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La source d'information en ingénierie et géoscience du Nouveau-Brunswick

Why do some engineers risk it all to improve the quality of life at home and abroad? Find out on ***page 30****.*

Engineering in the *Danger Zone*

APEGNB member Craig Wood, MIT, spends his days working on some of the world's most expensive and powerful vehicles. Read more about his dream job on ***page 15****.*

Dream Job: Performance Vehicle Engineering

On April 5, APEGNB Council hosted New Brunswick's MLAs at an afternoon reception. See who attended on ***page 2****.*

APEGNB Hosts First-Ever MLA Reception

Association of Professional Engineers and Geoscientists of New Brunswick
Association des ingénieurs et géoscientifiques du Nouveau-Brunswick

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APEGNB Hosts First-Ever MLA Reception

On April 5, 2006, members of APEGNB Council hosted an afternoon government reception at the Lord Beaverbrook Hotel in Fredericton to better acquaint New Brunswick's decision makers with some of the issues impacting our professions.

APEGNB president, **Iris Auclair-Bernard**, P.Eng., welcomed the MLA's and their guests and spoke briefly about the history of the Association, highlighted the contributions of its members and emphasized the importance of mobility.

APEGNB executive director and organizer of the event, **Andrew McLeod**, was pleased with the turnout and the enthusiastic exchange of ideas. "We wanted to let our MLAs know that New Brunswick's engineers and geoscientists are passionate about progress and focused on creating the innovation and technology to secure New Brunswick's economic future. Judging by this year's attendance, we expect the MLA reception to become an annual event."

*APEGNB president, **Iris Auclair-Bernard**, P.Eng., with the leader of the Official Opposition, **Shawn Graham**, MLA for Kent.*

*L to R: **Andrew McLeod**, APEGNB Executive Director; **Brian Kenny**, MLA for Bathurst; **Milt Sherwood**, MLA for Grand Bay-Westfield.*

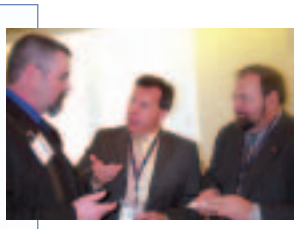
Actual text of message as read in the NB Legislative Assembly on April 6, 2006:

"I would like to recognize and congratulate the Association of Professional Engineers and Geoscientists of New Brunswick, which was incorporated in 1920. Yesterday, it had a meet and greet for all the MLAs to bring awareness to the association, which represents over 4 000 professional engineers and geoscientists in the province. This is the largest group of professionals in New Brunswick, and it is a forward-thinking group that definitely makes a difference in our province on a daily basis. These are the people who make sure that things we take for granted, such as bridges and buildings or the protection of our environment, meet the highest safety standards (while) using the utmost ethical conduct. From all of us here in the Legislature, thank you for the invitation to meet your association, and congratulations for the many years of success with continuing to improve and protect the lives in New Brunswick as well as building a more prosperous and safer province."

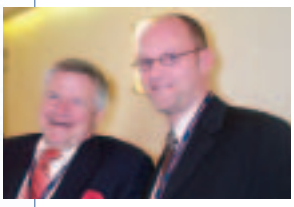
*–**Brian Kenny**, MLA for Bathurst*

CONGRATULATORY MESSAGE
HANSARD EXCERPT
NEW BRUNSWICK LEGISLATIVE ASSEMBLY

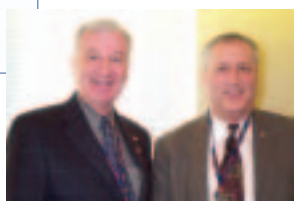
*(Left) Speaker of the Legislative Assembly, **Michael Malley** and MLA for Miramichi-Bay du Vin enjoys his chat with **John Gallant**, P.Eng., APEGNB provincial councillor for Moncton.*



*(L to R): New Brunswick's CCPE Director, **J. Allan Giberson**, P.Eng.; **Rick Doucet** (MLA, Charlotte); and **Denis Landry** (MLA, Centre Péninsule)*



*(L to R): **Dr. Ed Doherty**, MLA for Saint John Harbour; and **Darryl Ford**, P.Eng., president of CENB.*



*APEGNB Lay Councillor **Phil Booker** (left) and **Cy LeBlanc**, MLA for Dieppe-Memramcook.*

*(L to R): **Tony Huntjens**, MLA, Western Charlotte; **Jane McGinn**, P.Eng., Fredericton provincial council-lor for APEGNB; Deputy Premier , MLA for Carleton. Graham is also Minister of the Office of Human Resources and Minister responsible for Service New Brunswick.*

***Darryl Ford**, P.Eng., (left) president of the Consulting Engineers of New Brunswick (CENB) and **Brent Smith**, P.Eng., past president of APEGNB.*

*New Brunswick's CCPG Director **Bruce Broster**, P.Geo., and the Hon. **Joan MacAlpine-Stiles**.*

MacAlpine Stiles is MLA for Moncton South as well as Minister of NB Tourism and Parks and the Minister responsible for the Status of Women.

*(Left) Government House Leader, **Bev Harrison**, MLA for Hampton Belleisle and Minister of NB Supply and Services and **Stephenson Wheatley**, P.Eng., deputy minister of Supply and Services.*

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CENB Elects New President

The Consulting Engineers of New Brunswick (CENB) are pleased to announce that ***Patrick J. Chouinard****, P.Eng., will serve as president for the 2006-2007 year.*

Chouinard is a civil engineering graduate of the University of New Brunswick and is a registered professional engineer in New Brunswick, Nova Scotia, Quebec, Ontario, and the states of Maine and Michigan. He has more than 25 years of experience in the field of engineering and construction in the transportation infrastructure field. Chouinard is currently employed at Neill and Gunter Limited where he holds the position of manager—transportation sector.

CENB was founded in 1982 and currently has more than 30 member firms representing more the 700 employees throughout New Brunswick.

Chouinard invites all practicing consulting engineering firms in New Brunswick to join CENB so that their concerns can be heard on the provincial and national level. By joining CENB, companies obtain membership in both CENB and the Association of Consulting Engineers of Canada (ACEC), the national body. To learn more about CENB and its membership, check out their website: www.cenb.nb.ca.

PRESIDENT'S MESSAGE

Iris Auclair-Bernard, P. Eng.

Bonjour from northern New Brunswick!

My time serving as your President since February has been wonderful. Along with our dynamic Council, and with the help and support of our many committees of volunteers, we have been able to continue our work on key issues and initiatives such as limitation of liability, limited licensure, mobility and government relations.

Our **first-ever reception hosted for our provincial government representatives** on April 5 was a great success. Attendance surpassed our expectations. It was very rewarding to be able to meet our MLAs and present the Association's issues of concern. Everyone appreciated the opportunity to mingle and meet the people who guide, influence and make decisions that impact our professions. The following afternoon, **Brian Kenny**, MLA for Bathurst, issued a congratulatory message in the legislative assembly. *(For the complete text of the message and photos of the event, see the inside front cover.)*

This type of government relations activity plays an integral part in our efforts to improve the image and increase the awareness of our professions and contributions within New Brunswick.

With respect to **limited licensure**, our joint task force with NBSCETT (New Brunswick Society of Certified Engineering Technicians and Technologists) continues to work at establishing a model best suited to New Brunswick using criteria gathered by the Canadian Council of Professional Engineers (CCPE).

The issue of **limitation of liability** seems to require more patience. Recent changes in the political landscape has made it difficult to determine where the government stands on making an amendment to its Act. A consortium formed by APEGNB and other stakeholders worked together to present its concerns to government representatives in June. We hope to have positive results as the Association moves forward with this issue.

Mobility: To be or not to be! I am proud to announce that our friends from the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEG-NL), have decided "to be" and have added their names to Canada's inter-provincial mobility agreement at the CCPE Annual Meeting in Whitehorse. Unfortunately, our Alberta friends from APEGGA have decided not to sign at this time. Of course, we respect their decision but hope that, eventually, their reservations can be overcome.

I am happy to report that I served as guest speaker at two milestone events at the Université de Moncton: **the engineering faculty's year-end banquet** and the **Iron Ring Ceremony**. I was especially honoured to speak at the year-end banquet as the last APEGNB president to do so was **Eloi Duguay**, P.Eng.—the Association's first francophone president. I almost hate to admit it, but I was a second-year student at the time, and remember being in awe listening to him speak. It was also a lot of fun to meet the students and feel their energy and enthusiasm. I wish to thank the dean of engineering, **Paul Chiasson**, P.Eng., as well as the professors and students for their warm welcome and hospitality. Merci!

I would also like to report that our relationships with other regulatory bodies across Canada is strengthening. **APEGGA's annual general meeting** theme in April was "Bridging Borders". Our executive director **Andrew McLeod**, and I had the opportunity to attend a Canada/ USA mobility forum. Eleven of the 12 Canadian associations/ordre were in attendance. To be able to network with our sister associations/ordre and to sit at the table with our neighbours who encounter greater challenges in forging a bond with the 55 State and Territorial Boards responsible for licensing engineering in the United States was a memorable learning experience.

It makes one realize that as professional geoscientists and engineers, we have so many things in common despite the borders that separate us. Our responsibility to protect the public, and our role to make the world a better place for all those who live in it, unites us in a very special way. As long as each regulatory body understands and respects each other's unique challenges, we can always achieve a happy medium. I think that expression was invented because when people reach it, most are happy. After all, variety is the spice of life!

Have a great summer, enjoy your branch events and stay safe.

CCPE Annual Meeting June 2-3, 2006 Whitehorse, Yukon

*(L to R): **Bob Lorimer**, P.Eng., (CCPE director APEY); Iris Auclair-Bernard, P.Eng.; **Cord Hamilton**, P.Eng., President APEY.*

*L to R: **Andrew McLeod**, APEGNB executive director and **Grant Koropatnick**, P.Eng., executive director for APEGM.*

*CCPE President **Ken McMartin**, P.Eng., and **Iris Auclair-Bernard**, P.Eng.*

*(Left) Canadian Astronaut **Dr. Marc Garneau**, P.Eng., meets one of his younger fans (and son of APEGNB president Iris Auclair-Bernard), **Hervé**.*

Club Eureka Receives Support from APEGNB's Outreach Program.

Iris Auclair-Bernard, P.Eng., presents Dr. Anne Marie Laroche, P.Eng., of the Université de Moncton with a $2000 cheque from APEGNB's Outreach Program. The money will be used to assist with the operational expenses of Club Eureka.

Similar to UNB's Quest 4 Club, Club Eureka is managed by the Faculté d'ingénierie of the Université de Moncton. It was established to promote math and science literacy to girls in Grades 3 to 6. Approximately 250 girls from eight schools in the Greater Moncton and Shediac region have signed up.

Iris Auclair-Bernard, ing.

Salutations du Nord du Nouveau-Brunswick!

Mon temps passé à la présidence, depuis février, a été épatant. Grâce au dynamisme des membres de notre conseil ainsi qu'à l'aide et au soutien de nombreux comités et bénévoles, nous avons pu poursuivre le travail autour des grandes questions et des principaux projets, entre autres la limitation de la responsabilité, le permis d'exercice à portée restreinte, la mobilité, et les relations gouvernementales.

*Notre toute **première réception à l'intention des représentants du gouvernement provincial**, le 5 avril, a connu un vif succès. La participation a surpassé nos attentes. Ce fut très enrichissant de rencontrer ainsi nos députés à l'Assemblée législative et de leur exposer nos préoccupations. Tous ont apprécié cette occasion d'échanges et de rencontres avec ceux et celles qui orientent, influencent et prennent les décisions ayant des incidences sur nos professions. Le lendemain après-midi, le député de Bathurst, **Brian Kenny**, a livré un message de félicitations à notre intention, à l'Assemblée législative.* (Voir à la page 2 le texte du message complet et les photos de l'activité.)

Une telle activité de relations gouvernementales appuie de façon intégrale nos efforts visant à améliorer l'image et la notoriété de nos professions, et à mieux faire connaître nos contributions au Nouveau-Brunswick.

*Relativement au **permis d'exercice à portée restreinte**, notre groupe de travail conjoint avec la STTAGNB (Société des techniciens et des technologues agréés du génie du Nouveau-Brunswick) poursuit son mandat d'établir le modèle qui convient le mieux au Nouveau-Brunswick, à l'aide de critères formulés par le Conseil canadien des ingénieurs (CCI).*

*Il appert que le dossier de la **limitation de la responsabilité** exigera davantage de patience. Les changements récents dans le paysage politique rendent plus difficile l'évaluation de la position du gouvernement quant à une modification de la loi. Dans un regroupement formé par l'AIGNB et d'autres parties intéressées, nous avons uni nos voix et fait connaître nos préoccupations aux représentants du gouvernement en juin. Nous souhaitons un aboutissement positif dans la foulée des efforts que déploie l'Association à ce chapitre.*

***Mobilité : Être ou ne pas être!** Je suis fière d'annoncer que nos amis de la Professional Engineers and Geoscientists of Newfoundland and Labrador (PEG-NL) ont décidé « d'être » et ont paraphé l'Entente sur la mobilité des ingénieurs à l'intérieur du Canada, au cours de l'assemblée annuelle du CCI à Whitehorse, à la fin mai. Malheureusement, nos amis de l'Alberta membres de l'APEGGA ont choisi, à ce stade-ci, ne pas signer l'accord. Nous respectons bien sûr leur décision, tout en espérant que plus tard, ils passeront outre leurs réserves.*

*Je suis ravie d'annoncer ma participation récente, à titre de conférencière invitée, à deux activités clés de l'Université de Moncton : le **banquet de fin d'année de la Faculté d'ingénierie** et la **Cérémonie de l'anneau de fer**. J'ai eu en effet l'honneur de prendre la parole au banquet de fin d'année où le dernier président de l'AIGNB à avoir en faire autant était **Éloi Duguay**, ing., premier président francophone de l'Association. J'ai presque honte de l'admettre, mais j'étais alors étudiante de deuxième année, et je me souviens que j'étais très admirative durant son allocution. J'ai aussi eu beaucoup de plaisir à rencontrer les étudiants, à ressentir leur énergie et leur enthousiasme. Je remercie le doyen de la faculté, **Paul Chiasson**, ing., ainsi que les professeurs et les étudiants pour l'accueil chaleureux et leur hospitalité. Bravo!*

*Par ailleurs, je vous informe que nos relations avec les organismes de réglementation partout au Canada se consolident. Le thème de l'**AGA de l'APEGGA**, tenue en avril, était « Bridging Borders » (Jeter des ponts au-dessus des frontières). En compagnie de notre directeur exécutif, **Andrew McLeod**, j'ai pu assister à un forum Canada–État-Unis sur la mobilité. Onze des douze associations ou ordre du Canada étaient représentés. Le seul fait de côtoyer nos homologues canadiens et de pouvoir discuter autour d'une même table avec nos voisins du sud –lesquels font face à de plus grands défis pour souder des alliances entre les 55 conseils d'États et des territoires chargés d'octroyer des permis d'exercice aux États-Unis – fut une expérience d'apprentissage mémorable.*

L'occasion éveille au fait qu'à titre de géoscientifiques et d'ingénieurs, nous avons beaucoup de choses en commun malgré les frontières qui nous séparent. Notre charge de protéger le public, et notre rôle d'améliorer notre milieu, pour tous ceux et celles qui y vivent, nous unissent de façon très spéciale. Pour autant que chaque organisme de réglementation comprenne et respecte les défis très particuliers que doit relever un autre organisme de réglementation, nous pouvons trouver la juste mesure. N'est-ce pas là une expression toute désignée pour nos professions? Et une fois que la juste mesure est atteinte, elle rallie la majorité. La variété met effectivement du piquant à la vie!

Passez un superbe été, profitez des activités de votre section, et demeurez prudents!

Assemblée annuelle du CCI
Les 2 et 3 juin 2006
Whitehorse (Yukon)

*(De gauche à droite) : **Bob Lorimer**, ing., (membre du conseil d'administration du CCI, OIY); **Iris Auclair-Bernard**, ing.; **Cord Hamilton**, ing., président de l'OIY.*

*(De gauche à droite) : **Andrew McLeod**, directeur exécutif de l'AIGNB et **Grant Koropatnick**, ing., directeur exécutif de l'APEGM.*

*Le président du CCI, **Ken McMartin**, ing., et **Iris Auclair-Bernard**, ing.*

*(À gauche) L'astronaute canadien **Marc Garneau**, ing., en compagnie d'**Hervé**, l'un de ses plus jeunes admirateurs (le fils de la présidente de l'AIGNB, Iris Auclair-Bernard).*

Le club Eureka obtient l'appui du Programme de sensibilisation de l'AIGNB

*Iris Auclair-Bernard, ing., remet à **Anne Marie Laroche**, ing., de l'Université de Moncton un chèque de 2000 $ du Progamme de sensibilisation de l'AIGNB. L'argent aidera à couvrir les frais de fonctionnement du club Eureka.*

Semblable au Quest 4 Club de UNB, le club Eureka est administré par la faculté d'ingénierie de l'Université de Moncton. Ce club a été créé pour favoriser les connaissances en mathématiques et en sciences chez les jeunes filles de la 3e à la 6e année. Environ 250 jeunes filles de huit écoles des régions du Grand Moncton et de Shediac se sont inscrites au club.

Fredericton Branch

Trevor Hanson, P.Eng.
Chair

Since the last update in the spring, the Fredericton Branch has been busy. Here's an overview of what's been happening:

March

A joint presentation with the Canadian Society for Civil Engineering (CSCE) titled **"Flooding Issues– from the St. John River to New Orleans"** was held at the Wu Conference Centre. The event was a great success, with approximately 100 people in attendance. The presentations provided valuable insight into the causes of flooding and how climate change is affecting the ability to predict flooding.

The first presentation was given by **Sayed Ismail**, P.Eng., formerly of NB Power. He focused on the cause of flooding in the St. John River Basin and the tools used to forecast the flows and floods along the river. Dr. Ismail was the corporate hydrotechnical specialist where he conducted numerous studies related to the operation of NB Power's hydro system and river management.

The second presentation was given by **Brian Burrell**, P.Eng., formerly with the New Brunswick Department of Environment and now with Hydro-Com Technologies. He discussed the impacts of climate change on future river flows and floods. Brian is a specialist on the effects of climate change on watershed management.

Dr. Katy Haralampides, MIT, of UNB's Civil Engineering department reviewed the flooding that devastated New Orleans in 2005. She presented the results of research she conducted in New Orleans that simulated the possible effects of a hurricane on that area and spoke about the impact of human activities on the flood risk. Dr. Haralampides specializes in eco-hydraulics—a science that combines biology and engineering,

April

The **29th Annual APEGNB-UNB Student Paper Competition** (for undergraduate projects completed in April) was held on April 5 in the ADI multimedia room. Approximately 35 people attended, including presenters, students and professors. The first prize was awarded to **Chris Oyler** from geodesy and geomatics engineering for his presentation *"Reflectorless EDM Beam Characteristics and Measurement of Inside and Outside Corners"*.

Mechanical engineering student **Jennifer Campbell** took second place for her presentation *"Investigation on the Design of an Intelligent Bee Sensing System"*.

Third place was awarded to the remaining five participants:

- **Neil Collins** (software engineering) on behalf of **Jared McCurdy**: *"Making Myoelectric Training Fun"*;
- **Denny Richard** and **Jeremy Bertin** (computer engineering): *"Designing an Environmental Chamber for Testing Electrical Components"*;
- **Blair Fudge** and **Chad Clendenning** (forest engineering): *"Structural Design of a Forest Engineering System"*;
- **Jaclyn Watson** and **Mark Budd** (electrical engineering): *"Indoor Solar/Rechargeable Lighting System"*;
- **Tshening Wangon**, **Laura Bostwick** and **Daniel Winchester** (civil engineering): *"Infrastructure Requirements for UNB Campus Plan"*.

Many thanks to Branch councillor **Michelle DeGarie**, MIT, who was Fredericton Branch liaison on this event. Special thanks to the three judges:

- **Gillian Ash**, MIT (Dillon Consulting),
- **Joe MacDonald**, P.Eng. (NBDOT)
- **Josie Seely**, P.Eng. (UNB) as well as,

Dr. David Coleman, P.Eng., UNB dean of engineering, **Heather Jones** (dean's office at UNB), and the engineering departments and participants who made this event possible.

May 2006

The first joint event between the Fredericton Branch and the Institute of Public Administration of Canada (IPAC)-Fredericton Regional Group was held on May 10. IPAC is a national organization dedicated to excellence in the public service, and is comprised of public servant volunteers from federal, provincial, municipal, and university organizations. There are many engineers in the public service and this was an excellent opportunity for both outreach groups to work together.

***Michelle DeGarie**, MIT, Fredericton Branch councillor, presents **Chris Oyler** (UNB-GGE) with the Student Paper Award—1st prize*

***Michelle DeGarie**, MIT, presents **Jennifer Campbell** (ME) with the Student Paper Award—2nd prize*

The *IPAC Hour of Power*, an annual IPAC event involving an informal question and answer session with a high-profile public servant or politician, was conducted in an interview format. This year's high-profile public servant was **David Hay**, CEO of NB Power. The interviewer was

***Trevor Hanson**, P.Eng., chair, Fredericton Branch and **David Hay**, CEO of NB Power, at the 2006 "IPAC Hour of Power"*

Dr. Michael C. Ircha, from the UNB Faculty of Engineering. The 50 participants in attendance were treated to an insightful and entertaining view into the life of a CEO, as well as issues facing NB Power. Many thanks to IPAC Fredericton for all its hard work in putting on this great event. For more information on IPAC, *www.ipacfredericton.ca*

Community Outreach

The Fredericton Branch has also been actively supporting local efforts that promote interest in engineering and

science. The first contribution was to Science East, the Fredericton-based organization that uses innovative, interactive science exhibits to demonstrate basic science concepts, encourage curiosity and foster interest and understanding of science among people of all ages.

The second contribution was made to Worlds UNBound, the UNB-based program that offers engineering and science summer camps. The Branch's donation is being used to support a bursary program for several underprivileged youth to attend the summer camps.

In Carleton County, the western part of the Fredericton Branch's regional coverage, two projects received support. The Branch supported the Woodstock High School robots program and made a donation to the Habitat for Humanity project, a non-profit, non-governmental, charitable organization devoted to the construction or renovation of housing for families in need.

Trevor Hanson, P.Eng., (right) presents Worlds UNBound Director, Bridget Fraser, with a cheque for $580 from the Fredericton Branch to help underprivileged children attend the organization's summer science and engineering camps.

Upcoming events

The Fredericton Branch's Spring Golf Tournament was cancelled but plans are also underway for a Lobster and Corn Boil in late August, a Fall Golf tournament in September (brought to you by AMEC), a high-profile educational/technical seminar in October, as well as other social and technical events.

Saint John Branch

Holly Young, P.Eng.–Chair

In April, members from the Saint John Branch took part in the **Atlantic Engineering Hockey Tournament** in Moncton. The SJ Branch won their first game 6 – 0 and the second game 7 – 2, losing on Saturday afternoon to Newfoundland 1 – 2. The team was sponsored in part by the Saint John Branch and Fundy Engineering & Consulting Ltd.

As this report goes to press, a New Brunswick **oil and gas exploration/development technical event** is being planned for June.

June was also the Branch's official kick-off month for summer fun! On June 24th, the M.V. *Voyageur* II set sail from the Saint John marina with Branch members and guests on board for a three-hour **evening dinner cruise**.

Mark your calendar now for Saturday, July 22, 2006! The Saint John Branch is hosting their **annual golf event at Rockwood Park** (first tee off at 10:30 am). The ever-popular Texas Scramble format allows you to meet fellow Branch members and their guests while enjoying a relaxed golf experience and a great barbecue dinner. As more details become available, members will be notified and information/registration details posted on the Branch's web page.

As always, more technical and social events are being planned for the year. Check the new Saint John Branch web page at **www.apegnb.com** to keep updated with events and photos. If you have questions or ideas for upcoming events, please feel free to contact any member of your executive via e-mail (saintjohn@apegnb.com) or by calling the free Branch hotline (1-877-425-5500).

Saint John Branch Hockey Team

*Back row (L to R): **Tom O'Connell**, P.Eng.; **Brad Pope**, MIT; **Brian Moreau**, MIT; **Graham Lawrence**, P.Eng.; **Brent Smith**, P.Eng.; **Eric Gauthier**, MIT; **Robin Rocca**, MIT; **Andrew Melanson**, MIT.*

*Front Row (L to R): **Tim Ryan**, P.Eng.; **Rod Eagles**, P.Eng.; **Jean Albert**, P.Eng.; **Gordon Ross**, P.Eng.; **Darryl Ford**, P.Eng.; **Troy Mortimer**.*

*Front: **Marc Cormier**, P.Eng..*
*Absent from photo was backup goalie, **Jordan MacNeill.***

Moncton Branch

Mark Bellefleur, *MIT, Chair*

I am proud and honoured to present the **Moncton Branch Executive for 2006-2007** who were elected May 15 during our Annual General Meeting:

Chair	Mark Bellefleur, MIT
Past Chair	Eliane Doucet, P.Eng.
Vice Chair	Philippe Losier, P.Eng.
Treasurer	Pierre Plourde, MIT
Secretary	Maryse Doucet, MIT
Professional Development	Dwight Scott, P.Eng.
Social	vacant
Web/Communications	Isabelle Haché, MIT
Provincial Council	John Gallant, P.Eng.
	Larry Dionne, P.Eng.
Branch Councillors	Mike Cormier, P.Eng.
	Serge Doucet, P.Eng.
	Marc Leblanc, P.Eng.
	David Kozak, P.Eng
UdeM Faculty Representative	vacant

If you wish to contact one of us, our e-mail address and phone number are listed on the APEGNB web page.

I would like to thank **Eliane Doucet**, P.Eng., and the rest of the 2005-2006 executive for all the time and effort they donated to the success of the Moncton Branch.

At our Annual General Meeting, 16 members signed the attendance log. The meeting was held at Boomerang's Steak House with a meet and greet before the meeting followed by a meal.

On June 9, we held our **Annual Lobster Supper** at the brand new Fox Creek Golf Club. Attendance maxed out at 104 people with everyone reporting they had a great time. We are looking forward to next year's supper where we hope to have repeat attendance numbers at this popular event.

The Branch is currently working on upcoming events for this term. **Philippe Losier**, P.Eng. has already organized a **golf tournament** scheduled for September 22 at the Magnetic Hill Golf and Country Club. In addition, plans are underway for the upcoming Family Fun Day, Engineering Week and curling tournament.

Dwight Scott, P.Eng., is still in charge of **Professional Development and Technical Sessions**. If anyone has ideas for sessions they would like to attend, just e-mail Dwight at dgscott@nb.sympatico.ca. Branch members will be notified by e-mail of the upcoming seminars. If you are not receiving notification, contact **Isabelle Haché**, MIT at hache.isabelle@kent.ca

If anyone is interested in joining the Branch Executive, you are welcome to join any of the Branch committees. For those who haven't noticed, we have four MITs on the team and always have room for more. It is a great experience and a good place to make new friends. You may contact any of the Executive members if you have questions.

La section de Moncton

Mark Bellefleur, *MS président*

Je suis fier et honoré de présenter les ***membres du CA de la section de Moncton 2006-2007,*** *élus le 15 mai dernier, à notre assemblée générale annuelle :*

Président	*Mark Bellefleur, MS*
Présidente sortante	*Éliane Doucet, ing.*
Vice-président	*Philippe Losier, ing.*
Trésorier	*Pierre Plourde, MS*
Secrétaire	*Maryse Doucet, MS*
Perfectionnement professionnel	*Dwight Scott, ing.*
Activités sociales	*vacant*
Web et communications	*Isabelle Haché, MS*
Conseiller provincial	*John Gallant, ing.*
	Larry Dionne, ing.
Conseillers de la section	*Mike Cormier, ing.*
	Serge Doucet, ing.
	Marc Leblanc, ing.
	David Kozak, ing.
Représentant de l'U de M (ingénierie)	*vacant*

Pour communiquer avec l'un ou l'une d'entre nous, vous trouverez nos coordonnées sur le site Web de l'AIGNB.

Je tiens à remercier ***Éliane Doucet****, ing., et les autres membres du CA de 2005-2006 pour tout le temps et l'énergie qu'ils ont déployés pour assurer le succès de la section de Moncton.*

À notre assemblée générale annuelle, 16 membres ont signé le registre des présences. La réunion a eu lieu au restaurant Boomerang's Steak House, précédée d'une rencontre sociale et suivie du repas.

Le 9 juin, nous avons eu notre ***souper annuel au homard*** *au tout nouveau club de golf Fox Creek. En tout, 104 personnes ont assisté, et chacun et chacune a affirmé s'être bien amusé. Nous avons déjà hâte au souper de l'an prochain où nous espérons attirer autant de convives; c'est un événement fort couru.*

La section prépare déjà les événements à venir cette année. ***Philippe Losier****, ing., a déjà préparé le* ***tournoi de golf****, prévu le 22 septembre au Magnetic Hill Golf and Country Club. De plus, nous planifions les activités pour la journée de plaisir en famille, la Semaine de l'ingénierie ainsi que le tournoi de curling.*

Dwight Scott*, ing., est toujours responsable des* ***séances de perfectionnement professionnel et technique****. Si vous avez des suggestions de séances, auxquelles vous aimeriez assister, envoyez un courriel à Dwight à* dgscott@nb.sympatico.ca*. Les membres de la section seront informés par courriel des séminaires à venir. Si vous ne recevez pas d'avis, communiquez avec* ***Isabelle Haché****, MS à* hache.isabelle@kent.ca*.*

Si quelqu'un souhaite se joindre à l'équipe de direction de la section, nous serons heureux de vous accueillir au sein d'un comité. Pour ceux qui ne l'auraient pas encore remarqué, l'équipe compte quatre MS, et on peut toujours en accueillir davantage. C'est une expérience et un bon endroit pour se lier d'amitié. Communiquez avec un membre du CA si vous avez des questions.

Northeastern Branch

Brian MacCallum, P.Eng.
Chair

The Northeastern Branch recognizes the important contributions APEGNB's members-in-training make to our professions and branch activities. To welcome them, an **MIT night** was held November 4, 2005, at the K.C. Irving Regional Centre in Bathurst to see the Acadie Bathurst Titan hockey match.

A Branch hockey team was organized by some of our members to participate in the **Atlantic Engineers Hockey Tournament** held in Moncton from April 7 to 9. Our team didn't bring home the trophy but they did enjoy the weekend of competition and camaraderie.

On February 28, the Branch held its **annual general meeting** at CCNB-Youghall in Bathurst. A presentation titled "*Powering the Future*, which included the information on the refurbishment project of the Point Lepreau Nuclear Power Station, was given by guest speaker **Gaétan Thomas**, P.Eng., vice-president—nuclear at NB Power. Information on the presentation is available at *www.nbpower.com* (click on "Powering the Future").

During the AGM, the following 2006 Branch Executive was elected:

Chairperson	Brian MacCallum, P.Eng.
Past Chair	Tom Paisley, P.Eng.
Vice Chair	Serge Dugas, P.Eng.
Secretary	Gaétan Benoit, P.Eng.
Treasurer	John LeBlanc, P.Eng.
Communications	Kevin Gallant, P.Eng.
P. Geoscientist Representative	Pat McMahon, P.Geo.
Association Affairs	Kirk Mullin, P.Eng.
Councilor Restigouche	Tina Roy, P.Eng.
Councillor Gloucester West	Mark Rice, P.Eng.
Councillor Gloucester East	Lisa Albert-Thériault, P.Eng.
Councillor Northumberland	Ray Ritchie, P.Eng.
Provincial Councillors	Ray Ritchie, P.Eng. Claude Mallet, P.Eng.

Plans are underway as this report goes to press for a June **lobster supper** and boat tour in Dalhousie.

Northeastern Branch members were on hand to hear how Atlantic Canada can find the power to prosper at the May 11-13 sustainable energy workshop held in Miramichi.

Front Row (L-R):
***John LeBlanc**, P. Eng.;*
***Kevin Gallant**, P. Eng.;*
***Pat McMahon**, P. Eng.; **Claude Mallet**, P. Eng.*
Back Row (L-R):
***Ray Ritchie**, P. Eng.;*
***Gaetan Bénoit**, P. Eng.;*
***Serge Dugas**, P. Eng.*

Some of our members helped organize and participated in the "*Finding the Power to Prosper - Sustainable and Renewable Energy Workshop*", held in Miramichi from May 11 to 13, 2006. Congratulations to the event's co-chair **John LeBlanc**, P.Eng., and organizers **Pat McMahon**, P.Eng., and **Kevin Gallant**, P.Geo. on a successful event which attracted delegates from across the region. For more information on the event, please visit **www.coalition-sgsl.ca/energyworkshop**

The annual golf tournament is being planned for August. Check your e-mail in-box in the coming weeks for details.

And finally, the fourth annual **APEGNB Pumpkin Fling** is scheduled for September 28 in Miramichi. Contact **Kevin Gallant**, P. Eng., at gallantk@nb.aibn.com for more information or to volunteer. (Kevin is also your 'go-to guy' if you would like to be added to the Branch's e-mail distribution list.)

If you would like to volunteer for upcoming branch activities or have any questions or comments about the above events or any concerns in general, please contact me at *brian.maccallum@grouperoy.com* .

AIGNB
APEGNB
Northeastern
BRANCH

La section du Nord-Est

Brian M^ac^Callum, ing.
président

*La section du Nord-Est a voulu souligner l'importante contribution des membres stagiaires de l'AIGNB à nos professions et aux activités de la section. Afin de bien les accueillir, nous avons organisé une **soirée des MS** le 14 novembre 2005, au Centre régional K.-C.-Irving de Bathurst, durant une partie de hockey du Titan d'Acadie-Bathurst.*

*Certains de nos membres ont mis sur pied une équipe de hockey de section, pour participer au **Tournoi de hockey des ingénieurs de l'Atlantique**, à Moncton, du 7 au 9 avril dernier. Notre équipe n'a pas rapporté avec elle le trophée mais...*

*Le 28 février, la section a tenu son **assemblée générale annuelle** au CCNB-Bathurst, campus de la promenade Youghall. Nous avons eu droit à l'exposé intitulé Le pouvoir du futur, sur le projet de remise à neuf de la centrale nucléaire de Point Lepreau, par notre conférencier invité **Gaétan Thomas**, ing., vice-président – Nucléaire, Énergie NB. Vous pouvez lire l'exposé sur le site* www.nbpower.com *(cliquez sur « Le pouvoir du futur »).*

Durant l'AGA, les membres suivants ont été élus au CA de la section pour l'année 2006 :

Président	*Brian M^ac^Callum, ing.*
Président sortant	*Tom Paisley, ing.*
Vice-président	*Serge Dugas, ing.*
Secrétaire	*Gaétan Benoit, ing.*
Trésorier	*John LeBlanc, ing.*
Communications	*Kevin Gallant, ing.*

Des membres de la section dus Nord-Est apprennent comment le Canada atlantique peut trouver l'énergie pour prospérer, durant l'atelier sur l'énergie durable qui a eu lieu à Miramichi, du 11 au 13 mai.

Premiere rangée (de g. à d.):
***John LeBlanc**, ing.;*
***Kevin Gallant**, ing.;*
***Pat McMahon**, ing.;*
***Claude Mallet**, ing.*

Derrière rangée (de g. à d.):
***Ray Ritchie**, ing.;*
***Gaetan Bénoit**, ing.;*
***Serge Dugas**, ing.*

Représentant des géoscientifiques	*Pat McMahon, géosc.*
Affaires provinciales	*Kirk Mullin, ing.*
Conseillère – Restigouche	*Tina Roy, ing.*
Conseiller – Gloucester-ouest	*Mark Rice, ing.*
Conseillère – Gloucester-est	*Lisa Albert-Thériault, ing.*
Conseiller – Northumberland	*Ray Ritchie, ing.*
Conseillers provinciaux	*Ray Ritchie, ing.*
	Claude Mallet, ing.

*Au moment de rédiger ce compte rendu, nous préparions un **souper au homard et une sortie en bateau** à Dalhousie.*

Certains de nos membres ont aidé à organiser l'atelier sur l'énergie durable et renouvelable intitulé Trouver l'énergie pour prospérer, *et y ont participé; c'était à Miramichi, du 11 au 13 mai 2006. Félicitations au coprésident de l'activité, **John LeBlanc**, ing., et au membre du comité **Kevin Gallant**, ing., pour un événement réussi qui a réuni des délégués de toute la région. Pour en savoir davantage à propos de l'événement, consultez le site* www.coalition-sgsl.ca/energyworkshop.

*Notre **tournoi de golf annuel** doit avoir lieu au mois d'août. Vérifiez votre courriel au cours des prochaines semaines pour en connaître les détails.*

*En conclusion, notre quatrième concours annuel **Projetez-la-citrouille** de l'AIGNB aura lieu le 28 septembre prochain à Miramichi. Communiquez avec **Kevin Gallant**, ing., à* gallantk@nb.aibn.com, *pour plus de détails, ou pour prêter vos services bénévoles. (Kevin est aussi celui qui ajoutera votre nom à la liste de distribution par courriel. de la section.)*

Si vous voulez faire du bénévolat aux prochaines activités de la section, si vous avez des questions ou des commentaires concernant les activités ci-dessus, ou pour toute préoccupation en général, prière de communiquer avec moi à l'adresse brian.maccallum@grouperoy.com.

Ask The DPA

Tom Sisk, P.Eng.
Director of Professional Affairs

Q. How does APEGNB discipline members?

In the last *Engenuity* column, the discussion led us to describe the Professional Conduct Committee (PCC). Now it's time to talk about the role of the Discipline Committee.

You'll recall that we use a two-committee model to handle complaints against members. A complaint is received by the Director of Professional Affairs who investigates and presents the complaint and any findings to the PCC. This is the first committee involved in the process.

The PCC then makes one of three determinations:

1) the complaint should be dismissed.
2) the committee can help negotiate a settlement or direct some alternative method of resolution or,
3) the PCC can refer the case in whole or in part to the Discipline Committee. This is the second committee.

The first significant point related to referring the complaint to Discipline is the amount of information passed on to the Discipline Committee. For all intents and purposes, the Discipline Committee must start at the beginning with the complaint. That is, other than the copy of the original complaint along with the PCC's notice of referral, no material uncovered during investigation, no minutes of meetings nor any other material is transferred to the Discipline Committee. This is designed to remove any bias that may have developed in the course of the investigation.

A.

As well, no persons who sit on the PCC (or its secretary) can be members of the Discipline Committee. Should the Discipline Committee require more members, they must be drawn from the Council of the Association.

The Discipline Committee then begins to gather information with which to conduct a hearing. It may conduct interviews, seek expert comment or review documents to fully disclose the details of the case. A hearing will be called and witnesses will be summoned. The hearing is conducted just like a Court of Queen's Bench session, complete with court reporter, lawyers and sworn/affirmed witnesses. Evidence gathered by the prosecution is disclosed to the accused (or his lawyer). Witnesses are called and examined and cross-examined as the case progresses.

Witnesses who fail to respond to the Summons can be charged with contempt just as if the hearing were held in the Court of Queen's Bench.

At the end of the hearing, which could span more than one session, the Discipline Committee deliberates in private, usually over some period of time. The decision of the Committee is then provided to both the person complained against and the complainant.

For a guilty verdict, the Association must show by preponderance of evidence that the member charged is guilty of those charges (e.g., misconduct, incompetence, etc). Note that this proof is different than proof beyond a reasonable doubt.

It is usual for the Committee to address each charge separately and the verdict can vary by charge. For instance, the person complained against may be found guilty on two charges and innocent of three. Sanctions resulting from the guilty charges may range from monetary fines, orders to seek additional training and restrictions to certain practice all the way to outright revocation of the right to practice at all.

An appeal process is available to either party. They may apply directly to the New Brunswick Court of Queen's Bench within 30 days and proceed according to the Rules of Court. This may subsequently lead to the Court of Appeal.

The Association has had relatively few cases over the years to work their way through the Discipline process to the full extent. The process is time-consuming and expensive for all concerned but it has been shown to be a valid method of protecting the public from professional misconduct and incompetence.

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

Steve Halabura, P.Geo., Elected President of APEGS

For only the third time in its 66-year history, the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) has elected a professional geoscientist as president.

Steve Halabura, P.Geo., owner and principal consultant of the Saskatoon-based geological consulting company North Rim Exploration Ltd., is the newly elected president of the 5,700-plus member association.

Halabura is a University of Saskatchewan (U of S) graduate, having earned a B.Sc. in Geology (Honours) in 1980 and M.Sc. in Geology in 1983. He has since returned to the U of S as a lecturer in the petroleum geology course.

Halabura became a professional geoscientist in 1997 and is now licensed to practise in Saskatchewan, New Brunswick, Manitoba, Ontario and Alberta. His company, North Rim Exploration, is a member of the Consulting Engineers of Saskatchewan and holds Certificates of Authorization in the same five provinces.

A member of both the Canadian Society of Petroleum Geologists and American Association of Petroleum Geologists, Halabura's field of expertise is subsurface geology as applied to petroleum, potash, and industrial minerals deposits. He works with engineering firms, resource companies, investors and First Nations.

He is also vice-president of exploration for Long View Resources Corporation and owner of Prairie Hunter Exploration Ltd., which holds minor interests in oil and gas properties in Saskatchewan and Manitoba.

Before assuming his new role as president, Halabura served in a variety of capacities at APEGS including president elect, vice-president, councillor, chair/member of numerous committees and task forces.

His volunteer efforts extend into the community, where he is past president and director of the Saskatoon Association For Community Living—an organization that assists persons with intellectual disabilities achieve inclusion in our communities, and a director of the L'Arche Saskatoon Project.

Fun Clicks!

Decrease your stress level! Increase your brainpower! Check out these websites!

www.cut-the-knot.org

This site is for teachers, parents and students who seek engaging mathematics.

www.simplyexplained.com

Ask a tricky question. Get a simple answer.

www.playwithyourmind.com

From visual memory puzzles to speed/reflex games, you'll find plenty to challenge and enrich your mind here.

www.delphion.com/gallery

Before you invent a body squeegee or a Santa Claus detector, consult this site for obscure patents.

PDAC Hosts 75th Annual Meeting

Submitted by Don JJ Carroll, P.Geo.

The 2006 Prospectors and Developers Association of Canada (PDAC) hosted their 75th anniversary meeting in Toronto in early March. According to organizers, interest in this annual meeting has been skyrocketing over the past several years with attendance at the 2006 meeting breaking the 14,000-delegate barrier.

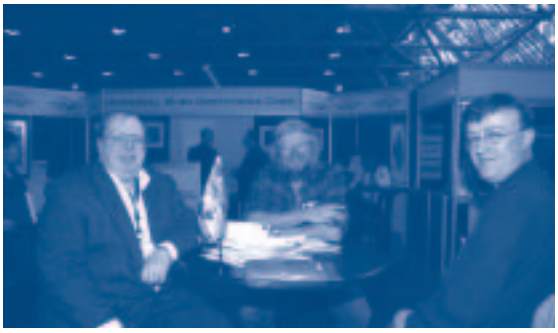
Representatives from just about every country in the world see the PDAC meeting as a networking opportunity to publicize the mineral potential in their respective jurisdictions. From the business side of things, a myriad of companies representing the mineral exploration, mining, investment and services sectors take advantage of PDAC's large delegate attendance to inform attendees about business opportunities.

New Brunswick once again was well-represented with the New Brunswick Department of Natural Resources (DNR) and the New Brunswick Prospectors and Developers Association occupying a large display area on the convention trade show floor.

Prospectors, several staff members from DNR's geological surveys and mineral and petroleum development branches, as well as the Honorable **Keith Ashfield**, minister, offered delegates an opportunity to discuss investing their mineral exploration dollars in New Brunswick.

In addition, the University of New Brunswick hosted the ever-popular UNB Night—an opportunity for alumni and guests to reunite and get acquainted this year's conference. Special guests included UNB President **John McLaughlin**, P.Eng., and **Allan Sharpe**, UNB's dean of science.

*L-R: Geologist, **Bill Gardiner** (Southfield Resources); **Dave Stevens** (prospector), **Dave Martin**, P.Geo., (geologist, Geodex Minerals) at the New Brunswick PDAC booth.*



*UNB Dean of Science **Allan Sharpe** (left) and UNB President **Dr. John McLaughlin**, P.Eng., enjoy the UNB Meet and Greet reception at the Royal York.*

*L-R: Hon. **Keith Ashfield**, Minister of the Dept. of Natural Resources and Prospector **Michael McCombe** (MEG Systems Ltd) at the New Brunswick PDAC booth.*

The New Brunswick booth at PDAC 2006.

APGO implements policy changes for registration of geoscientists

Similar to recent policy changes announced in *Innovation* March/April 2006 edition, APGO (Association of Professional Geoscientists of Ontario) recently implemented policy changes that will facilitate the registration process in British Columbia and Ontario for applicants under the Canadian Council of Professional Geoscientists' Inter-Association Mobility Agreement (IAMA).

Under the new policies of both APGO and APEGBC, professional geoscientists applying for registration under IAMA generally need only submit an application form and fee, confirmation from their home association of membership in good standing, and proof of Canadian citizenship or residency for APEGBC applications only. APGO has no citizenship or residency requirements. Applicants may also be required to pass a professional practice and ethics examination. Typical application process times are about one week. The new policies affect both new and current IAMA applicants.

This policy change reflects the inherent mobility associated with the professional practice of geosciences and the demands of industry. IAMA applicants with projects in BC or Ontario will find compliance with provincial registration requirements to be improved with a faster and easier registration process. Both associations believe this policy change is particularly relevant to the oil and gas and mining sectors.

All geoscientists are reminded that it is a requirement to register in all provinces in which they practice.

More information on registration with APEGBC or APGO is available on their respective websites:

APEGBC:
www.apeg.bc.ca/re/InterProvincialGeos.html

APGO:
www.apgo.net/membership/index.html

Dream Jobs: PERFORMANCE
Vehicle Engineering

Craig stands in a room full of his "dream" cars. In the foreground–the 550hp Ford GT.

From the drafting board to the test track to the showroom floor, APEGNB member ***Craig Wood, MIT****, helps create the next generation of high-performance vehicles at Roush Industries just outside Detroit, Michigan.* **Engenuity** *e-mailed Craig to find out what it's like to work in powertrain engineering at one of the world's most recognized engineering companies. For those of you who love cars, you'll probably already know that Roush also has the ability to manufacture performance vehicles, race cars and prototype vehicles.*

When and where did you graduate?

I graduated from the University of New Brunswick in 2001 with a bachelor of science in mechanical engineering. From there I earned my master of science in mechanical engineering at the University of Windsor. I did my master's degree onsite in industry at the University of Windsor / DaimlerChrysler Canada Automotive Research and Development Center (ARDC). I received this degree in 2003, two years exactly from the day I started.

What is your official title at Roush Industries and when did you start work there?

My title is: project engineer--powertrain engineering. In Canada, an MIT couldn't use that title until they get professional status, but in the U.S., professional designations don't seem to be as important. I have been working with Roush Industries just outside Detroit since December 2004.

Is the Canadian "P.Eng." an important designation at Roush Industries?

The thing that surprised me the most is that many people in the US are not as concerned with their professional status. It is just not as highly sought after, or expected, for that matter, as it is in Canada.

In the United States, licensed engineers are referred to as PE's (professional engineers), but you rarely see many people use the PE designation. I am sure this varies from field to field, but this has been my experience.

Tell us a bit about Roush Industries.

Roush Industries is part of Roush Enterprises which also operates Roush Performance, Roush Manufacturing, Roush Racing, Roush Europe, Roush Aviation and several other divisions. Roush Industries offers services in four major areas: engineering, testing, prototype services, and technical communication.

Within the engineering division, there are seven sections: body, chassis, powertrain, noise vibration and harshness (NVH), computer-aided design (CAD), computer-aided engineering (CAE) and program management.

Although I work in the powertrain division, I often find myself crossing into other engineering disciplines and divisions of the company. Roush encourages and trains employees to be multi-disciplined and acquire as much hands-on experience as possible.

Who are your clients and competitors?

Our business, as you can guess, is highly confidential and competitive so I can't elaborate too much on this subject. I wouldn't want to lose my dream job! Suffice it to say, your readers would probably recognize the names of most of our clients and competitors.

What does a powertrain engineer do?

I could be working on anything related to a powertrain at any given time. A powertrain system can include components such as engines, transmissions, differentials, superchargers, cooling systems and fuel systems - basically anything required to run a vehicle.

Depending on which stage in the process, my job may involve CAD design, CAE development, prototyping, developing, testing, manufacturing, or assembling vehicle components or complete vehicles. Roush is capable of doing almost all of this in house. In many cases, the powertrain is destined for something other than a road-worthy vehicle.

Powertrain engineers are also involved in all the things done behind the scenes that people don't realize are occurring. This includes problems like figuring out how to design a single component so that 100,000 of them can be made cost effectively, and at the same time determining how they can be installed in less than 15 seconds on an assembly line. My work touches on most of the aspects that I learned in engineering more often than I ever thought it would.

How did you land your dream job?

I started with receiving an NSERC (National Science and Engineering Research Council) grant. It allowed me to choose the institution where I wanted to complete my graduate studies. Originally, I had planned on getting my degree in the United States, but then learned that the University of Windsor offered an automotive option.

After graduating from their program, I was faced with the decision to stay in Ontario, or return to Fredericton where my family was located. I had become good friends with several people at Roush while working on my degree, but unfortunately at that time, Roush was not hiring. I ended up receiving an offer I could not refuse from another company in Michigan which specialized in computer simulation.

This provided me with excellent knowledge and experience, but did not give me the hands-on experience I was looking for in my career. Just as I was getting settled into this job, I was offered a job with Roush Industries. Next thing I knew, I was working full-time as a Roush employee.

One key step in the process was getting heavily involved with the Formula SAE (Society of Automotive Engineers) competition, which is likely one of the largest student engineering competitions in the world. Most employers in my field will not hire people unless they have experience in this competition. This competition allows you to take what you learn in the classroom

and apply it directly in the real world.

Learning the automotive fundamentals in high school is also very important. Special thanks to

Craig Wood, MIT, sits inside a Ford GT engineering prototype—complete with on-board data acquisition and diagnostics equipment. In the background is one of ***Matt Kenseth****'s NASCAR vehicles.*

Francis Levangie from Fredericton High School for sharing his knowledge and wisdom.

What is the fun part of your job?

I really enjoy the challenge and the responsibility I am faced with every day. No two days are ever the same, and I never know what I will be tasked with even days from now. It is hard to narrow this down to one thing, as most things I do here are enjoyable. I really enjoy working on and driving development vehicles, especially on the test track. These vehicles are usually 'one-of' prototypes that are often hand-built. They are fully instrumented so we can tell everything that is going on in a vehicle on any system at any time during the test. This also confirms the simulation and hand calculation results that are used earlier on in the design process.

Whenever I need a boost, I just walk out to the shop (which is only a few paces from my desk) to see what interesting cars are being worked on that day. There is always something new and exciting on the go.

What is the most difficult part of your job?

The first thing you learn in the work world is not how much you know, but how much you don't know. Along with this, comes a highly skilled workforce that can make a person's job very intimidating. Sometimes, you feel as though you know nothing in comparison. Having said that, the people make Roush Industries the company that it is. Most of the high-performance cars you see on the road are designed by automotive fanatics like me who put their heart and soul into what they do.

One difficult aspect is not being able to discuss my work with friends and family until the details are released to the general public. To be competitive in this industry, we are required to follow strict confidentiality agreements that do not allow us to disclose anything specific about current and future projects. Vehicles are being designed and engineered years before the general public even hears about them.

new and exciting

Whenever I need a boost, I just walk out to the shop to see what interesting cars are being worked on that day. There is always something new and exciting on the go.

What is the most rewarding part of your job?

Having input into the design of future vehicles is the most rewarding part. When you look at a vehicle on the road, or in the showroom, and see a component that you were responsible for—from concept to production—it makes you proud (unless it is part of a major recall of course).

What projects are you currently working on?

Although I can't go into detail on this one due to confidentiality reasons, I can say that I am working on several high-performance vehicles and components that will be introduced to the market in the years to come. At the same time, we are also working on the cutting edge of alternative fuel development technologies that represent the future of this industry. Never fear, we are also attempting to push these new technologies to their performance limits.

What would most surprise people about your job?

I think people would be surprised to learn of the amount of time and money that goes into developing a vehicle. The final product you see on the road requires an investment of hundreds of thousands of hours, thousands of people and millions of dollars.

Of the projects you've worked on, which one makes you proudest?

Based on what I am allowed to discuss, that would be either the Ford GT or any of the Roush Performance vehicles (Roush Mustang or Roush F150). I have met a lot of great people working on and around these projects and have acquired invaluable knowledge from the project teams. While these cars may run $200,000 at face value (as in the case of a Ford GT), a single prototype of any development vehicle can cost well over a million dollars. You can imagine how expensive this can get if you have a fleet of them.

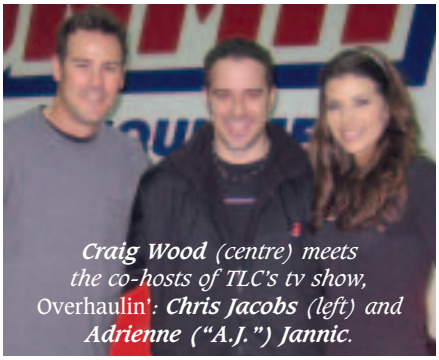
What advice do you have for an engineering student hoping to get a job similar to yours?

I would say that if you put your mind to it, anything is possible. Get involved in as many things as you can while in school, and get as much engineering job experience as possible. Employers are looking for highly qualified personnel who can hit the ground running. Employers are also looking for well-rounded employees, so don't be afraid to get your hands dirty.

As the old saying goes—it is also all about who you know. Make as many connections as you can. You never know who will be able to help you out in the future. I did not know a single person in the automotive industry before I moved to the area.

Most importantly, do not burn any bridges along your way!

Have you met any celebrity people



Craig Wood (centre) meets the co-hosts of TLC's tv show, Overhaulin'*:* ***Chris Jacobs*** *(left) and* ***Adrienne ("A.J.") Jannic****.*

as a result of your job?

A few that come to mind off hand are **Jack Roush** (since he runs this company), **Carroll Shelby**, **John Coletti**, **Chip Foose**, **AJ & Chris** from TLC's auto makeover show, *Overhaulin*, **Mikey** from Orange County Choppers, **George Barris** and the list goes on. These are all celebrities in the automotive world of course.

If you could have any car in the

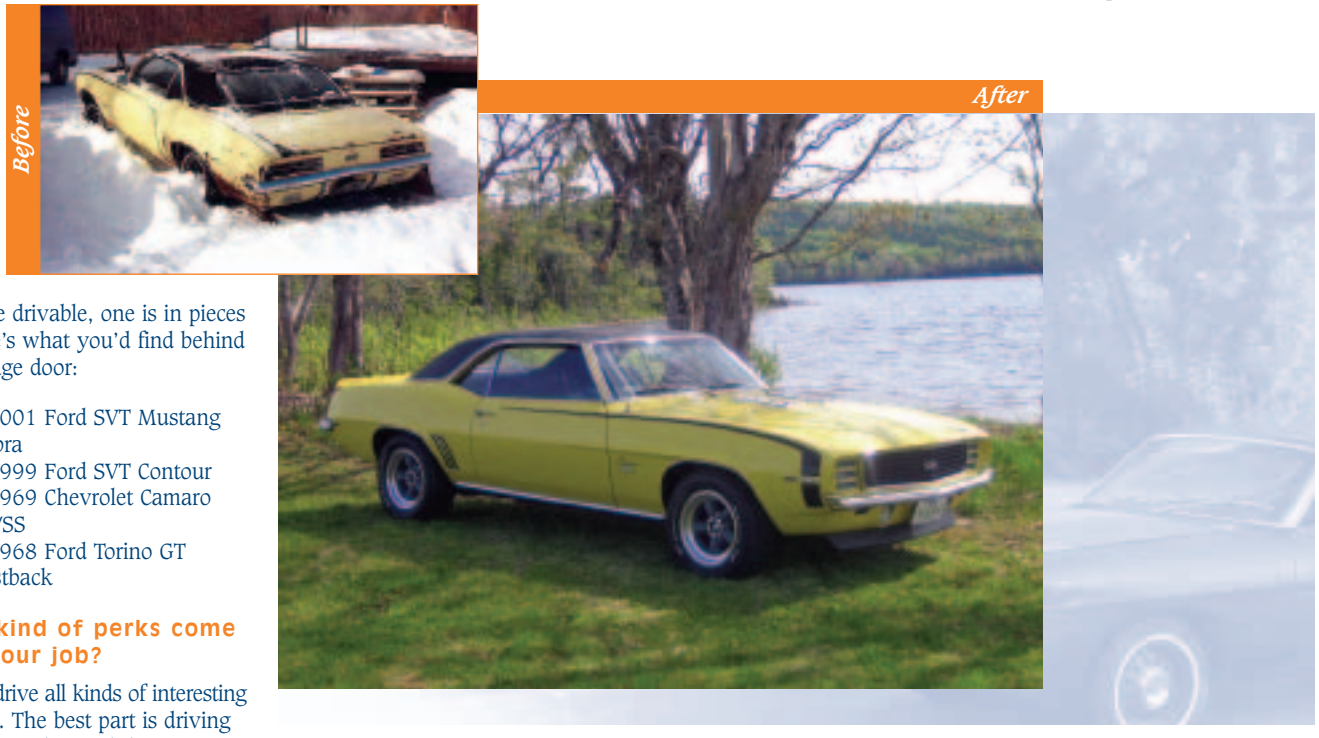
One of Craig's "project" cars, a 1968 Ford Torino GT, is parked in front the entrance to Roush Industries.

world, what would it be and why?

It would likely be an original Ford GT40. Having worked around the new Ford GT and meeting many of the people involved in the original and current models, I want one even more so. Since I will never be able to afford one, I am probably going to have to build my own. I'd also love to own a Ferrari F40 or 250 GTO, but I have to keep things in perspective (and within budget!).

What cars are in your garage right now?

Before and After:
Craig's 1969 Chevrolet Camaro RS/SS.



Most are drivable, one is in pieces but here's what you'd find behind my garage door:

- 2001 Ford SVT Mustang Cobra
- 1999 Ford SVT Contour
- 1969 Chevrolet Camaro RS/SS
- 1968 Ford Torino GT Fastback

What kind of perks come with your job?

I get to drive all kinds of interesting vehicles. The best part is driving vehicles on the road that are years away from being for sale. You get all kinds of people trying to take pictures and videos of the vehicle as you drive. I get to travel to some interesting places on many of my projects. The most memorable trip was spending a week at Carroll Shelby's shop in Las Vegas at Las Vegas Speedway. It was one of those things I had always dreamed about doing when I was growing up. The other great part of working at Roush is being able to work on my personal projects after hours at the office using our facilities and equipment.

Were you well-prepared for your job with a Canadian engineering degree?

Since many of my co-workers are American, I know exactly how they come out of the education sector into the work world. All too often I get asked, "where did you learn that" or "who taught you that". These are reassuring words to hear, as it confirms how in-depth our education is in comparison. The training and education we all receive as part of our engineering degrees makes us aware of the tools and techniques we need to conquer a task, so we at least know how and where to find the answers when we require them. The engineering world is just too broad and diverse to touch on everything. Even without formal training in automotive engineering, I had the skills and background from my degree to quickly get up to speed with those that did.

Are you living in Windsor, ON and commuting to your Michigan office? How does that work with immigration?

I work under a TN Visa which allows me to work in the US on a renewable yearly contract. TN Visas are temporary work visas available only to citizens of Mexico and Canada. Under the North American Free Trade Agreement (NAFTA), a citizen of a NAFTA country may work in a professional occupation in another NAFTA country, as long as the applicant meets certain requirements. When I tell people my situation, most people wonder how I could possibly stand the commute to the US. Truth is, my travel time is less than most co-workers who live outside the city of Detroit. From my door to the office is around 20-25 minutes. I have specific documentation which allows me to travel through customs much faster.

Was it difficult to get work as an engineer in the US?

The only difficult part to working in the US is finding a company that will hire you and will write a supporting letter to get a TN (working) visa. Once you have this letter, all you need is your university degree (unless you are working as a student intern). I lucked out as there are a dozen of us at my building that

All too often I get asked, "where did you learn that" or "who taught you that". These are reassuring words to hear, as it confirms how in-depth our education is in comparison to the US.

better education

CCPG opens its first staffed national office

CCPG, the Canadian Council Professional Geoscientists, opened its first staffed office on March 15 in Vancouver. CCPG is the national federation of the 10 constituent associations that govern the practice of geoscience in Canada (similar to CCPE's role for engineering).

The new office, located in Burnaby, BC (a suburb of Vancouver) is hosted by APEGBC, the Association of Professional Engineers and Geoscientists of British Columbia.

Standing (L to R):
***Oliver Bonham**, P.Geo, CEO CCPG;*
***Brenda Wright**, P.Geol, vice-president CCPG;*
***Anne Garrett**, P.Eng., executive director/registrar APEGBC.*

Seated (L to R):
***Jim Wright**, P.Geo. treasurer CCPG;*
***Barry Collins Q.C**, P.Geo, president CCPG.*

The CCPG had "outgrown the president's briefcase" and a full-time staff member was required to provide the continuity necessary to maintain visible contact with external organizations, government agencies, academic institutions and the media.

Heading the new office is **Oliver (Ollie) Bonham**, P.Geo., hired as CCPG's chief executive officer and first full-time staff member. Bonham has more than 28 years of experience in the mining and mineral exploration sector and, more recently, in the regulatory sector as executive director/registrar of the Association of Professional Geoscientists of Ontario.

Prior to Bonham's appointment, CCPG operated as a volunteer organization with significant administrative support from APEGGA (the Association of Professional Engineers, Geologists and Geophysicists of Alberta) — in particular, from its Deputy Registrar, **Al Schuld**, P.Eng. and his assistant **Carolyn Deets** — as well as the office of the Canadian Council of Professional Engineers.

In November 2002, the CCPG directors created a strategic plan for 2003-2009 that included hiring a CEO and establishing an office. In January 2005, **Marc Boivin**, géo (of Quebec), then president of CCPG, sent a letter to the 10 constituent associations requesting increased funding to cover the cost of the new position and office.

Boivin explained that the organization's volunteer resources were no longer adequate to fulfill its mandate to facilitate national and international mobility, and promote recognition of Canadian geoscientists. The CCPG had, as he put it, "outgrown the president's briefcase" and a full-time staff member was required to provide the continuity necessary to maintain visible contact with external organizations, government agencies, academic institutions and the media.

All 10 constituent associations approved the funding increase and a task force was subsequently struck to hire a CEO. After an extensive search, Bonham was hired. APEGBC agreed to host the CCPG office and signed an agreement with CCPG outlining the general terms to support the new position on both a funding and operational basis.

The establishment of a new office for CCPG will benefit geoscientists across Canada. Vancouver, with more than 700 exploration companies, is a world centre in the practice of geoscience — not only with respect to mineral exploration and mine development, but also for the raising of venture capital for the resource sector. A western base is also advantageous in view of the many head offices of oil and gas companies located in Alberta.

Speaking at a recent meeting of the executive committee of CCPG at the new office in late March — which included a modest "flagging tape" cutting ceremony to officially open the new office — the current president of CCPG, **Barry Collins**, Q.C. (Can), P.Geo., of Saskatchewan, stated: "It is a momentous event for CCPG to finally have an office of its own and to have a full-time professional to lead the organization. But I must say that without the work of all our practitioner volunteers over the years since CCPG's inception almost 10 years ago, and the support from both APEGGA and CCPE, we would not have been able to get to this point.

"I have great feelings about the future of CCPG and the future of the geoscience profession, which is so very important to Canadian society."

More than 7,600 geoscientists are now licensed as professionals in Canada and this number is expected to reach 10,000 within two to three years. The new address and contact details for the new CCPG office are as follows:

Oliver Bonham P.Geo.
Chief Executive Officer/Chef de la direction
Canadian Council of Professional Geoscientists/
Conseil Canadien de Géoscientifiques Professionnels
200-4010 Regent Street
Burnaby, BC, Canada V6C 6N2
T: 604-412-4888
F: 604-433-2494
obonham@ccpg.ca
www.ccpg.ca

Un 3e prix à la compétition canadienne d'ingénierie

Quatre étudiants de la faculté d'ingénierie se sont distingués lors de la Compétition canadienne d'ingénierie en remportant le 3e prix dans la catégorie génie-conseil. Plus de 150 étudiantes et étudiants de diverses universités du Canada ont participé à cette compétition qui s'est déroulée récemment à l'École Polytechnique de Montréal. Le concours consistait à résoudre un problème d'ingénierie en 4 à 5 heures.

*L'équipe était composée, de gauche à droite, de **Bernard Haché** de Rivière du Portage (4e année, génie mécanique), **Denys Babineau** de Bathurst (2e année, génie industriel), **Jacqueline Cormier** de Rogersville (4e année, génie civil) et **Marcel Richard** de Saint-Antoine (5e année, génie électrique).*

3rd Place Finish for U de M at Canadian Engineering Competition

Four Université de Moncton students took 3rd prize during the Canadian Engineering Competition held at the École Polytechnique de Montréal. The category was "Consulting Engineering", which consists of solving an engineering problem in four to five hours and presenting it to a board of clients.

*From left to right, **Bernard Haché** (4th mechanical); **Denys Babineau** (2nd industrial); **Jacqueline Cormier** (4th civil); and **Marcel Richard** (5th electrical).*

They Said It Best

"I worry about the American attitude toward education, engineering specifically. And I worry about our immigration policies. The cofounders of companies like Google, Intel and Sun were not born in America. If we persist in this idea that innovation will only come from within America, I think we're going to miss out on the next Sun Microsystems, Google and Intel."

- *Jonathan Schwartz—CEO of Sun Microsystems as quoted by Newsweek writer, Brad Stone*

"The biggest mistake that you can make is to believe that you are working for somebody else. Job security is gone. The driving force of a career must come from the individual. Remember: Jobs are owned by the company, you own your career!"

- *Earl Nightingale—(1921-1989) American radio announcer/author*

"A good scientist is a person with original ideas. A good engineer is a person who makes a design that works with as few original ideas as possible. There are no prima donnas in engineering."

- *Freeman Dyson—British-born American physicist/author*

"Death and taxes are unsolved engineering problems."

- *Romana Machado*

"It's not that I'm so smart, it's just that I stay with problems longer."

- *Albert Einstein*

"A pile of rocks ceases to be a rock when somebody contemplates it with the idea of a cathedral in mind."

- *Antoine De Saint-Exupery—(1900-1944) French aviator/writer*

"Before you build a better mousetrap, it helps to know if there are any mice out there."

- *Source Unknown*

Export Achievement Awards handed out to New Brunswick companies

Three New Brunswick companies were recognized at a ceremony in Fredericton on May 24 for their outstanding achievements in the area of trade and exporting.

Business New Brunswick Minister **Kirk MacDonald** and Canadian Manufacturers' and Exporters (CME) New Brunswick vice-president **David Plante**, P.Eng., presented Export Achievement Awards to Andreanne International Inc., Precision Metal Works Ltd. (PMW), and ADI Systems Inc. The awards are part of CME's annual general meeting and Manufacturers' Day events.

"These awards highlight the important role New Brunswick exporters play in a growing economy," MacDonald said. "Exports reached a record $10.6 billion in 2005, up 13 per cent from 2004. The companies have had tremendous success, and are leaders in the manufacturing sector. The provincial government values their contributions, and is committed to continuing its efforts to foster a business climate that will help them succeed."

"New Brunswick has a great history of success in the international marketplace," said **Stephen Stultz**, CME chairman. "We've had to rely on our ingenuity, savvy and perseverance to succeed against larger, global competitors. These companies are certainly great examples of what can be achieved from our small corner of the world."

The Export Achievement Awards recognize outstanding performance in export and trade based on sales, innovation and unique solutions to international challenges. Award recipients are recognized in three categories: small, medium, and large operations.

Andreanne International Inc. of Bouctouche was honoured with the EDC (Export Development Canada) Export Achievement Award for companies with sales up to $5 million.

Andreanne International Inc. began operations in 1987, focusing on the Canadian garment industry. In 1991, after the launch of its premiere product, Brunswick Sheets, its focus shifted from sportswear to bedding. This established the company as one of the top fleece-bedding manufacturers in Canada. Since then, Andreanne has expanded its production facilities and installed state-of-the-art automated equipment. Its employees are craftspeople carrying on the Maritime tradition of quality workmanship.

important role

These awards highlight the important role New Brunswick exporters play in a growing economy.

*Three New Brunswick companies were recognized at a ceremony in Fredericton on Wednesday, May 24, for their outstanding achievements in the area of trade and exporting. Business New Brunswick Minister **Kirk MacDonald** and Canadian Manufacturers' and Exporters (CME) New Brunswick vice-president **David Plante**, P.Eng., presented Export Achievement Awards to Andreanne International Inc., Precision Metal Works Ltd. (PMW), and ADI Systems Inc.*

*From left: **Eric Lemay**, Andreanne International Inc.; MacDonald; **David Rioux**, P.Eng., PMW; and **Graham Brown**, P.Eng., ADI Systems Inc.*

Precision Metal Works Ltd. is based in Mactaquac, and received the BDC (Business Development Bank of Canada) Export Achievement Award for companies with $5 to $25 million in sales.

PMW is one of the world's top suppliers of weldment vacuum chambers. It has been manufacturing vacuum chambers and components for the semi-conductor, thin-film, optics, data-storage and display, aerospace and nuclear industries since 1988. From its modern facilities, PMW services clients around the world. As an ISO-registered company, PMW's quality is among the highest in the industry, making it the choice of NASA, Kodak, Samsung, Unaxis, and all the major national labs and universities.

ADI Systems Inc. of Fredericton received the Business New Brunswick Export Achievement Award for companies with annual sales over $25 million.

ADI Systems Inc., a subsidiary of the ADI Group, is a technology-and-design-build company that offers a wide range of wastewater-treatment packages to clients around the world. It offers bench and pilot testing and custom-designed solutions to suit clients' needs. In addition to generic technologies, ADI Systems Inc. offers proprietary and patented technologies in both anaerobic and aerobic biological-waste-treatment applications and membrane filtration. It provides large treatment packages plus modular anaerobic packages for small-plant applications.

A number of other New Brunswick companies received honourable mentions for their trade success during the past year.

In the category for sales up to $5 million:

- Allain Equipment Manufacturing Ltd., of Notre-Dame;
- Crown Tanks of Canada Ltd., of St. Stephen.

In the category for sales from $5-$25 million:

- Geomembrane Technologies Inc., of Fredericton;
- Pêcheries G.E.M. Ltée., of St. Simon.

In the category for sales over $25 million:

- Imperial Manufacturing Group, of Richibucto;
- Weyerhaeuser Miramichi Structurwood, of Miramichi.

First presented in 1967, the Export Achievement Awards are a joint initiative of the CME and the Government of New Brunswick.

Des entreprises néo-brunswickoises honorées pour leur excellence à l'exportation

Trois entreprises du Nouveau-Brunswick ont été reconnues pour leurs réalisations exceptionnelles dans le domaine du commerce et de l'exportation dans le cadre d'une cérémonie qui a eu lieu hier soir à Fredericton.

*Le ministre d'Entreprises Nouveau-Brunswick, **Kirk MacDonald**, et le vice-président du Nouveau-Brunswick de Manufacturiers et Exportateurs du Canada (MEC), **David Plante**, ing., ont remis le Prix d'excellence à l'exportation à Andreanne International Inc., Precision Metal Works Ltd. et ADI Systems Inc. La remise des prix coïncidait avec l'assemblée générale annuelle de MEC et la Journée des manufacturiers.*

« Ces prix soulignent le rôle important qu'exercent les exportateurs du Nouveau-Brunswick dans notre économie en croissance », a déclaré le ministre MacDonald. « Les exportations ont atteint un record de 10,6 milliards en 2005, une hausse de 13 % par rapport à 2004. Les entreprises honorées hier soir ont connu un immense succès; elles sont des chefs de file du secteur manufacturier. Notre gouvernement apprécie leur contribution et est déterminé à poursuivre ses efforts pour favoriser un climat d'affaires qui les aideront à prospérer. »

*« Le Nouveau-Brunswick a énormément de réussites à son actif sur le marché mondial », a mentionné le président du MEC, **Stephen Stultz**. « Nous avons eu à faire preuve d'ingéniosité, de savoir-faire et de persévérance pour réussir contre de sérieux concurrents mondiaux. Les compagnies lauréates montrent bien de quoi on est capable dans notre petit coin du monde. »*

Les Prix d'excellence à l'exportation reconnaissent la performance exceptionnelle en exportation et en commerce selon le chiffre d'affaires, l'innovation et les solutions uniques aux défis internationaux. Les lauréats relèvent de trois catégories : petites, moyennes et grandes entreprises.

***Andreanne International Inc.** de Bouctouche a mérité le Prix d'excellence à l'exportation d'Exportation et développement Canada dans la catégorie des entreprises ayant un chiffre d'affaires jusqu'à 5 millions.*

Andreanne International a débuté en 1987 en ciblant le marché de l'industrie canadienne du vêtement. En 1991, après le lancement de son produit phare, les draps Brunswick, l'entreprise a décidé de mettre l'accent sur les articles de literie, plutôt que les vêtements de sport. Ce virage a fait de l'entreprise un des plus importants manufacturiers de literie en molleton au Canada. Depuis, Andreanne a agrandi son usine et l'a dotée d'équipement automatisé de pointe. Ses employés sont le coeur et l'âme de la compagnie. Il s'agit d'artisans qui continuent à miser sur la qualité de l'exécution, un trait de caractère des gens des Maritimes.

***Precision Metal Works Ltd.** est situé à Mactaquac et a mérité le Prix d'excellence à l'exportation de la Banque de développement du Canada dans la catégorie des entreprises ayant un chiffre d'affaires de 5 à 25 millions.*

PMW est un des principaux fournisseurs mondiaux de chambres à vide pour ensemble soudé. Depuis 1988, l'entreprise fabrique des chambres à vide pour diverses industries : semi-conducteurs, pellicules minces, optique, emmagasinage et affichage de données, aérospatiale et nucléaire. À partir de ses installations modernes, PMW fournit des services à des clients du monde entier. Sa certification ISO l'aide à se maintenir parmi les entreprises qui offrent une qualité supérieure. C'est d'ailleurs ce qui lui vaut des clients comme la NASA, Kodak, Samsung, Unaxis et les grands laboratoires et universités du pays.

***ADI Systems Inc.** de Fredericton a mérité le Prix d'excellence à l'exportation d'Entreprises Nouveau-Brunswick dans la catégorie des entreprises ayant un chiffre d'affaires supérieur à 25 millions.*

ADI Systems, une filiale d'ADI Group, est une compagnie de technologie et de conception-construction qui offre à des clients du monde entier une variété de solutions complètes pour le traitement des eaux usées. Elle effectue des essais au banc et des essais pilotes et propose des solutions adaptées aux besoins du client. Outre des technologies génériques, ADI Systems offre des techniques exclusives et brevetées pour des applications d'épuration biologique anaérobies et aérobies et de filtration sur membrane. Elle fournit des solutions complètes de traitement pour les grands projets et des solutions anaérobies modulaires pour les petites stations d'épuration.

D'autres entreprises néo-brunswickoises ont également mérité des mentions d'honneur pour leurs réussites commerciales au cours de l'année dernière.

Chiffre d'affaires jusqu'à 5 millions de dollars :

- *Allain Equipment Manufacturing Ltd. de Notre-Dame*
- *Crown Tanks of Canada Ltd. de St. Stephen*

Chiffre d'affaires entre 5 et 25 millions de dollars :

- *Geomembrane Technologies Inc. de Fredericton*
- *Pêcheries G.E.M. Ltée de Saint-Simon*

Chiffre d'affaires supérieur à 25 millions de dollars :

- *Imperial Manufacturing Group de Richibucto*
- *Weyerhaeuser Miramichi Structurwood de Miramichi*

Décernés pour la première fois en 1967, les Prix d'excellence à l'exportation sont une initiative conjointe de MEC et du gouvernement du Nouveau-Brunswick.

*Trois entreprises du Nouveau-Brunswick ont été reconnues pour leurs réalisations exceptionnelles dans le domaine du commerce et de l'exportation dans le cadre d'une cérémonie qui a eu lieu le mercredi 24 mai à Fredericton. Le ministre d'Entreprises Nouveau-Brunswick, **Kirk MacDonald**, et le vice-président du Nouveau-Brunswick de Manufacturiers et Exportateurs du Canada (MEC), **David Plante**, ing., ont remis le Prix d'excellence à l'exportation à Andreanne International Inc., Precision Metal Works Ltd. et ADI Systems Inc.*

*Sur la photo, dans l'ordre habituel : **Eric Lemay**, Andreanne International Inc.; le ministre MacDonald; **David Rioux**, ing., Precision Metal Works Ltd., et **Graham Brown**, ing., ADI Systems Inc.*

UNB Hosts 22nd Annual Geological Engineering Open House

On the evening of March 23, the department of geological engineering (GE) held their 22nd Annual Geological Engineering Open House at the Wu Conference Centre in Fredericton. The Open House was organized by a group of GE students that took this on as part of CE3973 (Technical Communication), while the Geological Engineering Society (GES) and the University of New Brunswick's department of geological engineering helped provide the funding.

The Geological Engineering Open House is an annual event that helps promote GE as a faculty at the University of New Brunswick. It is an event for all current students in the department and students outside the department or from high school, who are interested in geological engineering but do not know much about the discipline, to network with each other and faculty members.

The evening began with **Dr. Karl Butler**, P.Geo., providing an overview of geological engineering. Dr. Butler then passed the floor over to, **Dr. Joe White** from the department of geology at UNB.

Dr. White's strong background in structural geology helped demonstrate the relationship between structural geology and geological engineering and the field tools needed for a geological engineer to help identify possible hazards in project areas.

The final speaker for the evening was **Dr. Katy Haralampides**, MIT, from the department of civil engineering at UNB. Dr. Haralampides' presentation was on Hurricane Katrina, which hit the southern United States in August 2005. The presentation showed the devastation that had occurred because of this natural occurring event and also explained some of the engineering used to create the older levees that failed, canals, waterways and what new engineering will likely be used for the future.

Attending the GE Open House were a mixture of 25 geological engineers and geologists from UNB, along with **Dr. Dave Lentz**, P.Geo.

Dr. Katy Haralampides, MIT, (centre) with UNB student organizers (L to R): Chris Martin (3rd Year GE); Dan Guest (3rd Year GE); Chris Aaen (4th Year GE); and Wayne Maston (4th Year GE).

Invited speakers included (from L to R): Dr. Joe White, P.Geo (Structural Geology); Dr. Karl Butler, P.Eng, P.Geo (Geophysics); and Dr. Katy Haralampides, MIT, (Engineering and Applied Science).

New Brunswick leads the way in sustainable community design

Submitted by Daniel Savard, Senior Planner
Sustainable Planning Branch, New Brunswick Department of Environment.

Organizations and jurisdictions are looking at ways to address provincial, regional and local interests with respect to development while at the same time considering 'smart growth', 'new urbanism' and 'sustainable communities' principles. At the same time, developers are trying to make a profit and communities are looking to protect their natural environment. Is it possible to achieve these combinations of purposes?

Conventional subdivision development does not achieve all of these objectives. With conventional development, land is subdivided into residential lots and streets, with the result that generally only land that can't be developed is preserved as open space. Most natural areas are cleared, graded and planted with non-native vegetation. The result of this approach is that storm water management becomes an issue and opportunities for community life are minimized.

Conservation design for subdivisions, (known as 'sustainable community design' in New Brunswick), is an innovative concept that meets most sustainable objectives. **Randall Arendt** popularized the concept in the United States but it is practically unknown in Canada.

In New Brunswick, the Province in partnership with the City of Dieppe and a local developer "… took the initiative to pilot Arendt's approach in a growing area in order to promote not just an enhanced tax base, but to achieve social and environmental benefits as well." *(Cathy Ascroft, Senior Editor, Plan Canada, Winter 2005)*. In this regard, the Province and the City are perceived by the planning community in Canada as 'leading the pack' with respect to sustainable community development projects.

The main characteristic of this concept is that about 50 percent of the area that can be used for building is preserved, in addition to that associated with normal environmental constraints such as flood plains, wetlands, and endangered species areas. Developments following principles of conservation design have been characterized as 'golf course subdivisions' without the golf course, where the conservation area replaces the golf course.

"The basic steps involved in the designing of residential developments…maximize open space conservation without reducing overall building density." *(Randall Arendt, Conservation Design for Subdivisions, 1996)*. Since 2004, the Province of New Brunswick, the City of Dieppe and a local developer, **Charles Poirier**, teamed up to implement the concept in a project called *'Le village en haut du ruisseau'*. The property is located close to downtown Dieppe in a zone where there is pressure to develop. The area considered is about 10 hectares and is zoned for low-density development (about five units for the whole property).

The City wanted to have revenues from the residential subdivision that would pay for the services and expenditures it implied. Possible options developed through multiple partners such as the School of Planning at Dalhousie University, *'Groupe Littoral et Vie'* from Université de Moncton, the New Brunswick Community College, and Grade 7 students at Anna Malenfant School. These partnerships enabled the number of units to be increased to 100 while protecting 63 percent of the property. The project is at the implementation phase and will require local by-laws to be adjusted to allow this innovative design.

Should you need more information about this project, please contact:

Daniel Savard, Senior Planner
Sustainable Planning Branch
New Brunswick Department of Environment.

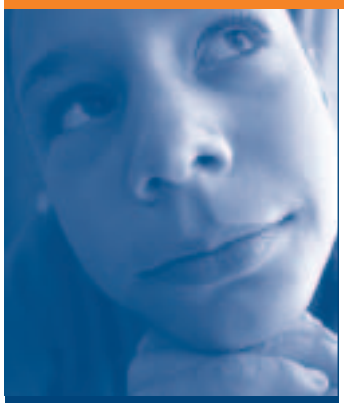
Phone: (506) 444-4391
Fax: (506) 457-7823
E-mail: *daniel.savard@gnb.ca*

http://www.dieppe.ca/dieppe_dev_en.cfm

social & environmental benefits

In New Brunswick, the Province in partnership with the City of Dieppe and a local developer "… took the initiative to pilot Arendt's approach in a growing area in order to promote not just an enhanced tax base, but to achieve social and environmental benefits as well."

Contest Corner



Spring 2006 Contest Corner Winners

Per E. Paasche, P.Eng.
Project Engineer, UNB Institute of Biomedical Engineering
Fredericton, NB

David Kozak, P.Eng.
Terrain Group Inc.
Moncton, NB

Michael W. Morrison, P.Eng.
Maintenance Engineer
Irving Oil Limited
Saint John, NB

Phil Millard, P.Eng.
District Manager
GE Infrastructure
Water & Process Technologies
Saint John, N.B.

Scott Lloy, P.Eng.
Drinking Water Systems Engineer
NB Department of Environment
Fredericton, NB

In the Spring 2006 *Engenuity*, we asked readers to answer the question: **Who was Christopher Polhem?** Most readers (including the five winners listed at left) knew that the country responsible for Volvos and Pippi Longstocking also produced an "inventor and industrialist considered to be the father of Swedish engineering".

Born in 1661, Polhem has a long list of impressive career achievements. He built an automated factory in 1699 which was powered entirely by water. His *laboratorium mechanicum* (a facility for training engineers) in Stockholm is the predecessor of The Royal Institute of Technology. The Polhem Prize, awarded to significant contributors to industry and construction engineering, is named after him.

Christopher Polhem in 1741. *Artist: Johan H. Scheffel.*

This month, we want to know:

What is an Eliica?

A. An intuitive shooting, single-lens reflex digital camera.
B. A portable computer with a biometric fingerprint reader option.
C. A Blu-ray Disc DVD device.
D. An eight-wheeled electric car built by Japanese engineers

Win this Season's Prize Package!

To win this season's Engenuity *prize package, e-mail your answer to* **melissa@apegnb.com** *by August 15, 2006. The first five correct submissions drawn will win the CD-ROM game, "Time Engineers", as well as a selection of APEGNB "goodies" including a robotic pen, t-shirt, ball cap and more!*

Readers Respond

The Real Nuclear Numbers

In Spring 2006 edition of *Engenuity*, engineer Nancy Black's letter about "Another Perspective on Nuclear" offered her views on nuclear energy.

She is correct in saying that statements about nuclear energy not producing greenhouse gases (GHGs) are simplistic. However, after all the GHGs released in the mining of uranium, fuel processing, construction, decommissioning and nuclear waste management are taken into account, and divided by the very large quantity of electrical energy produced, this GHG emission factor is much lower than solar PVC which she claims to be "green".

For more than 10 years now, I have seen various estimates of the total GHG emissions for different electricity production systems expressed in grams of CO_2 equivalent per kilowatt hour (kWh) of electricity produced.

This is known as **Full Energy Chain** (FENCH) analysis and is described in IAEA Bulletin Vol.42 No.2: "Assessing the Difference". This six-page document was published in 2000 and is available at www.iaea.org/Publications/index.html or by e-mailing me (*ncraik@nbnet.nb.ca*).

The document includes the chart entitled "Range of Total Greenhouse Gas Emissions from Electricity Production Chains" which I have summarized below. The data depends on the date of the technology and other factors. On average, wind produces twice as many GHGs as solar and 10 times as much GHGs as nuclear.

	Total GHG per kW/hr			
Nuclear	from	2.5	to	5.7
Wind	from	2.5	to	13.1
Biomass	from	6.4	to	16.6
Hydro	from	4.4	to	64.6
Solar PV	from	8.2	to	76.4
Natural Gas	from	108	to	188
Oil	from	150	to	240
Coal	from	210	to	350

NOTES:

Nuclear: here are GHGs attributable to nuclear power from the fossil fuels used in the mining, refining and transportation of uranium and in nuclear plant construction and decommissioning. The Point Lepreau CANDU reactor is at the low end because the fuel is not enriched.

Wind: GHGs are calculated based on the energy required in manufacturing and construction. It is questionable how many GHGs would really be saved because back-up power is required. When Point Lepreau is providing this back-up, there are no significant savings in GHGs from wind power. When the Mactaquac Hydroelectric Dam has surplus water during the spring, no GHGs are saved by wind power.

Solar: CO_2 is released when silicate is converted to silicon for the PV cells.
Also, this chemical process requires heat.

Ms. Black also expressed frustration about the cost of management of nuclear waste.

I can understand this feeling because the recent 451-page report by the Nuclear Waste Management Organization (NWMO) does not express such costs in a way to which electricity consumers can relate.

During the last NWMO New Brunswick Open House Dialogue meeting in Saint John on June 23 and 24, I recommended that the huge estimates (over $6 billion) for final management of nuclear waste management be expressed in terms of cents per kWh of nuclear electricity generated. This was not done. Maybe it was considered too simplistic.

However, the NWMO final study (November 2005 "Choosing The Way Forward" chapter 11, pp 250-263) describes the projected future costs of long-term nuclear waste management. The most costly option is estimated as $6.2 billion of which 5.22% is allocated to NB Power. Nancy Black referenced the website **www.nwmo.ca** as containing this information.

Here is my simple calculation of what this would cost electricity consumers.

By the year 2004, Point Lepreau had operated for 21 years at an average capacity factor of 83% with a net output of 635MW which approximately equals 100 billion kWh (or units of electricity). So the cost per unit of electricity required to cover long-term management of the nuclear waste is only about 0.3 cents per kWh on the cost of electricity from Lepreau.

Ms. Black also seems to have been mislead into thinking that the Federal Government, rather than electricity consumers, would be somehow responsible for such costs.

In fact, the NWMO was set up by the Federal Government to ensure that the nuclear utilities (Ontario, Hydro Quebec, NB Power) and Atomic Energy Council Ltd. (AECL) were accumulating sufficient funds for the long-term management of the nuclear waste that these four organizations have created.

On page 262 of the NWMO final study, it is stated that NB Power-Nuclear has funds of $87 million plus $28 million (total $115 million already set aside for this purpose.)

Ms. Black also mentions the cost of waste issues from uranium mine tailings. It should be noted that 80 percent of the uranium mined and processed in Canada is exported so that the GHGs emitted during these first stages are born by Canada and the benefits of GHG free electrical power generation are credited to other countries.

Neil G. Craik , P. Eng.
Nuclear Generation Consultant
Fredericton, NB

REGISTRATION SUMMARY – October & November 2005, January & February 2006

Registrations

AL-QADI, Ali M. A., P.Eng.
BUBAR, Nathan G., P.Eng.
DEDINCA, Nysret, P.Eng.
DING, Kangfa, P.Eng.
FOWLIE, Colin D., P.Eng.
GEROW IV, Warren H., P.Eng.
GODIN, Gilbert, ing.
GORDON, Timothy A., P.Eng.
HALLETT, Matthew, P.Eng.
HANSON, Trevor, P.Eng.
IRVINE, Ashley, P.Eng.
JOHNSTON, Darrell A., P.Eng.
LAPOINTE, Charles, P.Eng.
LIRETTE, Dennis, P.Eng.
MINOR, Edward (Ted), P.Eng.
PORTER, Jeffrey T., P.Eng.
REYNOLDS, Terrance G., P.Eng.
ROSE, Barbara A., P.Eng.
ROY, Raphael, ing.
SALAH, Souraj, P.Eng.
SAVOIE, Mariette, ing.
SEALE, Arnold James, P.Eng.
SONIER, Daniel, ing.
VAN WART, Jason, P.Eng.
VIEL, Sébastien, ing.
WILCOX, Christopher, P.Eng.
WU, Yan, P.Eng.
ZHANG, Ying, P.Eng.

Transfers-in

DAVIS, Thomas, P.Eng.
DESROCHERS-GAGNON, Philémon, ing.
GUIDRY, Christopher J., P.Eng.
MURPHY, Francis, P.Eng.
POIRIER, Nathalie, ing.
THIBEAULT, Yves-Michel, ing.
WILSON, Jason, P.Eng.

Members-in-Training

ALLEN, Blair, MIT
BANKS, Vernon James, MIT
CLOWATER, Kathyrn, MIT
CREBER, David J., MIT
DAWSON, Cara, MIT
de MELO, Daniel, MIT
DOHERTY, Ryan, MIT
DONOVAN, Chris, MIT
ELLIOTT, Robert C., MIT
HAMBROOK, Jeffrey Edison, MIT
HITCHCOCK, Matthew, MIT
LANG, Serge, MIT
MacFARLANE, Vaughn, MIT
MAILLET, Maurice, MS
MELANSON, Joel, MIT
MOORE, Scott Anthony, MIT
NG, Chien-Ee, MIT
PICKARD, Rory, MIT
ROY, Jean-Frédérick, MIT
ROY, Philippe, MIT
SAVOIE, Stéphane, MIT
SHABANI, Emmany, MS
SOANES, Ashleye Patrick, MIT
THORNHAM, Christopher, MIT
THORNHAM, Jonathan, MIT
UWANYIRIGIRA, Marie Claire, MS
WHITE, Martin, MIT
ZHAO, Haitian, MIT

Licencees

BÉLANGER, Marc, ing.
BERNIER, Patrice, ing.
BOUCHARD, Fernand Louis, ing.
BOUCHER, Yves, ing.
BRISSON, Eric, ing.
CARRON, Sean, P.Eng.
CHAMPNEYS, David Charles, P.Eng.
CHARLES, Donald, P.Eng.
COLMENARES-ORTEGA, César, P.Eng.
CROTEAU, Louis, ing.
DIAMOND, James D., P.Eng.
DIBBEN, Harold A., P.Eng.
DIONNE, Denis, ing.
DUNCAN, Andrew William, P.Eng.
DUNLOP, Ian, P.Eng.
EL-FASHNY, Kamal, P.Eng.
GIGUERE, Pierre, ing.
HALIBURTON, James A., P.Eng.
HAMILTON, Bruce W., P.Eng.
HAMOUCHE, Kamel, ing.
JAGGI, Suraj, P.Eng.
LANGTON, Danny, P.Eng.
LÊ, Quang Minh, ing.
LIU, JianGuo, P.Eng.
LORD, Elizabeth, ing.
MACNEIL, Robert (Bruce) , P.Eng.
MASTRANGELO, Emilio, P.Eng.
MCKINNEY, Robert, E., P.Eng.
PARADIS, Louis, ing.
PARR, Sylvain, ing.
PELLETIER, Denis, ing.
PHINNEY, Keith, P.Eng.
POPOVIC, Aleksandar, P.Eng.
ROBICHAUD, Mario, ing.
ROCHON, Alain, ing.
ROCHON, Michel, ing.
SABBAGH, Nabil Antoun Jean, ing.
SEAL, Richard (Dick), P.Eng.
SHERSTOBITOFF, John, P.Eng.
SIMMS, Scott A., P.Eng.
STEFANOV, Christo, ing.
THOMAS, Lance, P.Eng.
TRAN, Loc, P.Eng.

Certificates of Authorization – Resident

OME ENGINEERING INC., Bathurst, NB

Certificates of Authorization – Non Resident

BOUSTEAD INTERNATIONAL HEATERS LIMITED, Southwick, West Sussex
BRUMAR ENGINEERING LTD, Unionville, ON
D.H. CHARLES ENGINEERING, INC., Santa Rosa, CA
DELCOM ENGINEERING LTD., Summerside PEI
HYPERSHELL INC., Sherbrook, QC.
IAN DUNLOP & ASSOCIATES, Concord, ON
LASSING DIBBEN CONSULTING ENGINEERS LTD., Trenton, ON.
LEIBE ENGINEERING ASSOCIATES, Ottawa, ON
MARITIME TESTING (1985) LIMITED, Dartmouth, NS
ODOTECH INC., Montréal, QC.
OMNIWELD INTEGRATED SOLUTIONS, a Division of Air Liquide Canada Inc., Boucherville, QC
OPRESNIK ENGINEERING CONSULTANTS INC., Toronto, ON
PROKIT STRUCTURAL INC., Saint-Jean-sur-Richelieu QC
SANDWELL ENGINEERING INC., Vancouver, BC
SNC-CENMC, Montréal, QC
SYLVAIN PARR ET ASSOCIÉS INC., Montréal, QC

Resigned:

ADAMS, Glenn N., P.Eng.
BAXTER, John H., P.Eng,
DEN-HARTOG, John, P.Eng,
MCKENZIE, A. Roger, P.Eng,
THORNE, Michael M., P.Eng,

Deceased:

GOUDREAU, Pierre B., P.Eng.
LEBLANC, Yvon-Guy, P.Eng.
NICOLAU, Maria, P.Eng.
SABEAN, Clarence E., P.Eng.
THOMPSON, Peter, P.Eng.
WETMORE, Raymond E., P.Eng.

Transfers-out

LAMB, Jeffrey W., P.Eng.
MUDGE, Francis A., P.Eng.
PALMER, Cory S. P.Eng.

NOTICE

To:
Engineers Considering Work in the US

Re:
NCEES Fundamentals Exam – Saturday, October 28, 2006

If you're contemplating working in the United States, please be advised that APEGNB will be offering the **NCEES** (National Council of Examiners for Engineering & Surveying) **Fundamentals Exam**.

The eight-hour exam is open to APEGNB members and UNB/UdeM engineering students. The NCEES Fundamentals Exam is the first step to becoming a licensed engineer in the U.S.

The cost is **$150 CAD** + HST.

For more information, contact:
Andrew McLeod
Executive Director–APEGNB
mcleod@apegnb.com
Tel: **506-458-8083**

UdeM takes third prize at Troitsky Bridge Construction Competition

The Université de Moncton's civil engineering team from the Faculty of Engineering received third prize overall at the 22nd Annual Troitsky Bridge Construction Competition which was held at Concordia University of Montreal. The third place finish marks the best place overall obtained by a team from the Université de Moncton. The U de M team also finished in first place for the aesthetics of their bridge and second for the originality of their design. This annual event hosted 43 teams from Canada and the United States.

The team consisted of **Patric Haché** from Ste-Marie-St-Raphaël, **Sébastien Poirier** from Néguac, **Renaud Boudreau** from Tracadie-Sheila and **René Thibault** from St-Jean Baptist.

For the construction of the bridge, the only authorized materials were popsicle sticks, white glue, dental floss, strings and toothpicks.

The bridge supported a total load of 171 kg while weighing only 1.71 kg.

U de M's Faculty of Engineering has participated in this competition for the past six years. Their participation allows students to acquire new knowledge in the field of structural engineering and also to demonstrate their design skills learn in the classroom.

From L to R/ de gauche à droite : ***Patrick Haché****,* ***Renaud Boudreau****,* ***René Thibault*** *and* ***Sébastien Poirier****.*

Un troisième prix à la 22e compétition annuelle de construction de pont Troitsky

L'équipe du secteur de génie civil de la Faculté d'ingénierie de l'Université de Moncton, campus de Moncton a remporté le troisième prix au classement général lors de la 22e édition annuelle de construction de pont Troitsky qui s'est tenue à l'Université Concordia de Montréal. Cette 3e position constitue la meilleure place au classement général obtenu par une équipe de l'Université de Moncton. De plus, elle a obtenu une première position pour l'esthétique de leur pont et en deuxième position pour l'originalité de la conception. Cet événement annuel accueillait entre autre 43 équipes provenant d'Alberta, d'Ontario, du Québec, du Nouveau-Brunswick ainsi que des États-Unis.

L'équipe est composée de ***Patrick Haché*** *– Capitaine, de Ste-Marie-St-Raphaël,* ***Sébastien Poirier*** *de Néguac,* ***Renaud Boudreau*** *de Tracadie-Sheila et de* ***René Thibault*** *de St-Jean Baptiste.*

Pour la construction du pont, les seuls matériaux autorisés étaient des bâtonnets de bois, de la colle blanche, de la soie dentaire et des cure-dents.

Le pont de l'équipe a soutenu une charge de 171 kg alors qu'il ne pesait que 1.71 kg.

Les étudiants de la faculté d'ingénierie participent depuis maintenant six ans à cette compétition qui leurs permet d'acquérir de nouvelles connaissances dans le domaine de l'ingénierie des structures appliquées au génie civil et également de démontrer leur savoir-faire appris en classe.

APEGNB Summer Office Hours

Please be advised that the APEGNB office will be closed on Fridays during the months of July and August.

U de M researchers urge NB Power to invest in wind power

During a May 2006 news conference, the K. C. Irving Chair in Sustainable Development at the Université de Moncton presented recent results from research and innovation studies on the potential of wind power and its possible contribution to the development of the electricity sector in New Brunswick.

The research group consists of Chair holder and project director **Dr. Yves Gagnon**, P.Eng., **Gérard J. Poitras**, P.Eng., director of the centre of wind engineering and a professor at the Faculty of Engineering; and research assistant **René Thibault**.

Their findings indicate that wind could be a significant source of energy for New Brunswick, with the available technical potential to produce 43,464 megawatts. This is 11 times NB Power's present total electricity-production capacity of 3,948 megawatts from all sources combined, including hydroelectric power, nuclear power, coal, diesel, oil and Orimulsion.

"These studies quantified the wind energy potential of the Province and identified the precise locations in which wind power can be developed in an economically viable way to produce electricity from renewable resources," explained Dr. Gagnon.

Dr. Gagnon referred to the government of New Brunswick's recently announced commitment to produce 10 percent of the province's electricity from renewable resources over the course of the next 10 years. "At the same time, NB Power expects to shut down its nuclear power plant at Point Lepreau for renovations from April 2008 until September 2009," he said. "During this shutdown, which is expected to last for at least 18 months, NB Power will have to find an alternative source of electricity at an affordable cost to replace the electricity normally produced by the Point Lepreau plant."

"To reach that objective of 10 percent of electricity production from renewable resources more rapidly, and to respond to the strong interest shown by entrepreneurs and groups who want to invest in wind farms in New Brunswick, we recommend the immediate establishment of several wind farms with a total capacity of 400 megawatts, spread over several different areas of the province. By doing so, we would achieve the objective of developing renewable energy sources in New Brunswick a few years ahead of schedule," Dr. Gagnon emphasized.

"We therefore urge NB Power to proceed immediately to issue contracts for the purchase of approximately 400 megawatts of wind-generated electricity. Although it represents less than one percent of the available wind potential in New Brunswick, the installation of 400 megawatts of electricity before the complete shutdown of the Point Lepreau power plant for renovations is technically feasible, economically viable and socially desirable."

According to the research team, this start-up would allow for about $700 million in private investments, create jobs in New Brunswick, provide rental income to the owners of the land and generate tax revenues for municipalities across the province, in addition to helping to ensure the provision of electricity at a stable price to the citizens and businesses of New Brunswick.

Maps of the wind resources of New Brunswick and Prince Edward Island produced by the research group can be viewed on the Web at **www.umoncton.ca/chairedd**

From L to R/ de gauche à droite :
***Dr. Yves Gagnon**, P.Eng./ing.; **René Thibault**; **Gérard Poitras**, P.Eng./ing.*

Des chercheurs de l'U de M exhortent Énergie N.-B. à investir dans la production d'électricité de source éolienne

La Chaire K.-C.-Irving en développement durable de l'Université de Moncton a présenté lors d'une conférence de presse au Campus de Moncton les plus récents résultats de ses travaux de recherche et d'innovation sur le potentiel éolien et les possibilités de développement dans le secteur de l'électricité au Nouveau-Brunswick.

Le groupe, composé du titulaire de la Chaire et directeur du projet, **Yves Gagnon**, *du directeur du Centre de génie éolien,* **Gérard J. Poitras**, *et de l'assistant à la recherche,* **René Thibault**, *a démontré que le Nouveau-Brunswick possède un gisement éolien important. Les chercheurs ont établi à 43 464 mégawatts le potentiel technique exploitable, soit 11 fois la capacité totale actuelle de production d'électricité d'Énergie N.-B., qui est de 3 948 mégawatts, toutes sources confondues - hydroélectrique, nucléaire, charbon, diesel, mazout et Orimulsion.*

« Ces travaux quantifient le potentiel éolien de la province et démontrent les lieux précis où les gisements éoliens peuvent être exploités de façon économiquement viable pour produire de l'électricité de sources renouvelables, explique Yves Gagnon.

Le gouvernement du Nouveau-Brunswick a récemment annoncé qu'il s'engageait à produire dix pour cent de son électricité de source renouvelable au cours des dix prochaines années, a rappelé M. Gagnon. « Par ailleurs, dit-il, Énergie N.-B. prévoit l'arrêt de sa centrale nucléaire de Pointe-Lepreau pour sa remise à neuf du mois d'avril 2008 à septembre 2009. Pendant cet arrêt prévu pour au moins un an et demi, Énergie N-B. devra trouver une source alternative d'électricité à coût abordable pour remplacer l'électricité normalement produite par la centrale de Pointe-Lepreau. »

« Afin de réaliser plus rapidement l'objectif de dix pour cent de la production d'électricité provenant de sources renouvelables et de répondre au fort intérêt manifesté par des entrepreneurs et groupes qui veulent investir et établir des parcs éoliens au Nouveau-Brunswick, nous recommandons l'installation immédiate de plusieurs parcs éoliens d'une capacité totale de 400 mégawatts répartis dans plusieurs régions de la province, ajoute M. Gagnon. Cette mesure permettrait de réaliser ces objectifs, tout en devançant de quelques années seulement les objectifs de développement des énergies renouvelables au Nouveau-Brunswick »

« Nous exhortons donc Énergie N.-B. de procéder immédiatement à l'émission de contrats d'achat de l'ordre de 400 mégawatts d'électricité produite de source éolienne, insiste M. Gagnon. Ne représentant que moins d'un pour cent du potentiel éolien exploitable au Nouveau-Brunswick, l'installation de 400 mégawatts d'électricité avant l'arrêt complet de la centrale de Pointe-Lepreau pour sa remise à neuf est donc techniquement faisable, économiquement viable et socialement favorable. »

Selon l'équipe de chercheurs, cette démarche permettra des investissements privés de l'ordre de 700 millions de dollars, créera des emplois au Nouveau-Brunswick, fournira des revenus de location aux propriétaires de terrains et générera des revenus de taxation pour les municipalités dans l'ensemble de la province, en plus d'assurer un approvisionnement d'électricité à prix stable pour les citoyens, citoyennes et entreprises du Nouveau-Brunswick.

Il est possible de visualiser les cartes de la ressource éolienne du Nouveau-Brunswick et de l'Île-du-Prince-Édouard, produites par le groupe de recherche, à l'adresse Internet www.umoncton.ca/chairedd .

U de Moncton Industrial Engineering students winners at the 8th annual conference of the Association of Canadian Ergonomists – Atlantic Region

On March 25, the eighth annual conference of the Association of Canadian Ergonomists – Atlantic region (ACE-A) celebrated *"Innovations in ergonomics: Atlantic Perspectives"* held at the Université de Moncton.

Attendees arrived from all four Atlantic provinces to learn about comfort, usability, communications and other aspects of ergonomics. Keynote speakers were:

- **John Tivendell**, of Université de Moncton asking *"Comfort : Can we, should we measure it?"*,
- **Sonya Symons** of Acadia University presenting the *"Acadia Digital Culture Observatory : a facility to support interdisciplinary research in information and communication technologies"* and,
- **Michel Doucet** exploring the interactive nature of communication.

A panel on usability applications included:

- *"An introduction to non-predictive computing systems"* (**Elaine Toms**, Dalhousie University),
- *"Designing and evaluating human-computer interaction for mobile technologies"* (**Joanna Lumsden**, CRN – IITC), and
- *"The challenges of meeting diverse user expectations"* (**Yves Doucet**, President DOVICO Software).

Student research projects were also highlighted. A student poster competition (for all student levels) sponsored by ACE-A and a graduate student oral presentation competition sponsored by UNB Faculty of Kinesiology added to the interest.

Tina Levesque and **Shawn Amberman** won second prize for their poster "*Workstation analysis at Norwood Windows & Doors*", and **Rémy Bernier** and **Jason Sirois** won third prize for their poster "*Ergonomic evaluation of seating in the Ciné-campus amphitheatre*".

Notably, all students of the human-machine interfaces course in industrial engineering at U de M attended this conference. All student attendees received a free 2006 membership to the Association of Canadian Ergonomists sponsored by ACE-A.

*First row (L-R) : **Tina Levesque**, Génie Industriel, U Moncton, 2nd prize poster, **Rémy Bernier**, industrial engineering, Ude M, 3rd prize poster **Dawn Santucci** and **Candice MacDonald**, kinesiology, UNB, 1st prize poster; **Nancy Black**, P.Eng., conference chair (industrial engineering, U de M)*

*Back row (L-R): **Jeremy Rickards**, P.Eng., student competition organizer; **Michael Taber**, School of Health and Human Performance, Dalhousie University, 1st prize oral competition; **Shawn Amberman**, industrial engineering, U de M, 2nd prize poster; **Daniel Makhan**, president, Association of Canadian Ergonomists, Atlantic Region*

*Absent: **Jason Sirois**, industrial engineering, U de M, 3rd prize poster*

Première rangée (de gauche à droit) : **Tina Levesque**, étudiante génie industriel, U Moncton, gagnante 2e prix de poster ; **Rémy Bernier**, étudiant génie industriel, U Moncton, gagnant 3e prix de poster ; **Dawn Santucci** et **Candice MacDonald**, étudiantes de kinésiologie, UNB, gagnantes de 1er prix de poster, **Nancy Black**, ing., Présidente de conférence

Dernière rangée (de gauche à droit): **Jeremy Rickards**, Président des compétitions étudiantes ; **Michael Taber**, School of Health and Human Performance, Dalhousie University, gagnant du premier prix - présentation orale (2e, 3e cycle ; **Shawn Amberman**, Étudiant Génie Industriel, U Moncton, Gagnant 2e prix de poster ; **Daniel Makhan**, Président de l'Association canadienne d'ergonomie - région Atlantique (commanditaire des compétitions)

Absente de la photo: **Jason Sirois**, étudiant génie industriel, U Moncton, gagnant 3e prix de poster

Les étudiants de génie industriel de l'Université de Moncton méritent des prix lors de la conférence annuelle de l'Association canadienne d'ergonomie - région Atlantique

Samedi le 25 mars, "Innovations en ergonomie : Perspectives atlantiques", *la 8e conférence annuelle de l'Association canadienne d'ergonomie - région Atlantique (ACE - A) avait lieu à la Faculté d'ingénierie de l'Université de Moncton.*

La journée a regroupé les personnes des quatre provinces Atlantiques pour apprendre de l'ergonomie. Il y avait trois conférenciers invités :

- ***John Tivendell**, de l'Université de Moncton a présenté sur* « Le confort : peut-on, devrait-on le mesurer ? »,
- ***Sonya Symons** d'Acadia University a présenté* « Acadia Digital Culture Observatory : une installation pour soutenir la recherche interdisciplinaire des technologies de l'information et communication », *et*
- ***Michel Doucet** a fait explorer l'interactions de communication.*

Une table ronde sur les applications d'utilisabilité a compris :

- « Une introduction aux systèmes de computation sans prédiction » *(**Elaine Toms**, Dalhousie University),*
- « Le design et l'évaluation d'interaction personne – ordinateur pour les technologies mobiles » *(**Joanna Lumsden**, CRN – IITC), et*
- « Les défis de combler les attentes d'utilisateur » *(**Yves Doucet**, Président DOVICO Software).*

En plus des conférenciers invités, les travaux de recherche d'étudiants ont été mis en relief. Une compétition avait lieu des posters (étudiants de premier et deuxième cycles) commanditée par l'ACE-A, et des présentations orales (étudiants de deuxième et troisième cycles) commanditée par la Faculty of Kinesiology, de l'University of New Brunswick.

***Tina Levesque** et **Shawn Amberman** ont mérité le deuxième prix de poster pour leur* « Analyse des postes de travail chez Norwood Windows & Doors », *et **Rémy Bernier** et **Jason Sirois** ont mérité le 3e prix dans cette même compétition pour leur* « Évaluation ergonomique de sièges en salle d'amphithéâtre du ciné-campus ».

Tous les étudiants et toutes les étudiantes du cours de génie industriel : Interfaces personne – machine ont participé à cette conférence. Cette année, tout étudiant et toute étudiante participant à la conférence a été offert l'inscription à l'Association canadienne d'ergonomie pour l'année 2006 à titre de gracieuseté de l'ACE !

By Jennifer Power Scott
Special to Engenuity

Engineering in the DANGER ZONE

Tom Vardy, P.Eng., CEO of Fredericton-based Varcon Inc., inspects a tv tower.

Bird's eye view of the world beneath a communications tower.

It was a grey morning on the barren, craggy coast of Newfoundland when ***Tom Vardy****, P.Eng., grasped the steel rungs of a 600,000-watt ladder to the sky.*

After hours of climbing, he was alone at 425 metres, the salty ocean wind on his face. Had the Empire State Building been nearby, Vardy would have been at eye level with the skyscraper's lightning rod.

"It's a weird feeling because you lose some sense of your perspective for heights," he says. "You climb up through this foggy-type atmosphere, which is in the cloud, and then you get up at the top and you just see these rolling pillows of white cloud. I found it very peaceful because you don't see land anywhere."

Vardy is an extreme athlete of the engineering world. The president and CEO of Varcon Inc. in Fredericton has spent more than 20 years climbing, inspecting and certifying communications towers across Canada and the eastern United States. On one harrowing job, a surprise wind whipped up and nearly blew his legs off a tower. The 53-year-old still climbs up to 40 towers each year.

"The worst type of person for what we do is the cowboy, the person who has no fear of heights," he says. "Because that's the type of person who will make a foolish mistake. And dealing with this type of work, you only make a mistake once. Then you become a statistic."

Vardy isn't the only New Brunswick engineer whose career has been dotted with danger. While few in the profession scale super-tall towers, many choose to transplant their expertise -- and their lives -- in high-risk parts of the world.

"The fact of going overseas in itself is quite an adventure," says **Geoff Williams**, P.Eng., a project services specialist with Neill and Gunter in Fredericton. "And I've always enjoyed large engineering projects, just being part of that. It drove me overseas. That was the main reason for going."

no fear

The worst type of person for what we do is the cowboy, the person who has no fear of heights

For Williams, one price of finding fulfillment in far-flung places was facing moments of risk. He was nearly attacked by a throng of villagers when he took a snapshot of a woman with a donkey in Iran. Diseases such as malaria and dengue fever were always a threat. And in the early 1980s, a boy stubbed a cigarette on his three-year-old daughter's bare back in Egypt.

But the most perilous episode came in May 1998. Williams and his family were living in Jakarta, Indonesia, when the currency collapsed. The city sank into a nightmare of riots, fires, murders and looting.

"We were at work and our office was up on the tenth floor in this building," he recalls.

"All of a sudden I could see these fires off in the distance. Not just one, but six or seven of them. And we realized, because we all knew there was a potential for problems, that it was something bad going on."

Geoff Williams, P.Eng.

Williams, his wife and their daughter gathered at their house. Horrified, they watched BBC television coverage of the violence. The family was soon in a convoy headed for an old airport. They fled to Singapore.

"As a parent that's when you feel really, really guilty in a way," Williams says. "You say 'why did I bring everybody here in this situation', you know? In Canada, this is not going to happen to them."

Even the City of Light isn't exempt from days of darkness. When **Greg Snyder**, P.Eng., of SGE Acres Ltd. in Fredericton worked in Paris in the mid-1980s, the city was in the middle of a wave of violence. A terrorist group bombed the lobby of his office building the week before he arrived. A department store he walked by everyday blew up. Another bomb went off not far from a hotel where he used to stay. At home in Canada, Snyder's wife was anxious.

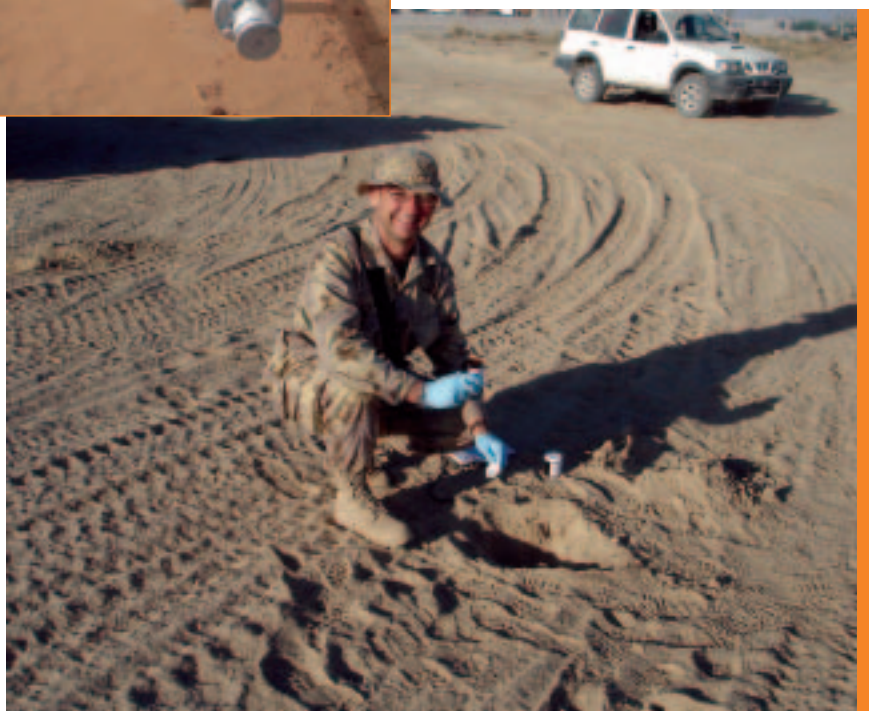
"She was not happy," he says. "Our baby was six months old at the time and she had a two-year-old. The bombs were frequent enough so that I actually called home everyday."

But perhaps the engineers facing the greatest dangers are those working near the front lines of war. **Captain Darryl**

the question is why?

The question is, why do some engineers willingly put their lives at risk for their careers? Why climb communications towers or endure the threat of disease and violence when there are desk jobs aplenty?

Canadian military engineers in El Fasher, Sudan.



***Captain Darryl Damude**, P.Eng., takes a soil sample in Afghanistan.*

Damude, P.Eng., of 1 Engineer Support Unit in Moncton has been deployed to Bosnia, Africa and Afghanistan. Late last year, the terrifying boom of a mortar attack shook him from his sleep in Kandahar.

"Following the boom they have air raid sirens which blow over the entire camp," says Damude, an environmental specialist who builds army camps. "At that point is when you go through your drills. You roll out of bed. You put your protective equipment on, your helmet and flak jacket to protect you. And you stay low."

The question is, why do some engineers willingly put their lives at risk for their careers? Why climb communications towers or endure the threat of disease and violence when there are desk jobs aplenty? Part of the appeal, some say, is a need to escape the monotony of the office. There's also the irresistible attraction of a good challenge.

Members of 1 Engineer Support Unit take a helicopter ride to camp.

"It has been a very enriching life," Williams says. "As an engineer, it was a wonderful experience. Working in Third World countries, the standards are so different when it comes to safety and things like that. So you have to constantly be on top of things like that as an engineer."

For many engineers, there's also the satisfaction of knowing their work makes people's lives better.

"It gives me a sense of accomplishment knowing that what I'm doing actually matters," Damude says. "I'm glad to see children going to a school I helped repair or construct or to aid in providing water for a whole community just to help them survive. The help the people need would not come to them right away if not for our efforts in some areas considered unsafe for travel. It makes me wish I could do more."

As for Tom Vardy, he will keep doing work that enables thousands of people to talk on the phone, listen to the radio or travel in airplanes. He faces the challenge of a body that's telling him it will soon be time to slow down. But for now, he's at home on those breathtaking, supercharged towers.

"I love the outdoors," he says. "I love doing things outdoors. This is a way that I can use my talents as a structural engineer and enjoy what I'm doing as opposed to being stuck behind a desk."

Typical delivery of a fuel tank in Darfur, Sudan.