The gold certification is also a first in Atlantic Canada.

"Governments, contractors and designers planning the greenest buildings are using LEED strategies," MacIntyre stated. "Our achievement in gold is an example of best practice in our province. We are encouraging the design community and construction industry to work with us and to consider similar sustainable building projects in the work they are doing."

The new one-storey, 539 sq. m. (5,800 sq. ft.) office building in Florenceville is the second DNR office facility to be registered with the Canada Green Building Council. The first,



New Brunswick Supply and Services recently earned the first gold award for green building performance in Atlantic Canada from the Canada Green Building Council for the green features incorporated into the construction of the new Natural Resources district ranger office in Florenceville.

L to R: Staff architect **Pam Barteaux**, Premier **Shawn Graham**, staff engineer **Rick Watson, P.Eng.**, (back), **Barb Nicholson**, executive director of design and construction, Minister **Roly MacIntyre**, staff engineer **Éndre Raduly, P.Eng.**

located in Bathurst, officially opened in 2005, and earned a silver rating for LEED.

Built by Gloucester Construction Limited of Traceries-Sheila, the Florenceville office was awarded gold for incorporating green features, including an energy cost performance of 66 per cent better than the Model National Energy Code for Buildings.

The environmentally-friendly office facility is energy efficient and has been positioned so that offices capture as much natural light as possible. Occupants are more comfortable with their excellent ventilation, thermal comfort and abundant natural light. Water consumption has been reduced by 50 per cent, and a 24-metre high windmill, located behind the building, supplies almost 28 per cent of the building's electrical energy. "Congratulations to the owner and team for a job very well done," reads the award letter from the Canada Green Building Council.



CITY OF DIEPPE REPLACES MELANSON ROAD CULVERT

Submitted by John Gallant, P.Eng. and Serge Dupuis, P.Eng.



With the effects of climate change and increased frequency of large duration, high-intensity storm events, many Atlantic Canadian municipalities are now having to deal with storm water management issues and the effects of these rainfall events on existing infrastructure.

In 2005, the City of Dieppe, NB, was required to carry out emergency repairs to an existing 2400 mm diameter culvert that crosses under the Melanson Road. The repairs were required due to a collapse and washout of an existing corrugated steel pipe (CSP) culvert.



Washout of Melanson Road and collapsed inlet of existing culvert (inset)

The city commissioned Touchie Engineering, a division of R.V. Anderson Associates Limited, to manage this project that involved hydraulic modeling, design, tendering and construction of a new structure on a very tight schedule.



The City of Dieppe Council was also a key player in the decision-making process into the type of structure and the visual appearance of the finished product through a number of presentations made to Council during the design and emergency Request for Quotation (RFQ) stage.

It was agreed by the City of Dieppe to construct a precast bridge culvert for the replacement of the CSP culvert.

To determine the size of the structure required and other hydraulic considerations, Hydro-Com Technologies, a division of R.V. Anderson Associates Limited, of Fredericton carried out hydraulic modelling using the PCSWMM modelling software. Boundary conditions in the analysis included the upstream conditions of the Fox Creek watershed, Fox Creek channel downstream of Melanson Road, the control structure at the mouth of the Fox Creek Aboiteaux, and the tidal effects of the Petitcodiac River.

From the land use and zoning mapping, the hydraulic modeling determined storm water peak flows at Melanson Road for existing

and ultimate development conditions of the drainage basin for various rainfall return period as follows:

Tr (years)	Existing Peak (m ³ /s)	Ultimate Peak (m ³ /s)
10	27.9	43.8
50	46.0	78.1
100	55.0	89.3

For existing Melanson Road culvert conditions (channel invert 5.2m, 2.4m diameter culvert, and road elevation 8.8m) dry weather flows reached elevation 5.4m. In a 100-year event, the hydraulic grade line (HGL) increased to 9.2 m in elevation. The HGL reached 10.1m for the ultimate development of the watershed.

It was clear from the modelling results that during a 100-year storm event (for existing development) that road overtopping would occur on Melanson Road at the culvert site. The effects would be worse in the 100-year storm event for ultimate development conditions.

Two separate RFQ's were issued for the project, the first for the pre-purchase of the new structure and the second for the construction. This enabled production and delivery issues of the precast units for the emergency repair to be carried out expeditiously.

ShawSpan™, a product manufactured by the Shaw Group, was selected for the replacement structure. This package allowed for precast footings, structure, and the T-Wall system to be delivered to the site for ease of construction given the time lines of the project.

An Approval to Construct, Water Course Alteration Permit, Navigable Waters Protection Act Registration, and a variance for working in the stream were also obtained as a requirement of this project. Approvals were granted quickly from all respective municipal departments with supporting documentation.

A.C.L. Construction Limited of Halifax was selected to carry out the work which included:

- the installation of the ShawSpan™ bridge culvert that was 13 metres wide along the stream with 8m by 3m inside clear opening,
- a retaining wall on the inlet and outlet side,
- and the upgrading of approximately 360 metres of sanitary sewer which included a concrete encased stream crossing.

To facilitate the installation of the new ShawSpan™ structure unit, precast footings were used. This allowed for the installation of footings and ShawSpan™ structure in a three-day period.



Installation of precast ShawSpan™ structure

The short installation period proved to be very beneficial to the project. This emergency repair was constructed during two major rainfall events, one of which was Hurricane Rita. Three 10-inch pumps from ITT Flygt as well as a large 900 mm temporary HDPE storm pipe adjacent to the site allowed the area to remain in the dry until the installation of the footings and ShawSpan™ structure were completed.

Installation of T-Wall retaining wall system and reconstruction of Melanson Road

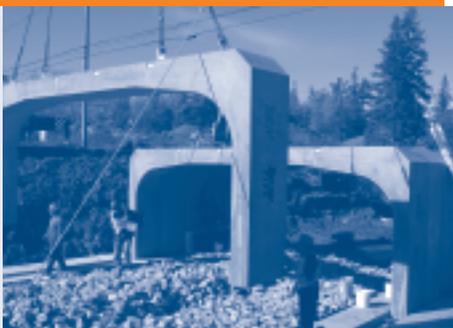
The road elevation over the ShawSpan™ location was raised from the existing elevation of 8.8m to 10.1m. An additional low point 60m from the main structure was created in the road profile at elevation 9.8m. This provided an outlet point and an additional level of security for the structure. Additional storm water controls were placed at this low point location to minimize the effects of storm water runoff.

The construction of the project began on October 7, 2005, and the base asphalt was placed over the structure on November 30, 2005. The project was constructed for approximately \$800,000 and was cost shared with the New Brunswick Department of Transportation. 

About the Authors

John Gallant, P.Eng., is a project manager with Touchie Engineering, a division of R.V. Anderson Associates Limited, in Moncton, NB. Contact: jgallant@rvanderson.com

Serge Dupuis, P.Eng., MBA, is the manager of engineering with the City of Dieppe. Contact: Serge.Dupuis@dieppe.ca

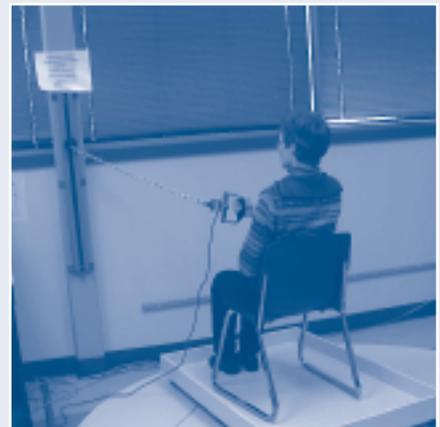


TEST YOUR STATIC STRENGTH

Université de Moncton professor **Nancy Black**, P.Eng., demonstrates a new three-dimensional isometric strength measurement system that can be used to test a person's static strength, whether the subject is seated, standing or on a wheelchair. The system, which consists of a rotating platform, an extendable arm, a supporting track, stability sensors and a force transducer, is available at Udem's industrial engineering laboratory.



Nancy Black, ing., professeure de l'Université de Moncton, présente un nouveau système tridimensionnel de mesure de la force isométrique qui permet de tester la force statique d'une personne, qu'elle soit assise, debout ou en fauteuil roulant. Ce système, doté d'une plate-forme tournante, d'un bras extensible, d'une structure de support, de sondes de stabilité et d'un transducteur de la force existe au laboratoire de génie industriel de l'Université de Moncton



TESTEZ LA FORCE STATIQUE

NRTSI TO BRING TOGETHER KNOWLEDGE AND COMMITMENT

In 2002, leaders and experts of Canada's infrastructure community pooled their resources to create the Technology Road Map (TRM). The TRM represented a national consensus on the current state of infrastructure systems; a vision for the industry and a strategy for meeting the long-term needs of Canada's civil infrastructure systems (CIS) through technology innovation. A key recommendation of the TRM was that Canada's infrastructure community establish a National Round Table on Sustainable Infrastructure (NRTSI).

In December 2005, the four associations that had led the TRM initiative (the Canadian Society for Civil Engineering, the Canadian Council of Professional Engineers, the Canadian Public Works Association and the National Research Council of Canada), in collaboration with close to 40 organizations from all parts of Canada, representing all orders of government, First Nations, non-governmental organizations and academia met in Calgary for the first meeting of the Round Table. This was followed by another meeting in Montreal in May 2006.

Almost one year later, in November 2006, participants from close to 50 groups met again in Toronto for the third meeting of the NRTSI and to review the results of the work done to date.

Working group reports presented at the meeting demonstrate the potential value that a well-funded and supported round table can bring to infrastructure stakeholders.

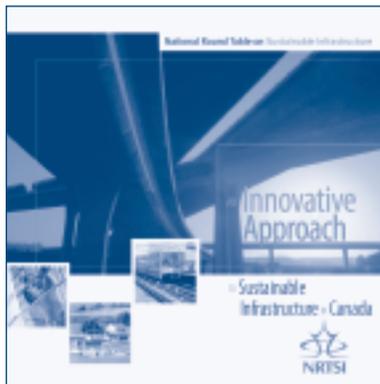
According to **Marie Lemay**, P.Eng., Chief Executive Officer of the Canadian Council of Professional Engineers and Chair of the NRTSI Transition Team, the NRTSI is a unique initiative in North America as it comes from the infrastructure community.

"It brings to the table provincial, federal and municipal governments, non-governmental organizations, private sector, industry associations, industry, academia and First Nations experts from all regions of Canada," said Lemay.

The National Round Table on Sustainable Infrastructure does not aim to be an advocacy body, duplicate government initiatives or functions of other organizations. It does not lay claim to be a decision-making or policy-making body.

The National Round Table on Sustainable Infrastructure does aim to:

- Be a "go to" resource on infrastructure.
- Become an important advisor to stakeholders to enable decision-makers to optimize their investment strategies.
- Be a catalyst for new innovative technologies and management tools.



sector, industry associations, industry, academia and First Nations experts from all regions of Canada,"

- A dynamic, on-line infrastructure information system.
- A suite of tools and guidelines addressing issues such as small versus large communities, life-cycle costing, and return-on-investment calculations.
 - Provide guidance on the appropriate use of the tool box; aligning tools to application.
- A clearinghouse of infrastructure case studies and issues that could be categorized, evaluated and searchable.
 - Case studies from Canada and abroad that would address innovation in and financing of infrastructure, as well as best practices.
 - Elaboration on the benefit for each case study.
- Portals and websites with regular updates.

"It brings to the table provincial, federal and municipal governments, non-governmental organizations, private

- Advance capacity building within the sector and make greater use of new technologies and management practices.
- Help raise awareness and understanding of infrastructure issues among its stakeholders.
- Contribute to changing the "infrastructure culture" in Canada: fostering a long-term and holistic approach.
- Reduce duplication of efforts.
- Fill the information gap and help decision-makers make good, sound decisions about infrastructure.
- Provide advice to our stakeholders involved with the education system to assist with improving training related to infrastructure.
- Cluster small community issues and create a forum on small community needs.
- Work towards national standards in asset management.
- Building a united, forward looking industry.

The NRTSI participants identified and agreed upon the following deliverables:

- The creation of a forum to exchange views amongst infrastructure experts.

- Municipal infrastructure investment planning products that meet the basic standards outlined in the National Asset Management framework.
- Metrics that measure the environmental effects of infrastructure.
- A framework to assess the cost-benefit of infrastructure.
- Assistance to infrastructure professionals.
- Play an educational support role and provide enlightenment and objectivity.

The National Round Table on Sustainable Infrastructure is aligned with our country's identification of infrastructure as a priority and its recognition of the impact of infrastructure on the health and safety of its citizens.

For the NRTSI to succeed, it will require resources and investment from all participants. Initial support from the federal government is crucial to get it launched.

According to Lemay, the NRTSI will yield a great return on investment. "Let's seize the opportunity to harness the knowledge available and build on the commitment of the many experts that believe in the added value of the NRTSI." 

LA TRNID COMBINERA CONNAISSANCES ET ENGAGEMENT

E

n 2002, les dirigeants et les experts de la communauté des infrastructures du Canada ont mis leurs ressources en commun pour établir la Carte routière technologique (CRT). La CRT représentait un consensus national sur l'état actuel du système d'infrastructures, une vision pour l'industrie et une stratégie afin de répondre aux besoins à long terme des systèmes d'infrastructure civile (SIC) du Canada en faisant appel à l'innovation technologique. L'une des recommandations clés de la CRT était que la communauté des infrastructures du Canada établisse la Table ronde nationale sur l'infrastructure durable (TRNID).

En décembre 2005, les quatre associations qui avaient dirigé l'initiative de la CRT (la Société canadienne de génie civil, le Conseil canadien des ingénieurs, l'Association canadienne des travaux publics et le Conseil national de recherches du Canada), en collaboration avec près de 40 organisations de toutes les régions du Canada, représentant tous les ordres de gouvernement, les Premières nations, le secteur privé et le milieu universitaire se sont réunies à Calgary à l'occasion de la première réunion de la Table ronde. Cette réunion a été suivie d'une autre rencontre à Montréal, en mai 2006.

Presque un an plus tard, en novembre 2006, des participants représentant près de 50 groupes se sont rencontrés à nouveau à Toronto à l'occasion de la troisième réunion de la TRNID afin de passer en revue les résultats des travaux réalisés à ce jour.

Les rapports des groupes de travail présentés à la réunion ont confirmé la valeur potentielle que pourrait apporter une table ronde adéquatement financée et bien appuyée aux intervenants du milieu des infrastructures.

Selon **Marie Lemay**, ing., chef de la direction du Conseil canadien des ingénieurs et présidente de l'équipe de transition de la TRNID, la TRNID est une initiative de la communauté des infrastructures, unique en Amérique du Nord.

« Elle réunit autour d'une même table les experts des gouvernements fédéral, provinciaux et municipaux, du secteur privé, des associations industrielles, de l'industrie, des milieux universitaires et des Premières nations de toutes les régions du Canada », de dire M^{me} Lemay.

La Table ronde nationale sur l'infrastructure durable ne vise pas à être un groupe de défense des intérêts, à chevaucher les initiatives gouvernementales ou les fonctions d'autres organisations. Elle ne prétend pas être un groupe décisionnel ou d'élaboration de politiques.

La Table ronde nationale sur l'infrastructure durable vise à :

- devenir une ressource de référence en matière d'infrastructure;
- devenir un conseiller important auprès des intervenants pour permettre aux décideurs d'optimiser leurs stratégies d'investissement;



Premières nations de toutes les régions du Canada »,

- être un catalyseur pour la création de technologies et d'outils de gestion innovateurs;
- favoriser le renforcement des capacités dans le secteur et faire une utilisation accrue des nouvelles technologies et des pratiques de gestion;
- promouvoir une plus grande sensibilisation des intervenants face aux enjeux relatifs aux infrastructures;
- contribuer à faire évoluer la « culture des infrastructures » au Canada en favorisant une approche holistique à long terme;
- réduire les dédoublements des efforts;
- combler les lacunes en matière d'information et aider les décideurs à prendre des décisions judicieuses et éclairées en matière d'infrastructures;
- donner des conseils à nos intervenants œuvrant dans le système d'éducation afin de favoriser l'amélioration de la formation en matière d'infrastructure;
- regrouper les enjeux communs aux petites collectivités et créer un forum sur les besoins des petites collectivités;
- travailler en vue de l'établissement de normes nationales en matière de gestion des biens;
- bâtir une industrie unie, tournée vers l'avenir.

Les participants se sont mis d'accord sur les résultats souhaités suivants :

- la création d'un forum permettant les échanges de vues entre les experts des infrastructures;

- un système en ligne dynamique d'information sur l'infrastructure;
- un ensemble d'outils et de lignes directrices sur des enjeux comme les différences entre les grandes et les petites collectivités, le calcul des coûts du cycle de vie et le calcul du rendement du capital investi;
 - fournir des orientations sur l'utilisation appropriée des outils; relier les outils aux applications.
- un centre d'échange sur les études de cas et les enjeux des infrastructures, qui pourraient être catégorisés, évalués et interrogeables;
 - des études de cas provenant du Canada et de l'étranger, portant sur l'innovation en matière d'infrastructures et le financement des infrastructures, ainsi que sur les meilleures pratiques.

« Elle réunit autour d'une même table les experts des gouvernements fédéral, provinciaux et municipaux, du secteur privé, des associations industrielles, de l'industrie, des milieux universitaires et des

- présentation des avantages de chaque cas étudié.
- des portails et des sites Web mis à jour régulièrement;
- des produits de planification de l'investissement dans les infrastructures municipales répondant aux normes de base énoncées dans le cadre de gestion nationale des biens;
- des paramètres qui mesurent l'effet des infrastructures sur l'environnement;
- un cadre pour l'évaluation du rapport coût-bénéfices des infrastructures;
- de l'aide aux professionnels des infrastructures;
- jouer un rôle éducatif et fournir de l'éclairage et de l'objectivité.

La Table ronde nationale sur l'infrastructure durable va dans le même sens que le gouvernement fédéral, qui reconnaît que l'infrastructure constitue une priorité et qu'elle a des répercussions sur la santé et la sécurité des citoyens.

Pour qu'elle connaisse le succès, la TRNID devra pouvoir compter sur des ressources et des investissements de la part de tous les participants. Le soutien initial du gouvernement fédéral est crucial pour son démarrage.

Selon M^{me} Lemay, la TRNID offrira un excellent rendement du capital investi. « Il faut saisir cette occasion qui nous est offerte de tirer parti des connaissances disponibles et de l'engagement des nombreux experts qui croient en la valeur ajoutée offerte par la TRNID. »

Volcanoes, Geohazards and Climate Change

2007 AGS COLLOQUIUM PRESENTS

EARTHBREAKING NEWS

Submitted by Reg Wilson, P.Geo.



The 33rd Colloquium and Annual General Meeting of the Atlantic

Geoscience Society (AGS) was held at the Delta Beauséjour Hotel in Moncton, NB, on February 2 and 3.

Eruption of Volcano Knowledge!

The program began with an all-day Friday workshop entitled *A Review of Physical Volcanology: A Metallogenic Perspective*, convened by **Ryan Toole** and **Dr. David Lentz**, P.Geo., of UNB.

Seven presenters elaborated on many aspects of volcanic rocks and environments. CIM distinguished lecturer **Wulf Mueller** of the University of Quebec provided an excellent address on mineralization associated with submarine volcanic centres in the Abitibi area of the Canadian Shield. Other contributors were **Cliff Shaw**, and graduate students **Warna Downey** and **Alex Wills**, all from UNB, and **Steve McCutcheon**, P.Geo., and **Reg Wilson**, P.Geo., from the New Brunswick Geological Surveys Branch.

A Friday afternoon workshop, entitled North American Soil Geochemical Landscape Project – Orientation Session was convened by **Toon Pronk**, P.Geo., of the

New Brunswick Geological Surveys Branch. The purpose of this workshop was to review protocols for a multi-national program designed to meet the need for soil geochemical data to assess and manage natural resources and risks of environmental hazards.

54 Presenters and 23 Posters

Beginning Friday evening, a diverse technical program of 54 oral presentations was divided into four special sessions and several “general” sessions, held in two simultaneous theatres. In addition, 23 poster displays were presented.

Special sessions included:

- *Mineral Resources Research;*
- *Tectonic, Thermal and Resource Aspects of Paleozoic to Mesozoic Evaporite Basins;*
- *Patterns and Geohazards in the North Atlantic; and*
- *Late- and Post-Glacial Climate Change Events in Eastern Canada.*

The subject matter of the latter two sessions allowed AGS to win an endorsement from the Canadian National Committee for the International Year of Planet Earth (IYPE), as an “official contribution” to IYPE.

These sessions conformed to two of the 10 major research themes of IYPE, namely “Hazards” and “Climate”, allowing AGS to be the first geoscience society anywhere to promote IYPE in their technical program.

The climate change session concluded with an outstanding and balanced overview of the climate change debate by outgoing AGS President **Ian Spooner** and co-author **Rob Raeside**, entitled *Global Warming, Climate Change and Geoscientists: A Volatile Mix*.

Coincidentally, earlier in the afternoon, AGS had some competition across the street in the form of **David Suzuki**, who included a flying trip through Moncton on his cross-Canada tour to rally support for strict climate change counter-measures.

The conference general sessions encompassed current research being carried out in the Maritimes on topics as diverse as hydrocarbon systems, geological evolution of the Appalachian region, correlating geological properties with durability of construction aggregate, the geology and geochemistry of soils in Nova Scotia vineyards, and many more.

Student participation is typically an important part of the AGS Colloquium and this year's event was no exception.

Award Winners

Twenty-six student oral presentations and 18 posters kept two teams of judges busy and made their life difficult with the usual near-impossible task of choosing the winners of the AGS student awards from among the many outstanding efforts.

These awards were presented during the annual Saturday night banquet, with **Marc Laflamme** of Queens University earning the Rupert MacNeill Award for Best Student Paper, and **Helen Neilson** of Dalhousie University taking the Graham Williams Award for Best Student Poster.



Marc Laflamme (left) of Queen's University accepts the 2007 **Rupert MacNeill Award** for best student oral presentation from incoming AGS President **Mike Parsons**.

"AGS is grateful to the many corporate sponsors, including APEGNB, that helped keep our fees as low as possible, especially for students.

The AGS banquet is also the occasion to confer our two major AGS awards, the Distinguished Service Award for exceptional and altruistic contributions to AGS over a long period of time, and the Gesner Medal – the AGS Distinguished Scientist Award.

This year, the Distinguished Service Award went to **Susan Johnson**, P.Geo., of the New Brunswick Geological Surveys Branch, who has, among other things, committed much time and energy as chief organizer of several AGS Colloquia in recent years – a large task that seems to get more complex over time.



Susan Johnson, P.Geo., of the Geological Surveys Branch (Sussex) receives the **Distinguished Service Award of the Atlantic Geoscience Society (AGS)** from (at left) outgoing AGS President **Ian Spooner**, and, (centre) **Michael Parkhill**, P.Geo., of the Geological Surveys Branch Bathurst office, who read the citation.

The Gesner Medal was awarded to **Dr. Jaroslav (Jarda) Dostal**, Professor Emeritus at St. Mary's University and an amazingly productive igneous petrologist and geochemist who is also one of our profession's true gentlemen.



Dr. Jaroslav (Jarda) Dostal (centre) of St. Mary's University is the 2007 recipient of the **Gesner Medal – the AGS Distinguished Scientist Award**. Making the presentation at right is incoming AGS President **Mike Parsons** (Geological Survey of Canada-Atlantic), and at left is **Brendan Murphy** (St. Francis Xavier University), who read the citation.

The AGS banquet concluded with an after-dinner presentation by the past president of the Geological Association of Canada, **David Piper** (Atlantic Geoscience

Centre, Halifax). His presentation, entitled *Apprenticeship in Geology – A Second Look*, was highly entertaining and simultaneously served as inspiration and encouragement to students of earth science, and a source of general hilarity for all.

Thanks and Acknowledgements

The success of this year's Colloquium can be attributed to the efforts of numerous individuals.

Susan Johnson, Mike Parkhill and Reg Wilson served as co-chairs of the Organizing Committee.

The judges of the student awards, chairs of the technical sessions, and student volunteers from Acadia University who were responsible for the computers and projectors, deserve much credit for keeping the program rolling without a glitch.

Finally, no conference is entirely successful without an eye on the bottom line, and AGS is grateful to the many corporate sponsors that helped keep our fees as low as possible, especially for students. These sponsors include:

- APEGNB;
- the Université de Moncton;
- Xstrata Zinc Canada;
- Corridor Resources Inc.;
- Blue Note Caribou Mines;
- the Potash Company of Saskatchewan (New Brunswick Division);
- Freewest Resources Canada;
- First Narrows Resources;
- the University of New Brunswick; and
- the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

In addition to the "locals" from the Maritime Provinces, this year's conference included delegates from Newfoundland, Quebec, Ontario, Saskatchewan, and Alberta.

We're confident that they will return with fond memories of a good time, and hope that there may be a few glowing accounts of "The Biggest Little Geoscience Society in Canada".

Next year's meeting will be in Halifax, at a February date and venue to be announced later. This is a very inclusive society so all are invited to put us on your calendar in 2008 and experience what the AGS is all about.



TETRA SOCIETY— FREDERICTON WINS AWARD



The Canadian Association of Occupational Therapists and the New Brunswick Association of Occupational Therapists honoured the Tetra Society of North America

(Fredericton Chapter) with a Citation Award on October 20, 2006.

Tetra Fredericton was acknowledged for their success in recruiting skilled volunteers such as engineers to create assistive devices so people with disabilities can live more independently.

Recent projects of the Fredericton Chapter include:

- redesigning a tricycle with hip supports;
- creating a spring-loaded pool cue for individuals with one functional upper extremity;
- adapting a bike trailer with a booster seat and seatbelt for a child with cerebral palsy;
- modifying snow sleds with backrests and seatbelts, and;
- adapting a battery-operated ride-on car with a head-mounted switch for speed control.

"Tetra is an extremely important volunteer organization in New Brunswick since government funding for assistive devices is very limited," says Fredericton Chapter coordinator, **Christine Plourde**, P.Eng. "The personal expense to have



APEGNB member and coordinator of the Fredericton Chapter of Tetra, **Christine Plourde**, P.Eng., (right) accepts a Citation Award from **Sandra Sims**, of the Canadian Association of Occupational Therapists in October 2006.

custom modifications to a device may be more than some can manage. Tetra offers solutions that are often simple but can change someone's life. I'm proud to be working with a number of fellow engineers such as **Tom Sisk**, P.Eng., and a range of health care professionals to offer increased independence to persons with disabilities."

For more information on the Tetra Society of North America, visit www.tetrasociety.org.

To find out how you can become a Tetra volunteer in New Brunswick, contact:

Christine Plourde, P.Eng.
Fredericton Chapter Coordinator
Tetra Society of North America
Tel: (506) 462-7662
cpourde@CRAworld.com



PROVINCIAL ARCHIVES GETS FACELIFT

The Provincial Archives of New Brunswick in Fredericton has undergone renovations to provide better space and improved services to the public.



Services Minister **Roly MacIntyre**. "Improved access, more privacy, better security for documents and brighter surroundings will help the Archives meet the increasing demand for its services."

The Archives is used for many types of research by academics, local historians, architects, the legal profession and writers. A large number of other inquiries involve genealogical research for vital statistics

During the renovations, important elements of the building's original architecture were preserved such as a mosaic in the terrazzo floor, and unique birds-eye maple woodwork and wrought iron 'fiddlehead' railings.



(births, marriages, deaths) as well as cemetery listings. These searches are often followed by requests for official documents from the Archives. Thousands of other public inquiries are made to the Archives each year through letters, e-mails, faxes and telephone calls. The Archives website also receives about 1.5 million hits per month.

Newspaper clippings on microfilm, priceless maps, architectural drawings, video tapes, audio recordings, bound volumes, manuscript collections, government records, census records, letters and diaries, photographs and films, souvenir pictures from royal visits, or snapshots of New Brunswick life "in days gone by" are also found at the Archives.

Until 1967, the original Provincial Archives building was housed the University of New Brunswick library. The structure was built in the late 1920s and an expansion was added in 1951. A major controlled environment storage facility was added in 2003, allowing the current modifications. 

The front lobby, reading room and microfilm storage room, totalling 1,177 square feet, has been given a major facelift and barrier-free accessibility has been enhanced.

The renovations were designed to provide space and privacy for consulting records and research, improve wheelchair accessibility on the main floor, bring more natural light and ventilation to the lobby and reception area, and offer a proper meeting room for the benefit of the Archives and other organizations such as historical and genealogical societies. During the renovations, important elements of the building's original architecture were preserved such as a mosaic in the terrazzo floor, and unique birds-eye maple woodwork and wrought iron 'fiddlehead' railings.

"These improvements are great news for the many visitors who come to the Provincial Archives," said Supply and

In-person visits to the Provincial Archives now total about 10,000 per year.

"We've had lots of positive feedback about the renovations," said **Marion Beyea**, provincial archivist. "Visitors have found the improvements to be more comfortable with quieter and more controlled air circulation, better lighting and a separate area for microfilm research."

Multicon Property Services Ltd. of Fredericton was awarded the \$400,000 contract in June 2006 and completed the renovation work in November 2006.



2006 ATLANTIC UNIVERSITIES GEOLOGIC CONFERENCE

From Oct. 26 to the 28, thirteen UNB students and Professor Cliff Shaw attended the 2006 Atlantic Universities Geologic Conference (AUGC), hosted by Dalhousie University in Halifax.

One of Canada's oldest geological conferences, the AUGC, provides undergraduate students the chance to present their work, participate on field trips and to meet others in the regional geology community.

Before arriving at the conference, a stop was made at the Parrsboro Fundy Geological Museum where participants were able to see a variety of fossils, most notably dinosaur fossils.

To kick off the conference, a variety of industry talks were held followed by a mixer. The next day, students could choose from one of three field trips. Most UNB students went on the South Mountain Batholith trip which included a stop at historic Peggy's Cove.



Presentations were held on the final day of the conference and the four presenters from UNB were all excellent. At the awards banquet that evening, **Jillian Martin** won the Frank Shea Memorial Award for best presentation.

UNB's earth science students are now looking forward to attending the 2007 AUGC conference, being held in October at St. Francis Xavier University in Antigonish, Nova Scotia.

CONTEST CORNER



Fall/Winter 06/07 Contest Corner Winners

Chris Drover, P.Eng.
Fredericton, NB

Ian Campbell, P.Eng.
Keswick Ridge, NB

Andrew Schorn, P.Eng.
Relaying and Controls Engineer
NB Power Transmission Corporation
Fredericton, NB

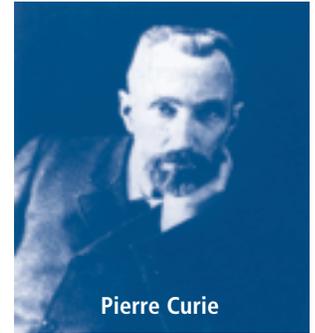
Luc Dugas, P. Eng.
Senior Consultant
The Maricor Group
Moncton, NB

David L. Boudreau, P.Eng.
Solutions Designer
Aliant Voice & Application Solutions Engineering
Saint John, NB

Engenuity readers crystallized their research to answer the Fall/Winter 2006 Contest Corner question: *What is the Piezoelectric Effect?*

A flurry of emails confirmed that "B: The ability of crystals like quartz and tourmaline to generate a voltage when placed under pressure" was the correct answer.

Piezoelectricity was discovered in 1880 by brothers Pierre and Paul-Jacques Curie. They realized that compressing certain types of crystals—including quartz, tourmaline, and Rochelle salt—along certain axes produced a voltage that could be measured on the crystal's surface. Piezoelectric materials can be used in a variety of applications including the buzzers inside pagers and cell phones.



Pierre Curie

Congratulations to the winners listed on the left who received a box of APEGNB goodies for being the first five names drawn with the correct answer.

If you want an APEGNB prize package too, then tell us:

WHO INVENTED THE MODERN ROAD?

- A Forrest Gump
- B Roman Emperor Augustus
- C Cyrus Avery—"the Father of Route 66"
- D Scotsman John Loudon Macadam

To win this season's Engenuity prize package, e-mail your answer to melissa@apegnb.com by **May 30, 2007**. The first five correct submissions drawn will win an APEGNB baseball cap, t-shirt, ceramic coffee mug, messenger bag and more!



TWO PRESIDENTS



seasoned engineer and an aspiring one at the

University of New Brunswick have been appointed presidents of national engineering associations.

UNB President **John McLaughlin**, P.Eng., (left) is the first president of the Canadian



Academy of Engineering from the Maritimes. UNB Fredericton engineering student **Martha Eggenberger** is the first president of the Canadian Federation of Engineering Students from Atlantic Canada.

Eggenberger, a senior engineering student at UNB Fredericton, begins her one-year term on April 1.

"This is an exciting time in the field of engineering," said Eggenberger. "The CFES is an outstanding organization and I am looking forward to leading its continued growth."

As president of CFES, Eggenberger will act as the chief operations officer for the organization and will oversee all national and international projects as well as maintain relationships with the Canadian Council of Professional Engineers (CCPE) and affiliates. She will also be a member of all senior decision making boards and will be responsible for the performance of the CFES nationwide. Twenty-two top students will be working under her to accomplish this task.

As a student at UNBF, Eggenberger is actively involved with the faculty of engineering, acting as president of the Engineering Undergraduate Society, student captain of the rUNBuddies CIBC Run for the Cure team, and as an educational proctor. Most recently she has been visiting local high schools talking to students about engineering at UNB and was instrumental in organizing this year's Engineering Shadow Day.

"This is an exciting time in the field of engineering. The CFES is an outstanding organization and I am looking forward to leading its continued growth."

—Martha Eggenberger

"Ms. Eggenberger is a hard working and dedicated individual," said John McLaughlin, P.Eng., UNB president. "Her level of commitment to the field of engineering and to the university is truly outstanding. I wish her well in her new role and know she will do great things."

In 2006, Eggenberger was the recipient of a Sir Howard Douglas Award which recognizes and encourages outstanding undergraduate students at UNB.

"This is tremendous news for Martha and for UNB Engineering," said **David Coleman**, P.Eng., dean of engineering at UNB Fredericton. "It has been a pleasure working with her and I know she'll do a great job for CFES. She really is one of New Brunswick's emerging young leaders."

Eggenberger will graduate in May. As for her future plans, "I want to hone my French and gain some engineering experience to work towards my professional engineering designation," she said.

In March 2009, UNB will host the Canadian Engineering Competition, the premiere event of its kind in the world. 

BOISSONNAULT MCGRAW VERSE 50 000 \$ À LA L'UDM

Le cabinet d'ingénieurs-conseils Boissonnault McGraw et associés, de Campbellton, a souscrit la somme de 50 000 \$ à la campagne Excellence de l'Université de Moncton. En reconnaissance pour ce don, l'institution a admis l'entreprise au titre de membre de l'Ordre du Chancelier lors d'une cérémonie d'investiture tenue à l'UMCS l'automne dernier. Sur la photo, à gauche, **Jacques Boissonnault**, ing., président, reçoit l'emblème de l'Ordre des mains de **Raymond Chiasson**, agent de développement de l'AAUMCS. (Gracieuseté : Bulletin de l'Association des anciens, anciennes et amis de l'Université de Moncton, numéro 114, décembre 2006.)

BOISSONNAULT MCGRAW DONATES \$50,000 TO UDM

Engineering firm, Boissonnault McGraw & Associates from Campbellton, donated \$50,000 to the Université de Moncton's Excellence campaign. In order to officially recognize this contribution, the institution has granted the firm's membership status to the Ordre du Chancelier during a special ceremony, last fall, at the Université de Moncton in Shippagan's campus. Company President, **Jacques Boissonnault**, P.Eng., (left) received the order emblem from **Raymond Chiasson**, Development Officer of the Udm—Shippagan's alumni association. (Courtesy of *Bulletin*, #114, Dec. 2006.) 





- Paper Presentations
- Keynote Speakers
- Workshops
- Networking Opportunities
- Trade Show
- AGM
- Companions Program
- Technical Tours

CANADIAN DAM ASSOCIATION 2007 Annual Conference

“A Climate of Change”

September 22-27, 2007

**Delta Hotel
St. John's, NL**

The annual conference is *the* signature event for CDA and typically attracts over 200 dam industry professionals, representing utilities, mining companies, consultants, government officials and service companies.

Join us in St. John's as we address a wide range of evolving issues related to Design, Management and Safe Operation of Dams.

For program and registration details, visit
www.cda.ca

APEGNB GRADUATE SCHOLARSHIPS AVAILABLE DEADLINE FOR SUBMISSIONS: JUNE 30, 2007

ADVANCED STUDIES SCHOLARSHIP - \$5,000 in total for post-graduate studies: \$2,000 for Masters and \$3,000 for Doctorate. Awarded annually to a member or member-in-training in good standing with APEGNB who is in full or part-time (for the equivalent of one academic year) studies in engineering or geoscience.	\$3,000
	\$2,000
OTTIS I. LOGUE GRADUATE SCHOLARSHIP - \$4,000 awarded annually to an engineering graduate from the University of New Brunswick or Université de Moncton who has been accepted into a post-graduate program at either university.	\$4,000

For more information, please contact rachael@apegnb.com

LES BOURSES D'ÉTUDES SUPÉRIEURES - 5 000 \$ au total pour des études de deuxième et troisième cycle : 2 000 \$ pour la maîtrise et 3 000 \$ pour le doctorat. Attribuées chaque année à un membre ou membre stagiaire en règle de l'AIGNB qui poursuit à temps plein ou à temps partiel (pendant l'équivalent d'une année universitaire) des études en génie ou en sciences de la terre.	3 000 \$
	2 000 \$
LA BOURSE COMMÉMORATIVE OTTIS I. LOGUE - 4 000 \$ est remis à une personne diplômée en génie de l'Université du Nouveau-Brunswick ou de l'Université de Moncton et qui a été admise à un programme d'études supérieures en génie à l'une ou l'autre de ces universités.	4 000 \$

Pour tous renseignements, veuillez communiquer avec nous à rachael@apegnb.com



GERMANY LEADS THE WAY IN RENEWABLE ENERGY

Submitted by Robert J. Allore, P.Eng

E

very \$1 increase in the price of a barrel of oil costs German industry \$1.4 billion.

This high cost of energy, coupled with the European Union's ambitious renewable energy targets, has led Germany to develop and implement aggressive and widespread changes in energy management practices.

A number of policy instruments have been adopted to reach these targets, including eco-tax reform, energy-efficiency improvements in buildings, promotion of co-generation and renewable energy, fuel switching and voluntary agreements with industry. Germany's programs provide for fixed prices for renewable energy sources with fees paid lowered over time. Most importantly, market incentives and subsidies of \$284 million are provided annually. Tax exemptions for biofuels are also given. These policies have resulted in the emergence of wind and solar power markets and the ability to compete with fossil fuel suppliers.

Engineers, architects, planners and retailers from 44 countries were in Munich to check out the latest energy-efficient building, modernization and renovation products and services.

It's little wonder that Germany has established itself as a world leader in renewable energy production with its citizens firmly behind the country's ambitious national energy agenda.

To learn more about Germany's energy landscape first-hand, APEGNB member, **Robert (Bob) Allore**, P.Eng., participated in a January technology transfer mission organized by the National Research Council of Canada.

In January, Bob was one of more than 209,000 visitors to BAU 2007 in Munich—the world's biggest trade fair for building

materials. Engineers, architects, planners and retailers from 44 countries were on-site to check out the latest energy-efficient building, modernization and renovation products and services.

While in Germany, Bob also had the opportunity to tour several world-class industry and commercial buildings.

He reports back with the following highlights from his trip:

Industry and Commercial Building Visits

Schmack Biogas AG
Bio/Methane Gas Plant—Pliening, Germany
www.schmack-biogas.com



German agriculture has a surplus of vegetable crops, in particular corn. Farmers in the region grow and harvest raw feedstock corn and deliver it to the biogas plant where it is



processed in horizontal and vertical fermenters. The resulting biogas is cleaned to gas grid specifications and entered into the natural gas national grid. A cogeneration unit produces heat and power for the plant. Farmers use the fermentation residue as fertilizer.

The plant processes approximately 30,000 metric tons of corn silage annually. Farmers are paid 25 / tonne. One kilogram of corn silage yields 600 – 700 litres of biogas. The annual net energy production for the plant is approximately 2500 KW. A typical plant



Cogeneration unit

costs approximately 3000 / KW. Biogas producers are paid 0.17 – 0.18 / KW, and users from the grid pay 0.15 / KW. Depending on the time of year, two to three people operate the plant.

Siemens AG
Electrical Power Generation & Fuel Cell Technology – Munich
www.siemens.com



Founded in 1847, Siemens AG has evolved from electrical engineering and power generation to today's active fields—microelectronics, automation and control, power generation, information and communications, lighting, medical solutions, and transportation systems. Siemens, the sixth largest electrical company in the world, holds more than 62,000 world patents, and employs approximately 400,000 people. A presentation and tour

at the Siemens Museum provided insight into the historical development of the company.

Dr. Joachim Hoffman provided a presentation on the current state of Siemens fuel cell R & D. The company has been conducting on-going research on fuel cells for 40 years with a focus on solid oxide fuel cells. Discussions were held regarding the technology, costs, applications and future prospects. The universal challenge is the cost of fuel cell energy. The current target price for production model fuel cells is in the order of \$400 Can. / KW. Siemens has prototypes of stationary fuel cell power plants operating unattended with minimal maintenance and high reliability. They view fuel cells as a significant component in decentralized power production.

A copy of Dr. Hoffman's presentation in pdf format (4.5 MB) is available by e-mail to those with further interest.
(allore@nb.sympatico.ca)

Allianz Arena – Munich
www.allianz-arena.de



The Allianz Arena is an architecturally unique sport / soccer stadium. A three-tier seating arrangement is configured to allow each of the 69,900 spectators an unimpeded view at distances from the playing field of eight to 70 metres. The concrete and steel-framed structure is covered with 2,874 non-load bearing air-filled foil cushions, the largest membrane cover in the world. The cushions are inflated and held in shape by air pressure and approximately 1000 are illuminated in white, red or blue (depending on the colours of the playing team), for a total lit area of 25,500 m². The Allianz Arena logo is also the largest LED display in Europe.

The 38,000 m² roof is a 50-metre high free-floating construction. The roof panels have a transparent inner surface. In addition, the facility houses the largest multi-story car-park in Europe (11,000 cars and 350 buses) as well as noteworthy disability access.

Truma GmbH – Putzbrunn, Germany
www.truma.com

Goldbeck Solar GmbH – Hirschberg, Germany
www.goldbeck.de



Truma manufactures heating and refrigeration products. Goldbeck Solar provides turnkey construction and maintenance of photovoltaic (PV) solar systems. As an investment, Truma has installed rooftop photovoltaic panels generating 3.5 MW of electrical power that is fed into the national grid. This is sufficient to supply approximately 45 homes. Truma collects the government subsidy of 0.49 / KWH. The cost of buying power from the grid is 0.15 / KWH. The PV system provides approximately 50,000 / yr income for Truma. Capital cost for the installed PV system is 400,000. In addition, Truma has a building-integrated PV system in the main atrium skylight.

BAU 2007 – Munich
January 15-20, 2007



On display at BAU 2007 were numerous high-quality and high-tech construction and environmental



products and services, providing a unique insight into the types of products and services being featured not only in Europe but also worldwide.

In comparison with a similar mission in 2003, BAU 2007 identified a number of building technology trends including:

- **Wireless** – Remote wireless controls are common for a wide variety of uses.
- **Speed** – The rate at which garage doors, etc. open and close when activated by remote controls has increased to an almost instantaneous response.
- **Fibre Optics** – Lighting in laminated flat glass used in doors, windows, counters, glass fence panels, etc.



Glass-lifting equipment exhibited at BAU 2007

- **Photovoltaic** – Although not new, PV technology is becoming more common and more advanced.

For more information on the technology trade mission to Germany, contact:

Robert J. Allore, P. Eng.
Allore Technical Services
112 Leinster Street, Suite 100
Saint John, NB
Canada
E2L 2G7

Tel: 506 642-3886
allore@nb.sympatico.ca



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Herb Walsh, P.Eng.
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Brent Smith, P.Eng. (May 2007)

CCPG Director

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Construction Association

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NORTHERN NEW BRUNSWICK GETS UNIQUE FLY ASH PROCESSING PLANT

The NB Power Belledune Generating Station, the first in Canada to be equipped with a “scrubber for eliminating sulphur dioxide, is where another unique, yet environmentally friendly process is now taking place—one which removes the carbon from fly ash, a by-product resulting from coal-burning, and creates ProAsh® which is then marketed to the concrete industry.

Separation Technologies, a business of Titan Cement headquartered in Athens, Greece, is NB Power’s onsite partner for this venture. The company processes and markets processed and unprocessed fly ash in the eastern and southeastern United States and the United Kingdom.

Separation Technologies’ new fly ash processing plant in Belledune was constructed by Miramichi’s Sunny Corner Enterprises Inc. and completed in March 2005. Work included construction of the processing plant, a 185’ slip form constructed concrete silo, and a high carbon silo.



Separation Technologies’ new fly ash processing plant in Belledune was constructed by Miramichi’s Sunny Corner Enterprises Inc.



Without any added chemicals or emissions, the Separation Technologies process removes the carbon from fly ash and creates ProAsh® which is marketed to the concrete industry.



Official Opening Ceremony of the Separations Technologies fly ash processing plant at the NB Power Belledune Generating Station. (L to R) Roland Haché, MLA for Nigadoo-Chaleur and NB Minister of Environment; Brian Kenny, MLA for Bathurst; Nick Duivenvoorden, Mayor of Belledune; David H. Hay, NB Power president and chief executive officer; J. Patrick Borders, Separation Technologies LLC president; and Darrell Bishop, P. Eng., vice-president, NB Power Generation.



David H. Hay, NB Power president and chief executive officer, touring the facility with guests and Separation Technologies officials.



Ready mix producers appreciate the reliability and consistency of ProAsh® and that it produces a cost-effective mix with superior handling and strength. They also prefer it over cement because by replacing the cement in their mix, they not only save money; they help reduce CO2 emissions created in the production of cement, making their product an environmentally friendly construction material.

Separation Technologies has teamed with Pinnacle Agencies Ltd. of Nova Scotia to actively market ProAsh® to concrete manufacturers in the Atlantic provinces and Quebec.

Meanwhile, NB Power has secured a technology that is proven, efficient and clean. It also helps to reduce the utility’s dependency on landfill in the Belledune area by up to 75 percent, which is great environmental news for the Village of Belledune. 

Ready mix producers appreciate the reliability and consistency of ProAsh® and that it produces a cost-effective mix with superior handling and strength.

REGISTRATION SUMMARY

OCTOBER & DECEMBER, 2006 / JANUARY & FEBRUARY, 2007

Registrations

ALEXANDER, Matthew, P.Geo.
ARSENEAU, Jonathan, ing.
BABIN, Julien, P.Eng.
BISHOP, Jennifer, P.Eng.
BISNATH, Sunil, P.Eng.
BOYER, Michelle, P.Eng.
BRAGDON, Fiona, P.Eng.
BUCKLE, Kenneth, P.Eng.
CAIN, Jeremy, P.Eng.
CHIASSON, Anick, ing.
CHRISTIAN, Scott J., P.Eng.
COOKE, Brian, P.Eng.
CUMMINGS, Melissa, P.Eng.
DAIGLE, Pierre, P.Eng.
DALY, Craig, P.Eng.
DICAIRE, Mark, P.Eng.
GOGUEN, Marc-André, P.Eng.
HAINES, Christopher, P.Eng.
HAMILTON, Gary, P.Eng.
HAN, Jianguo, P.Eng.
HAQUE, Sajjadul, P.Eng.
HARGROVE, Zakary, P.Eng.
HILLS, Eve, P.Eng.
HODDER, Marc, P.Geo.
HUSSEY, Jeffrey, P.Eng.
JIANG, Jiansheng, P.Eng.
KALABA, Ljubi_a, P.Eng.
KELLOCK, Jason, P.Eng.
KILLAM, Jason, P.Eng.
LANDRY, Normand, P.Eng.
LEVER, Michael, P.Eng.
LI, Xiangning, P.Eng.
MacKENZIE, John, P.Eng.
MAILLET, Maurice, ing.
MOREAU, Brian, P.Eng.
MORIN, David, P.Eng.
PANCHMATIA, Lise, P.Eng.
PARSONS, David, P.Eng.
PATTERSON, Rebecca, P.Eng.
PAYNE, Darryll, P.Eng.
PIERS, Brandy, P.Eng.
PILGRIM, Lynn, P.Geo.
PLOURDE, Stéphane, P.Eng.
RICHARD, Conrad, P.Eng.
RICHARD, Dominic, P.Eng.
ROWE, Mark, P.Eng.
SANABRIA, Aldemar, P.Eng.
SANGSTER, Robert, P.Eng.
SATIR, Salim, P.Eng.
SAVOIE, Rodrigue, P.Eng.
WANG, Bin, P.Eng.
WEBB, Gary, P.Eng.
YIN, Bo, P.Eng.
ZHANG, Yun, P.Eng.
ZHENG, Ying, P.Eng.

Transfers-in

ALLARD, Frédéric, ing.
BUDWILL, Sven, P.Eng.
EDWARDS, Wayne, P.Eng.
FEARN, Daniel, P.Eng.
FLETCHER, Jay, P.Eng.
GARINTHER, Scott, P.Eng.
HARRISSON, Richard, ing.
HOSSAIN, Zahid, P.Eng.
KILFOIL, Stephanie, P.Eng.
LYONS, Jeffrey, P.Eng.
MacASKILL, Devin, P.Eng.
MacNAUGHTON, Alan, P.Eng.
McGRATH, Justin, P.Eng.

MOIR, James, P.Eng.
MOREHOUSE, Donald, P.Eng.
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THOMAS, Richard, P.Eng.
TKALUC, Peter, P.Eng.
WHITE, Corey, P.Eng.
ZHONG, Ming, P.Eng.

Members-in-Training

ARNOLD, Aaron, MIT
BAFUMBA-LOKILO, David, MS
BAKER, Michael, MIT
BARRETT, Jeffrey, MIT
BEAULIEU, Natalie, MIT
BECKWITH, Matthew, MIT
BENNOUNE, Mouloud, MS
BENTEAU, Shawn, MIT
BLADES, David, MIT
BOUCHER, Sylvain, MS
BOUZANNE, Paul, MIT
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BUDD, Mark, MIT
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CERETTI, Dustin, MIT
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GORMAN, Robert, MIT
HACHEY, Rodney, MIT
HARTFORD, Douglas, MIT
HOADLEY, Robert, MIT
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JEANS, Tiger, MIT
KEATING, Mathieu, MIT
KILFOIL, Timothy, MIT
MA, Nadia, MIT
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McLAGGAN, Steven, MIT
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MEAGHER, Colleen, MIT
MUNRO, Nicholas, MIT
OLEKSIUK, Kathleen, MIT
PAULIN, Denis, MS
PIERCE, Jacob, MIT
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RICHARD, Marcel, MIT
ROST, Alexander, MIT
SANGSTER, Angela, MIT
SAVOIE, Guillaume, MIT
TOULANY, Johnny, MIT
TREMBLAY, Emilie, MIT
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VAUTOUR, Janelle, MIT
VENKATASAMY, Charona, MIT
VERBOOM, Adrian, MIT

Licences

ABBOTT, Michael, P.Eng.
AGARWAL, Vijay, P.Eng.
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ALJ, Adil, ing.
AL-JANABI, Talib, P.Eng.
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BOUTILIER, Fabian, ing.
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CHEUNG, Kit, P.Eng.
CODERRE, Yannick, ing.
COOKE, John, P.Eng.
CREVIER, Alain, ing.
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DE SILVA, Milton, P.Eng.
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JOSEPH, Martin, ing.
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LAVALLÉE, Claude, ing.
LeBLANC, Daniel, ing.
LEHMAN, David, P.Eng.
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O'BRIEN, Gregory, P.Eng.
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PHILLIPS, Kelly, P.Eng.
RAJENDRAM, Steve, P.Eng.
RAMLA, Wael, P.Eng.
RAUT, Radu-Francois, ing.
RYBAROVA, Monika, ing.
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SIMARD, Martial, ing.
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SMITH, Donald, P.Eng.
SNIEC, Erik, P.Eng.
SOLORZANO, Arlington, P.Eng.
SPEKKENS, William, P.Eng.
SUDARSANA, Rengan, P.Eng.
TUCKER, William, P.Eng.
VENNERI, Frank, P.Eng.
VINNAI, John, P.Eng.
WARREN, Larry, P.Eng.
WOOD, Michael, P.Eng.
WU, Philip, P.Eng.
YAO, Chih, P.Eng.

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ELITE ENGINEERING SOLUTIONS,
Fredericton, NB
ROCHE CONSTRUCTION INC.,
Campbellton, NB

Certificates of Authorization – Non Resident

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ACUTEL CONSEIL INC., Pôhénégamook, QC
A-D ENGINEERING GROUP LTD.,
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AEGIS Metal Framing, LLC, Chesterfield, MO
BLONDIN FORTIN INC., Laval, QC
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EMCAD Consulting Engineers (1995) Inc.,
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JOHN G. COOKE & ASSOCIATES LTD.,
Ottawa, ON
JOHN MEUNIER INC., St-Laurent QC
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SYSTÈMES iCRANE INC., Laval, QC
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WHITNEY - BAILEY ASSOCIATES INC.,
Woodbridge, ON

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ROY, Roland, P.Eng.

Resigned

BAKER, Rebecca
BEST, Maurice
DING, Kangfa,
JACKSON, Nicole
McLELLAND, James
MURRAY, Ritchie

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ALBERT, Jean
CHRISTIAN, Neil
COMEAU, Marc André
DUMONT, Pierre
FURLONG, Dennis
GIONET, Robert
JOYCE, David
LOOMER, Diana
MacLELLAN-BONNELL, Alana
MUNRO, Ian
QIAO, Michael
WONG, Tony
YIN, Bo

Deceased

BURRY, Claude
HALLETT, Donald
SAVOIE, Raymond
WHALEY, Kenneth

APEGNB HOSTS SECOND SUCCESSFUL MLA RECEPTION!



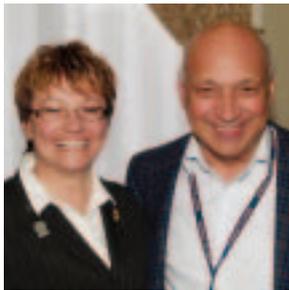
On March 28, APEGNB Council hosted its second annual MLA reception at the Crowne Plaza Lord Beaverbrook Hotel in downtown Fredericton.



President **David Crandall**, P.Eng., welcomed the 64 guests which included Premier **Shawn Graham**, 15 Cabinet Ministers, 21 MLA's and four deputy ministers. Among the topics for discussion were the government's Self-Sufficiency Task Force report, improved mobility for APEGNB's members and limitation of liability.

"We wanted to let our government know that New Brunswick's engineers and geoscientists play an important role in putting the province on the path to self-sufficiency," said Crandall. "Judging by the excellent turnout, I feel confident that our elected officials appreciate the contributions of our members and understand the issues facing our professions."

Past president **Iris Auclair-Bernard**, P.Eng., meets her mentor, **Eloi Duguay**, P.Eng., deputy minister of Business New Brunswick.



APEGNB president, **David Crandall**, P.Eng., and Premier **Shawn Graham**.



(L to R): CCGP Director **Bruce Broster**, P.Geo.; APEGNB vice-president, **Tanya Horgan**, P.Eng.; APEGNB Saint John Councillor, **Holly Young**, P.Eng.; Premier **Shawn Graham**.



Holly Young, P.Eng., (Saint John Councillor for APEGNB) and Premier **Shawn Graham**.



APEGNB vice-president, **Tanya Horgan**, P.Eng. and Premier **Shawn Graham**.



(L to R): CENB executive director, **John Fudge**, P.Eng.; Petitcodiac MLA **Wally Stiles**; Moncton West MLA **Joan MacAlpine-Stiles**

(L to R): Supply and Services Minister **Roly MacIntyre** and APEGNB Northeastern Councillor **Ray Ritchie**, P.Eng.



(L to R): Business New Brunswick Minister **Greg Byrne**; **Brent Smith**, P.Eng.; and APEGNB's executive director, **Andrew McLeod**.



APEGNB's Saint John Councillor, **Trevor Gamblin**, P.Eng., and Premier **Shawn Graham**.

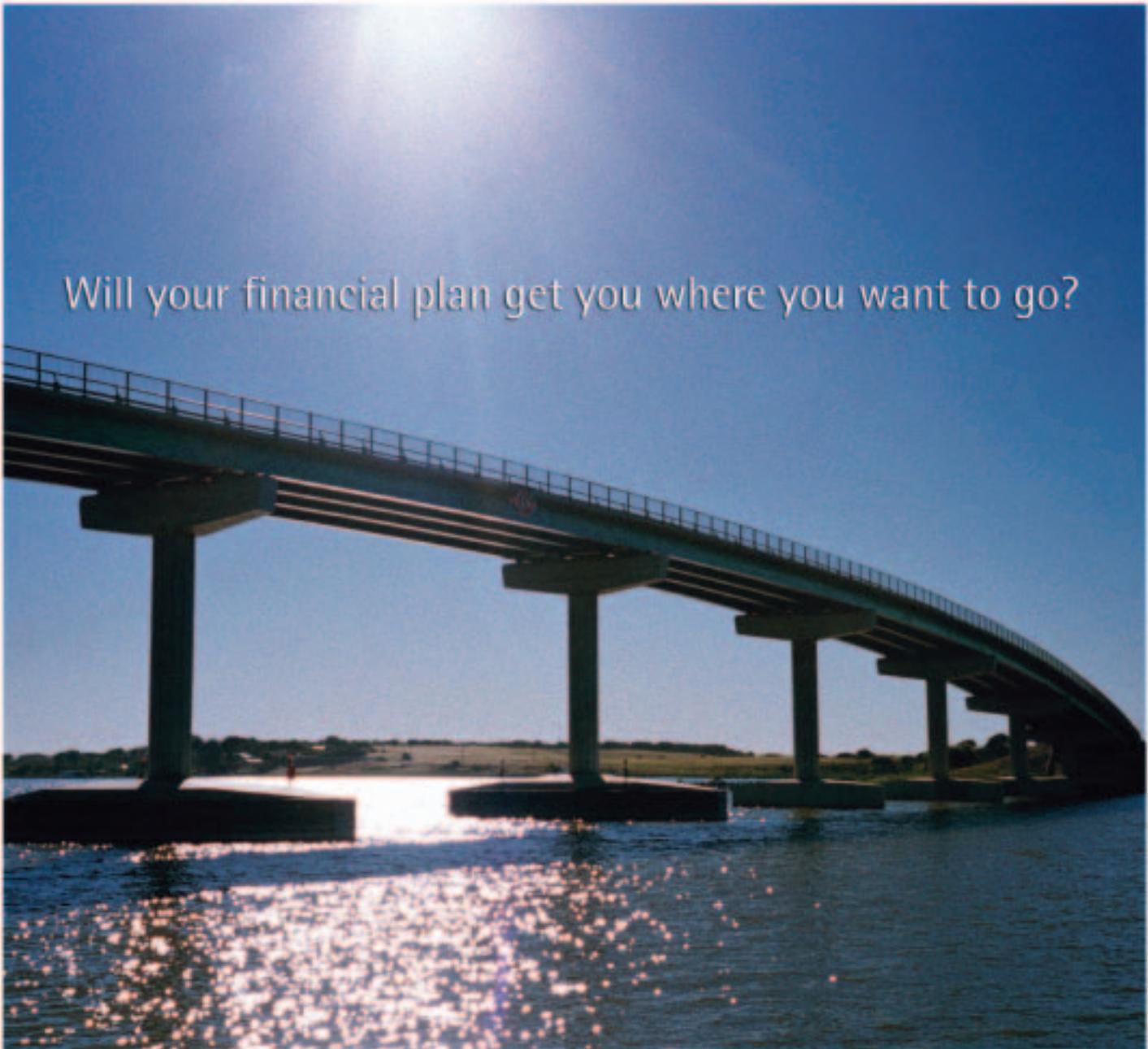


(L to R): Premier **Shawn Graham**; **Raphaël Roy**, P.Eng., APEGNB Northeastern Councillor; Environment Minister **Roland Haché**; and **Georges Roy**, P.Eng., APEGNB Northwestern Councillor.



(L to R): MLA for Bathurst, **Brian Kenny** and **John Gallant**, P.Eng., APEGNB Moncton Councillor.





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