Welcome to the 2011 edition of our annual Building Partnerships newsletter. This has been a very busy year for us with many new initiatives and accomplishments on both the teaching and research fronts. We also welcomed two new faculty members this year, Dr. Ryan Mulligan, a coastal engineer who joined our Hydrotechnical Engineering Group, and Dr. Duncan Cree, a coastal engineer who joined our Structural Engineering Group. Dr. Cree was given a three-year special appointment as an assistant professor which includes an administrative function as the interim director for the Aboriginal Access to Engineering Program in the Faculty of Engineering and Applied Science. Dr. Mulligan's appointment is tenure-track. More background on each is provided in the following pages.

On the teaching front, the number of undergraduates entering 2nd year diminished slightly from last year to 108. Although this alleviates some of the pressure on our teaching resources, we continue to find the large class sizes a challenge, especially with our emphasis on hands-on labs and tutorials. To help us maximize the hands-on and one-on-one resources provided by our teaching assistants, we have brought in more student self assessment, quizzes and lab elements which feature direct TA to student feedback, particularly in our 3rd year courses.

Our undergraduate curriculum underwent a full inspection by the Canadian Engineering Accreditation Review Board (CEAB) at the end of October (as did the entire Faculty). This is a rigorous review held every six years in which our program and curriculum are assessed against a large array of criteria. As can be imagined, preparation for this is a significant effort and many thanks are extended to Dr. Mark Green and Cathy Wagar who spearheaded the assembly and writing of the review document. Although the final assessment report is not due from the CEAB for a few months, preliminary feedback for our department has been very positive.

Our graduate program continues to expand as some of our more recent faculty additions bring their graduate student teams up to full strength. During 2011 we took in 7 new PhD and 30 new MASc students to bring our total to 115. As these numbers increase, we struggle to find desks for everyone, schedule testing equipment appropriately, and find research laboratory space for all. To help us with this, the Departmental Space Committee led by Dr. Neil Hoult has developed a space plan in which current space usage by faculty member is accurately assessed, and a future space management approach, developed.

As an extension of the space plan, the department recently established a joint student/staff/faculty Safety Committee. Although the department is regulated by the University Safety Committee, we felt a local committee would be more responsive and proactive to the safety needs in our busy labs, tutorials and offices. One of our early priorities is to establish a culture in our undergraduate and graduate student teams which promotes the use of Personal Protective Equipment (PPE) in all of our settings. If you happen to visit Ellis Hall this year, you will recognize an abundance of new signage requiring the use of PPE in many parts of our building.

We continued to have great success in research during 2011. Several of our faculty won best-paper awards, were appointed to editorial boards for prestigious journals, submitted and won large research grants, and undertook new research partnerships with industry and government. Using Discovery Grants from the Natural Sciences and Engineering Research Council grants as an example, our department has the highest per capita grant in the Faculty of Engineering and Applied Science, and one of the highest amongst Civil Engineering Departments in the country. Examples of our new research partnerships include studies on concrete permeability with Revolutionary Concrete Solutions Inc., and FRP reinforcement in guide way structures with Bombardier Transportation Canada. More details on some of these projects can be found in the following.

We again had the opportunity to use the Kennedy Field Station for our 2nd year CIVL Week course last September. The students designed, built and raced cardboard canoes on the Salmon River which lies adjacent to the property for the 3rd straight year. This is a popular event, and this year we changed the rules to make it more challenging (i.e. cause more canoes to dunk!). During the year, we initiated discussions with a donor who may help us expand substantially our teaching infrastructure at the Field Station in the coming years. We are extremely excited about this, and hope to have more news soon.

Finally, I had the opportunity to meet with many alumni from our department at several venues across the country, during the past year. This is a tremendously rewarding experience, and has led to many opportunities for collaboration (such as with our 4th year design course and the Industry Open House). The feedback is especially welcome, as this gives us a gauge on how well we are preparing our students for life as civil engineers.

Through these travels, we also continue to pursue many fundraising opportunities which might help us with our program. If you have any suggestions on directions in this area, we would be grateful to hear them. Also, if you wish specific information on some of the work you have read herein, please contact me at kent@civil.queensu.ca or via phone (613) 533-6417.

Kent Novakowski

www.civil.queensu.ca • tel. 613 533 2122 • fax. 613 533 2128
Our Students

Queen's Concrete Canoe Team
TAKES IT BACK TO BASICS

The concrete canoe team had a successful and by all accounts enjoyable season during the 2010-2011 academic year. Our boat was the first built by Queen's in several years to have been constructed using a “male” (convex) mould. This provided the team with the opportunity to build a thinner and uniformly constructed canoe which greatly improved the on water performance compared to previous Queen's Canoes. The concrete mix that was used incorporated an aggregate which allowed for a much lighter concrete without sacrificing any yield strength.

GRADUATE STUDENT ACTIVITIES

The graduate student population in the Department of Civil Engineering is over 100 for the second year with students coming together from Civil, Mechanical, Chemical, and Geological backgrounds. As such, our research activities vary from environmental, geotechnical, hydrotechnical, and structural engineering. Time is not just spent on research, but also on our classes, Teaching Assistantships, attending conferences and social activities.

Throughout the year, graduate students have met for events like the Welcome Back BBQ, the Christmas Party and the occasional movie night. We also participate in several of the events with the undergrad including Pool-with-Profs, bonspiel, and the annual Civil Trip. The summer is particularly busy for the graduate students with a golf tournament, beach volleyball, and plenty of BBQs with staff and faculty.

CIVIL CLUB

Civil Club is a committee of undergraduate students, elected to represent the Department of Civil Engineering’s undergraduate student body. The committee strives to improve the quality of the undergraduate experience within Civil Engineering. We do this by providing academic resources to our peers, such as a tutoring service, which allows students in their 2nd and 3rd year of study to receive help from upper year students who have excelled in a specific course. In addition to this, Civil Club organizes an AutoCAD workshop to help provide students with the necessary skills needed for junior engineering positions. The Club focuses on networking between students and faculty. Through social events such as the Welcome Back BBQ, Pool with Profs and Curling, students are given the opportunity to interact with professors outside the classroom and create personal connections with them. Civil Club also plans an annual trip to a major American City and this year we went to Chicago to explore the amazing things this city has to offer. The Civil Club decided to re-affiliate with the Canadian Society for Civil Engineering after a brief absence. This rekindled partnership will provide students with the opportunity to be recognized nationally for undergraduate research as well as allow them to attend many of the organizations conferences to network with industry partners.

Brooklyn Bridge, NYC (Credit: Mike Dutton)
Thank you from the Queen’s Concrete Toboggan Team!

Attending the Great Northern Concrete Toboggan Race is a fantastic experience for students. In Edmonton our team met many students from across Canada who are all studying, learning, and working towards similar degrees. The inclusive and encouraging atmosphere of GNCTR is something that makes it a truly unique and wonderful design competition.

The event this year was covered by a number of media sources including the Rick Mercer Report, a segment by American travel show personality “Bert the Conqueror”, The Edmonton Sun, CBC, and CTV.

A 2nd place finish was a significant achievement for our team, and something that we are incredibly proud of. We are especially thankful to our executive members who put in countless hours of work constructing our toboggan and getting our team to Edmonton and also our energetic new members who brought their spirit and energy to the competition.

We were also proud to take home 3rd place in team spirit; something we feel shows our special Queen’s enthusiasm at competition, in addition to placing excellently in the technical awards.

It is a GNCTR tradition to have a theme for your team and dress-up during the competition. This year, the Queen’s theme was “Biker”, and so all team members fashionably donned leather vests, ripped jeans, fake tattoo-sleeves, and electric blue skullcaps during the competition.

Once again, thank you for your help that allowed our team to travel and compete at GNCTR 2011. We hope that you will consider supporting the Queen’s Concrete Toboggan Team again next year!

Madeline Pease
Sponsorship Coordinator

www.civil.queensu.ca
Mulligan Intro 2011

We are pleased to announce the appointment of Dr. Ryan Mulligan as an Assistant Professor specializing in Coastal Engineering in this department. Ryan earned his PhD at Dalhousie University in Oceanography for his work identifying the importance of surface waves that drive the circulation in coastal bays. He completed his BASc at Queen’s in Geological Engineering and his MASc at the University of British Columbia in Civil Engineering. After completing his PhD in 2008, Ryan worked as a Natural Sciences and Engineering Research Council (NSERC) visiting post-doctoral fellow at the Bedford Institute of Oceanography on coastal processes in the Arctic. Then Ryan worked as an Assistant Professor at East Carolina University in North Carolina, investigating the dynamics of beaches and estuaries. His current research focuses on using field observations and numerical models to study coastal systems, and develop further understanding of the hydrodynamic and morphologic processes in oceans, estuaries and large lakes. He is particularly interested in regions that are exposed to large waves and strong currents from severe storms such as hurricanes, and understanding erosion and flooding that can have severe impacts on infrastructure and society. With regard to teaching, Ryan is particularly interested in hydrotechnical courses where he will have the opportunity to engage with students in coastal engineering.

Cree Intro 2011

We also welcome Dr. Duncan Cree who has recently joined the Department as an Assistant Professor. Duncan earned his PhD in mechanical engineering at Concordia University on the production and characterization of metal-filled ceramics. He also obtained his Master’s and Bachelor’s degrees from Concordia. Since graduating in 2009, he has extended his materials expertise into civil engineering by working in our department under a prestigious NSERC postdoctoral fellowship in collaboration with Dr. Mark Green. His current research interests include material testing at high temperature for understanding the fire resistance of structures, and the development and characterization of bio-materials for sustainable construction. Duncan is teaching our second year materials course and is also the first Director of the Faculty’s new Aboriginal Access to Engineering program.

Aboriginal Access to Engineering

The Department of Civil Engineering is playing an instrumental role in the Faculty of Engineering and Applied Science’s new Aboriginal Access to Engineering program. Our newest faculty member, Dr. Duncan Cree, is the first Director of the program while Dr. Mark Green is on the program’s Circle of Advisors along with Merv Dewasha (Sc ’71, Civil). Additionally, two of the first year students in the program have expressed specific interest in choosing civil engineering next year. More details on the program can be found in the recent issue (Fall/Winter 2011) of the Faculty’s magazine “The Complete Engineer” (http://engineering.queensu.ca/News-Events/files/TheCompleteEngineer-2011FallWinter.pdf).
Researchers awarded NSERC Strategic Projects Grants

Neil Hoult and Bernie Kueper are two of the six Queen’s recipients who have received grants totaling $2,823,354 over three years from the Natural Science and Engineering Research Council of Canada’s (NSERC) 2010 Strategic Projects Grants (SPG) Program.

“These grants foster collaborative partnerships between Queen’s researchers and industry that will not only benefit Canada but will also continue to cement Queen’s reputation as a global leader in innovative research,” says Vice-Principal (Research) Steven Liss. “The Strategic Project Grants Program increases research and training in key areas and forges strong links between industry partners, our researchers, and our students.”

Neil Hoult (Civil Engineering) - $532,850 over three years to develop better ways to monitor and assess concrete bridges using sensor and analysis technology to ensure that bridges in Canada can be maintained more effectively. A multidisciplinary collaboration of researchers at Queen’s, the University of Toronto and the University of Ottawa will share the grant.

Bernard Kueper (Civil Engineering) - $402,300 over three years to develop gas enhanced in-situ treatments for rapid site remediation.

Researchers Collaborating with Industry

Drs. Amir Fam and Mark Green are collaborating with Bombardier Transportation Canada and have obtained funding to investigate the application of fiber reinforced polymer (FRP) reinforcement in guideway structures for enhanced durability. One of the large scale (690x1500x11600 mm) concrete girders used to build the new test track at Bombardier’s site has been reinforced entirely by glass-FRP reinforcement bars and stirrups.

The girder, which weighs approximately 30 tons, is believed to be the largest concrete girder ever in a field application that is reinforced by large (30 mm diameter) glass-FRP bars. The project also involves the expertise of Dr. Neil Hoult in structural health monitoring where the FRP-reinforced girder along with another steel-reinforced girder are heavily instrumented with sensors to measure deflections and strains under trains traveling at speeds of up to 90 km/hr. Master’s student Nik Wootton is doing his thesis on this project.

Drs. Amir Fam, Mark Green and Kent Novakowski obtained funding from the NSERC ENGAGE program and Revolutionary Concrete Solutions (RCS) to study a new coating material, which has polymeric and cementecious characteristics. The coating is applied to the concrete surface to seal the pours and cracks, thereby minimizing moisture intrusion and enhancing durability. Post-doctoral fellow Dr. Tarek Sharaf has been evaluating the reduction in permeability of concrete coated with this new material.

Tracking Deterioration at the Speed of Light

Professor Neil Hoult is investigating the use of state of the art technology to monitor infrastructure deterioration. As part of a successful Canada Foundation for Innovation grant, he has purchased a fibre optic strain analyzer which is capable of measuring strain along the full length of a fibre optic cable with microstrain accuracy. Within the same project, an Instrumentation Lab was constructed as part of the ongoing redevelopment of the Structures Lab. Graduate students Danielle DeRosa, Bryan Simpson and Ryan Regier are currently using the analyzer to identify areas of local deterioration in concrete and steel structures. Hoult also sees great opportunities for applying this technology in the areas of construction monitoring and structural efficiency. With advances like these, the future of structural engineering is a bright one.
Honours and Awards

Congratulations to Dr Richard Bathurst who was selected at the annual board meeting as President-elect of the Canadian Geotechnical Society, to start his two year term as President on January 1st, 2013. Dr Bathurst has previously served the society for two years as Vice-President, Technical, and the international and North American geosynthetics communities as President of the International Geosynthetics Society and President of the North American Geosynthetics Society.

The Canadian Geotechnical conference was held this year in Toronto in conjunction with the Pan Am conference of the International Society of Soil Mechanics and Geotechnical Engineering (held once every four years). Each Pan Am conference opens with the Arthur Casagrande Lecture. This year, the International Society selected Dr Kerry Rowe to deliver the 2011 Casagrande Lecture. In his presentation titled “SHORT AND LONG TERM LEAKAGE THROUGH COMPOSITE LINERS”, Kerry discussed new findings related to leakage through composite landfill liners, reporting on work conducted with his colleagues, students, and other research collaborators. In particular, the work provides important guidance on landfill barrier construction to minimize the significant potential impact of wrinkles developing in the liner.

A highlight of the Canadian Geotechnical Conference each year is the Canadian Geotechnical Colloquium. This keynote lecture is given by a member of the society between the ages of 35 and 40, who is funded to prepare a state of the art address and article on a topic involving new or changing practice. At the Canadian Geotechnical Conference banquet it was announced that Dr Andy Take has been selected to give the 2012 Canadian Geotechnical Colloquium at next year’s conference in Winnipeg. Andy is being funded by the Canadian Foundation for Geotechnique (the non-profit charity that supports this event) to prepare his colloquium titled “Looking Deeper: Harnessing the Power of Digital Image Analysis to Gain New Insights into Geotechnical Failure Processes”. Andy joins other members of the centre who have given past Colloquia: Kerry Rowe in 1987, Bernie Kueper in 1997, Ian Moore in 1998, Mark Diederichs in 2003, and Richard Brachman in 2006.

Ian Moore received the John R. Booker Excellence Award of the International Association of Computer Methods and Advances in Geomechanics in recognition of his work on analysis and testing of buried infrastructure. The award was made at the 13th IACMAG conference in Melbourne Australia.

Congratulations to Paul Dittrich, Kerry Rowe, Dennis Becker and Kwan Yee Lo who were awarded the Casimir Gzowski Medal at the annual conference of the Canadian Society for Civil Engineering in Ottawa. Drs Dittrich, Rowe, Becker and Lo won for their paper titled “Influence of exsolved gases on slope performance at the Sarnia approach cut to the St. Clair Tunnel”, Canadian Geotechnical Journal, Volume 47, No. 9, pp. 971–98.

Congratulations to former graduate student Heather McLeod as well as Richard Brachman, Ian Moore and Andy Take who received an honourable mention for the Casimir Gzowski Medal by the Canadian Society for Civil Engineering, for their paper titled “Brachman, R.W.I., McLeod, H.A., Moore, I.D. and Take, A.W. 2010. Three-dimensional ground displacements from static pipe bursting in stiff clay, Canadian Geotechnical J., Vol. 47(4), pp. 439-450”. Heather, Richard (top left), Ian (bottom left), Jon Foster (bottom right) and representatives from TT Technologies in Aurora, IL, 2008 at the site of the pipe bursting field tests reported in their paper.
Our Graduate Students Excel

Doctoral student Mark Nelson received the prestigious NSERC CGS award to study the application of FRP stay-in-place forms in concrete bridge decks. Dr Amir Fam received funding from the Ministry of Transportation Ontario to study this novel technique of building bridge decks using FRP stay-in-place structural forms. The project aims at investigating the new system under cyclic fatigue loading and Mark and master’s student Pat Richardson are working on this project. On November 22, 2011, Dr. Fam, Mark and Pat were interviewed in the CBC television program “The National” in the series “The Big Fix” as well as on CBC radio, on the topic of bridge deterioration.

Congratulations to Mr Kazi Rahman who has won the 35th Annual Michael Bozozuk Student Forum, a competition for graduate graduate students at Carleton, Ottawa, Queen’s and RMC. Kazi’s presentation titled “Numerical Analysis of the Response of Adjacent Pipelines during Static Pipe Bursting” is part of his doctoral research work with Dr Richard Brachman and Dr Ian Moore, developing nonlinear computer models to capture ground movements and damage to adjacent infrastructure associated with pipe replacement by pipe bursting.

ALSO.....

Mr Kazi Rahman was awarded the Michael E. Argent Memorial Scholarship by the North American Society ofTrenchless Technology at the 20th Annual North American NoDig Conference in Washington D.C.

Ms Azadeh Hoor won the two yearly graduate student competition for the best student paper competition at the ASCE Geo-Institute/IFAI/GMA/ NAGS • Geo-Frontiers 2011 conference in Dallas, Texas.

Queen’s students also won it in 2009 (Rebecca McWatters), 2007 (Melissa Chappel), and 2005 (Karina Lange).

this is a partial list of our student’s accomplishments this past year:

- Amanda Shane, MASC, won 1st place prize in the poster competition at the A.D. Latornell Conservation Symposium Fall 2011
- DankerKolijn, BSCE May 2011, won the Water Environment Association of Ontario Scholarship
- Reza Valipour presented at the 15th International Workshop on Physical Processes in Natural Water (PPNW) 2011
- Shastri Paturi presented at the 15th International Workshop on Physical Processes in Natural Water (PPNW) 2011
- Lauren Sansford presented at the 46th Central Canadian Symposium on Water Quality Research (CAWQ)
- Amanda Shane presented at the 46th Central Canadian Symposium on Water Quality Research (CAWQ)
- Daniel Jones presented at the Geo Frontiers 2011
- Pooneh Taghizadeh Saheli presented at the Geo Frontiers 2011
- Azadeh Hoor presented at the Geo Frontiers 2011
- Ramin Rameshni presented at the CSCE-2011 Annual Conference
- Mark Nelson presented at the ACE fall convention 2011
- Jillian Lackey presented at the Canadian Society of Chemical Engineering Conference 2011
- Yan Yu presented at the 2011 Pan-Am CGS Geotechnical Conference
- Joshi Prabean presented at the 2011 Pan-Am CGS Geotechnical Conference
- Pooneh Taghizadeh Saheli presented at the 2011 Pan-Am CGS Geotechnical Conference
This year’s **OPEN HOUSE** was a **GREAT SUCCESS** with **31 PARTICIPANTS**!

**Thank you to this year’s participants:**
AMEC Earth & Environment
Armtec Limited
BGC Engineering
Counterpoint Engineering
Decommissioning Consulting Services Ltd.
Delcan Corporation
Dillon Consulting Limited
EBA, A Tetra Tech Company
Ellis Don Corporation
Genivar
Golder
HalcrowYolles
HalsallAssociates
Hatch Mott MacDonald
J.L. Richards & Associates Ltd.
Knight Piesold Consulting
Malroz
Maple Reinders Constructors Ltd.
McIntosh Perry Consulting Engineers Ltd.
Ministry of Transportation
MMM Group
Neegan Burnside Ltd.
O’Connor Associates
Peter Kiewit Infrastructure Co.
R.V. Anderson Associates Ltd.
Read Jones Christoffersen
Stantec Consulting Ltd.
Terraprobe
The Sernas Group
Thurber Engineering
Veolia Water Solutions & Technology.
Our Industry Partners

The 2012 Industry Open House will be held on January 26, 2012, and again we are anticipating a large number of companies attending. Please contact Cathy Wagar (Industry Open House Coordinator) at 613 533 6000 ext 74227 for more information.

SPRING REUNION 2012


Everyone is welcome!
We welcomed two new members of staff to the department: Adam Reczek and Debbie Ritchie.

Adam joined us from G.D. Jewel Engineering in May 2011 and is a certified Civil Technologist. His knowledge and real-life experience is a valuable resource to teaching and research in the infrastructure area.

Debbie joined us from the Queen’s Industrial Relations Centre in October 2011 and her extensive administrative experience is benefiting the Department greatly.

Farewell to Barrington DeVere Batchelor

Barry Batchelor (Emeritas Professor) passed away on 13 June 2011. His 27 year career at Queen’s was marked by his pioneering research, his commitment to excellence, and his dedication to equity in race relations. His extensive work with the Ministry of Transportation in Ontario revolutionized the design of concrete bridge deck slabs while his personal interest and dedication to students won him great respect. Queen’s also owes him a debt of gratitude for his groundbreaking work on race relations.

Growing up in Jamaica, Barry Batchelor faced many hardships but found that hard work and perseverance paid dividends. He won a prestigious Commonwealth Scholarship and studied at the University of Edinburgh and completed his doctorate in structural engineering at Imperial College. After working as a civil engineer in Jamaica, he was appointed in civil engineering at Queen’s in 1966.

Barry quickly established a strong relationship with the Ministry of Transportation and delved into understanding the fundamental mechanics of the behaviour of bridge deck slabs. Until that point, such slabs were thought to bend like beams and to thus fail in flexure. Through careful experimentation and application of shell theory, Barry was able to show that bridge deck slabs actually behave more like arches than beams through the development of compression membrane action. He thus showed that bridge deck slabs typically fail in punching shear at much higher loads than predicted by bending theory. With this insight, Barry was convinced that conventional design approaches were overly conservative. He thus proposed a new design method that cut the required amount of steel reinforcement in half. To realize the benefits of this innovative new design approach, the Ministry of Transportation decided to develop a new bridge design code that has set the standard for bridge design in Canada to the present day. The first Ontario Bridge Design Code was published in 1979 and since that time almost all bridges in Ontario have used Barry’s design method saving the Ontario government millions of dollars in reinforcement. Barry once mentioned to me that that savings in reinforcement for the first bridge built with the new technology was sufficient to pay for all the research that had been conducted!

In addition to Barry’s contributions to research, he was also a dedicated teacher and mentor. Several of his former students, myself included, regarded him as a second father. He could be stern and demanding, but he would always watch out for you. As overseas student himself, Barry went out of his way to show hospitality to international students and would always invite students to his home to join in family celebrations and holidays.

This compassion for others extended to work on race relations and community development. After a severe hurricane in 1985 in Jamaica, Barry (in cooperation with the Canadian International Development Agency) organized several workshops and conferences to assist local engineers in rebuilding. At Queen’s, he chaired the Principal’s advisory committee on race relations and his report in 1991 formed the basis for many of the equity provisions in place at Queen’s today.
News & Notes

Bruce Anderson working hard as Visiting Professor, College of Environment and Resources, Jilin University (Changchun, China)

New Website

Our website was revamped last Spring with a new look and feel. We worked closely with the Faculty of Engineering and Applied Science staff to move our content to the new format shown in the picture and added some new features, videos and pictures. Please have a look and give us your comments!

Your Development & Alumni Relations Team

Our alumni and friends from the Department of Civil Engineering have a long standing tradition of being engaged. Your support allows us to enhance the quality of the educational experience for our students. There are many ways to help: through student internship or employment opportunities, design and research topics and sponsorships, industry collaborations and curriculum initiatives, as a guest speaker or by providing financial support for academic chairs, library resources, and student activities.

The Faculty of Engineering and Applied Science has a dedicated and experienced team to help alumni reconnect with the Department. We can assist you in making a difference in the lives of our current and future students. For more information on supporting Civil Engineering at Queen’s, please contact:

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CONGRATULATIONS

to all of our Graduate Students who received their degrees 
at the Spring and Fall Convocation 2010

Tamer Mohamed Elshimi (PhD) June '11
Supervisor(s): I. D. Moore/R.W.I. Brachman
Currently working for Thuerber Engineering,
Edmonton, AB

John C. Kozuskanich (PhD) June '11
Supervisor(s): B.C. Anderson/K. S. Novakowski
Currently Postdoctoral Fellow at Flinders University
In Adelaide, Australia

Ali Sabir (PhD) June '11
Supervisor: R.W.I. Brachman
Currently Postdoctoral Fellow at University of
Calgary, Calgary, AB

Chalermpol Taechakumthorn (PhD) June ‘11
Supervisor: R.K. Rowe

Saman Zarnani (PhD June ‘11
Supervisor: R.J. Bathurst
Currently working for BGC Engineering,
Vancouver, BC

Linghong Zhang (PhD) June '11
Supervisor(s): P. Champagne/C.Xu

Michael R. Rakowski (MASc June ‘11
Supervisor: C. MacDougall
Currently working for Kiewit, Montreal, PQ

Reid T. Smith (MASc June ‘11
Supervisor: K.S. Novakowski

Shawn A. Trimper (MASc June ‘11
Supervisor: K.S. Novakowski
Currently pursuing PHD degree at
Queen's University

Masoumeh Saiyar (PhD) Nov ‘11
Supervisor(s): I.D. Moore/W.A. Take

Azadeh Hoor (PhD) Nov ‘11
Supervisor: R.K. Rowe
Currently working for Technip USA Inc.,
Houston, Texas

Sean Speer (PhD) Nov ‘11
Supervisor(s): B.C. Anderson/P. Champagne

Laura M. Elmhirst (MASc) Nov ‘11
Supervisor: K.S. Novakowski

Stephanie L. Grell Demers (MASc) Nov ‘11
Supervisor: K.S. Novakowski

Tarek Khalifa (MASc) Nov ‘11
Supervisor: M.F. Green

Usman Mushtaq (MASc) Nov ‘11
Supervisor(s): K.R. Hall/C. Baillie

Mary Elizabeth Spencer (MASc) Nov ‘11
Supervisor(s): D.S. Strong/M.F. Green
Currently working for AECOM

Khaled El-Kalawi (MENG) Nov ‘11
Advisor: B.C. Anderson

Luowen Fu (MENG) CMAS Nov ‘11
Advisor: B.C. Anderson

Please send comments and or news to:
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