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Winter 2013

Engineering

More than one hundred years of teaching and research excellence

Dal's Olympic Connection

Alumni de Jonge and Giles share their shining moments

Partnering for Innovation

Steve Corbin and Pratt & Whitney Canada work to improve aircraft manufacturing

DALHOUSIE UNIVERSITY
Inspiring Minds

Faculty of Engineering

engineering.dal.ca

I would like to take this opportunity to thank you for your interest in and support of your future colleagues: our current students. We again saw a record number of new students begin this fall, as our total student population now approaches 2100.

As you can imagine, we are squeezed for space but buoyed by the prospect of a new building – the first major new construction on Sexton Campus since 1968. Our proposed building will be entirely student focused with state-of-the-art teaching labs, flexible design space, and lots of room for students to meet, study or just hang out.

We have already had some very generous contributions from both individual alumni and companies alike, but we are still a long way from our campaign goals. We have momentum and I am confident that we will fund this project over the next twelve months.

Some of the milestones we expect to reach this year are to see 10% of our professors with endowed or externally funded research chairs, to have 30% of our graduate students enrolled in our Ph.D. programs and to surpass $12M in research funding – another positive sign of our growth.

Dr. Joshua Leon, P.Eng.
Dean of Engineering

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Mark de Jonge

On top of the world

How do you make new friends when you move more than halfway across Canada? Mark de Jonge (BEng'09) took up kayaking.

It was shortly after his family relocated to Halifax from Calgary in 1997 that de Jonge took up the sport, frequenting the Maskwa Aquatic Club on Kearney Lake. He made friends, but something else happened: he realized he had a passion for the sport, and that he was really good at it. Just two years later, de Jonge was earning his first national titles, and he has racked up an impressive 30 national gold medals since then.

De Jonge's performance is particularly notable given the considerable time and effort he devoted to completing a BEng in civil engineering while training. As you might expect, there were times when he found it difficult to balance his studies with the sport.

"The national team training program required me to train in Florida for one month every semester, in November and March. The team trained in Florida from mid-November to mid-December and from February to April, but because I was in school, I only trained in Florida in November and from the beginning of March until the end, and then I would return to Halifax in time for exams."

Given the demands of training, you might wonder why he chose to pursue a degree in engineering. "Because I knew it would challenge me and because I knew the value of the degree," replies de Jonge. "It was tough trying to

accomplish two high-level goals, but it was worth the hard work. It felt good."

Upon graduating, de Jonge found employment with Stantec, a significant achievement to be sure. Even so, there was another dream he wanted to fulfill: competing against the world's best kayakers at the 2012 Olympic Games. Last year, he made the decision to go for it and began training full-time. The pressure was intense leading up to the Olympic trials, even more so after he broke a finger, preventing him from participating in the World Cup races last May.

"Once that happened, I had to do everything in my power to focus and put my nose to the grindstone. My favorite quote is: 'It's how you show up at the showdown that counts.' This has always resonated with me. All the preparation is great, but you have to be ready to go on the day."

His hard work paid off: de Jonge earned a bronze medal in the K-1 (kayak singles) 200m at the London games with a time of 36.657. Proud of his accomplishments, and inspired by this experience, de Jonge has set his sights on Rio in 2016. "It's been great. You feel like you're on top of the world."

Steve Giles: A Hall of Fame Story

Every athlete has at least one good story about the days when they were just starting out. Former sprint canoeist Steve Giles (BEng'02, LLD (Hon)'05) has several. Like the very first time he ever got in a canoe. He figures it took him 50 attempts before he could do it without the boat tipping over.

At the time, Giles probably couldn't have imagined he'd be competing one day at the national or international level. Yet over a 16-year career, the New Brunswick-born, Lake Echo-raised Giles made a name for himself as one of the top canoeists in the world. He won 25 gold medals at the Canadian Championships, the singles 1,000m World Championships title in 1998 and a bronze medal in the C-1 1000m flatwater canoe race at the 2000 Sydney Olympics.

"The bronze was the pinnacle of my canoeing career because that's what you strive for," says Giles, a four-time summer games finalist. "It was always a dream of mine to stand on that podium. It was the same for the world championships. To hear your anthem play and be able to say you're the best in the world made it a great day for me."

Giles' accomplishments are even more impressive when you realize that he was training and winning medals while earning a degree in electrical engineering at Dalhousie University.

"I had always loved science and math, and had earned a degree in Physics from Dalhousie. I also knew I needed career options after retiring from canoeing, so I enrolled. It was hard to balance the demands of sports and studies, but the long hours I spent training actually helped me stay focused in class."

Now national manager of internet operations for EastLink, Giles says he misses the competition and winning, but not necessarily the training required to bring home the gold. Instead, he remains involved in the sport through the national association and as a coach. Giles' contributions and remarkable athletic career were honoured this November when he was inducted into the Nova Scotia Sports Hall of Fame.

Meanwhile, both of his kids have picked up on canoeing, much to his delight. But the question remains: will they carry on his award-winning legacy?

"They're both competitive. If they decide they'd like to do it, and they have the drive to succeed, I'm happy to support them any way I can."

Steve Giles was inducted into the Nova Scotia Sports Hall of Fame this past November.

Managing growth: Bursting at the seams

Student enrollment is up at Dalhousie Engineering as the faculty continues to experience tremendous growth. Student enrolment has grown steadily over the past several years, from 232 first-year students five years ago, to 365 last fall, when we welcomed our largest entering class to date. Record enrollments at the Associated Universities will also have implications for Dalhousie Engineering's planning. In two years, Dalhousie Engineering will need to be prepared to accommodate as many as 32% more students entering 3rd year studies.

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Managing this growth has meant planning ahead and developing some creative solutions to maximize both space and schedules. To better meet the space demand, existing classrooms and labs have been refurbished. Having outgrown the available classroom space, some second-year classes are now being held at the nearby Park Lane Theatres. How we schedule classes has also evolved. The instructional day has been extended by two hours, now from 8:30-5:30, and new scheduling software is being used to optimize classroom use — keeping all rooms busy all the time.

Growth has also resulted in Dalhousie Engineering attracting more high performance students. The best and brightest are choosing Dalhousie Engineering because of our design-based curriculum. To better support our students, we have ramped-up our scholarship drive to help fund more well-qualified students. Students with a 3.85 or above CGPA are guaranteed a scholarship.

Ultimately, the permanent solution will be to build the new $25 million Innovation and Design in Engineering and Architecture (IDEA) building – which will include modern classrooms, state-of-the-art labs, and large flexible spaces for design and collaborative project work. For more information on our capital campaign, please visit http://boldambitions.dal.ca/priorities-engineering.html

Where are our students coming from?

Our students come from Nova Scotia (54%) and the other Maritime provinces (9%), but increasingly we are attracting students from other parts of Canada (18%) as well as international students (19%).

An engine like no other

Commercialization on the horizon for Dal invention

Dalhousie student Braden Murphy (BEng '10) was still in high school when he read an article in Popular Science that got him thinking about engines, and how they are configured. A particular shortcoming noted in the article caught his attention—the inefficiency of engines. Since then, Mr. Murphy, a master's student in mechanical engineering, has been putting some serious thought towards how to improve them.

What started as a senior design project in the last year of his undergraduate degree has now evolved into a successful pneumatic engine prototype. The engine is smaller, more reliable, and ultimately, more efficient than the technology that's currently available on the market.

"Pneumatic motors take a compressed gas, like air, and transfer that energy to a rotating drive shaft that turns a piece of machinery," explains Mr. Murphy. An "air motor" can also be spark-free, so it's safe to use in hazardous environments, like those in the oil and gas industry.

Dr. Darrel Doman, co-inventor and assistant professor in mechanical engineering, explains the new design requires fewer maintenance checks than current technology, which is a huge financial benefit to companies. Additionally, the engine is more powerful at slower speeds — making it ideal in many applications.

A partnership worth exploring

Naturally, the innovative nature of the new engine design was of interest to many, beginning with Dal's Industry Liaison and Innovation office (ILI).

Dalhousie master's student Braden Murphy and mechanical engineering prof Dr. Darrel Doman unveil their newly developed pneumatic engine. (Photo: Bruce Bottomley)

"From the outset, this seemed like a solid, promising project that had legs," says Erica Fraser, manager of technology commercialization for engineering and science with the ILI.

The ILI's involvement helped secure a licensing agreement with York Bridge Enterprises. York Bridge Enterprises, based in Toronto, is focused on supporting small start-up technology companies in Canada.

Ken Richards, a Dal alumnus and partner at York Bridge was flipping through a copy of Dal's alumni magazine when an article on the Life Sciences Research Institute caught his eye. One simple email from Ken started a chain of events that eventually resulted in Yorkbridge partnering on the engine. Additional licensing agreements are also in the works.

George Smitherman, another partner with the firm, recognizes the tremendous amount of technology being developed at Canadian universities and the need for access to funds that would allow their creations to be commercialized.

"Through the brainpower of a then-undergrad influenced by the extraordinary capacity of faculty, we have an opportunity to bring to the market a product which addresses some of the most serious deficiencies in the pneumatic engine as we know it today," says Mr. Smitherman.

Moving forward

Commercialization is on the horizon as a Nova Scotia-based start-up develops the new engine technology.

Wadih Fares' Journey

Spirit, drive and giving back

When Wadih Fares C.M. (BEng'80) was a young boy in Lebanon, he frequently visited construction sites with his father, a road contractor and well-respected man in their community. With each visit, the desire grew in Fares to follow his father into the profession of engineering and building.

"Engineers are highly regarded in Lebanon, and I wanted to be someone like that," reveals Fares. "To be honest, I never thought of becoming anything else."

Fares would travel a long way from his childhood home in the small mountain village of Diman in northern Lebanon to realize his dream – a very long way. He recalls how his father worked hard and sacrificed to ensure he and his siblings received a quality education, which meant private schooling for him. It inspired him to apply himself in his studies and make his dream a reality. Yet in 1975, as Fares was preparing to enter university in Beirut, civil war broke out in Lebanon, closing the schools. One male member of each family was required to fight, and Fares' father had volunteered, but Fares insisted he should be the one to go. This way, there was someone to provide for the family.

For three months, Fares fought on the front lines. He remembers one particularly intense night when the echo of gunfire could be heard everywhere. Arriving home the following day, his distraught mother, who'd been awake all night, phoned her brother to help her get Fares out of Lebanon. A mad scramble ensued to obtain army permission and documents to leave the country and, in the spring of 1976, Fares found himself living in Halifax with his grandmother.

A strong Lebanese community and the presence of family had made Halifax a seemingly obvious choice for Fares to start a new life and pursue his education. Yet there was one thing he had not counted on: the language barrier. "I thought I'd be fine because I was fluent in French and Canada is a bilingual country. I was shocked to find out that French is not a common language here."

It was around this time that Fares discovered that he had been accepted into the engineering program at TUNS. In a meeting with the dean, he learned, with the help of a cousin who acted as a translator, that he could earn his degree in a new four-year program instead of five. "I thought the dean was crazy; I didn't even know if I could do it in five years considering I couldn't speak English."

Not only did Fares complete his degree in four years, he was writing and speaking in English when he graduated. He credits the community, his classmates and TUNS professors for assisting him in achieving his dream. "The guidance and support my professors provided particularly helped me through the bumps along the way."

In the years that followed, Fares launched his own company: WM Fares Group. It was unique in that it brought together all of the disciplines necessary in the development of construction projects under one roof. By eliminating the stress of dealing with various consultants and contractors, Fares delivered a more practical service to clients, and enjoyed considerable success.

"Failure doesn't exist," is Fares' assessment of his journey, demonstrating a combination of perseverance and dedication that are at once rare and admirable. He also possesses a spirit of generosity that has seen him contribute to the growth of the community in a

On November 23, 2012 Wadih Fares was made a Member of the Order of Canada.

Regarded for his entrepreneurial spirit and service to the community, Fares is known as a talented innovator. His company, WM Fares Group, is credited with both transforming the Halifax skyline, and boosting its local economy. Mr. Fares gives back to the community in wide-ranging ways – most notably perhaps, has been his ability to build bridges between Canadian and Lebanese communities both locally and nationally.

variety of ways, from serving as Honorary Consul of Lebanon for the Maritime Provinces to his involvement in Pier 21 as a Past Chair. That spirit extends back to his alma mater, which is now part of Dalhousie. He sits on the university's Board of Governors and chairs the Operations Committee. "I owe my success to my engineering degree," he says.

Fares' journey continues. He is exploring new development opportunities, such as the recently completed Trillium condominium project, his business is prosperous, and his now-adult children – a son and a daughter – work for the company. Given his experiences, you wonder what advice he has to offer the next generation of Dalhousie engineering students coming up.

"I say stick with what you want to do and don't derail yourself. Go after your profession and don't let anyone take away what you have worked so hard for."

Those are words to live by, and Fares has lived by them very well.

Pioneering better materials

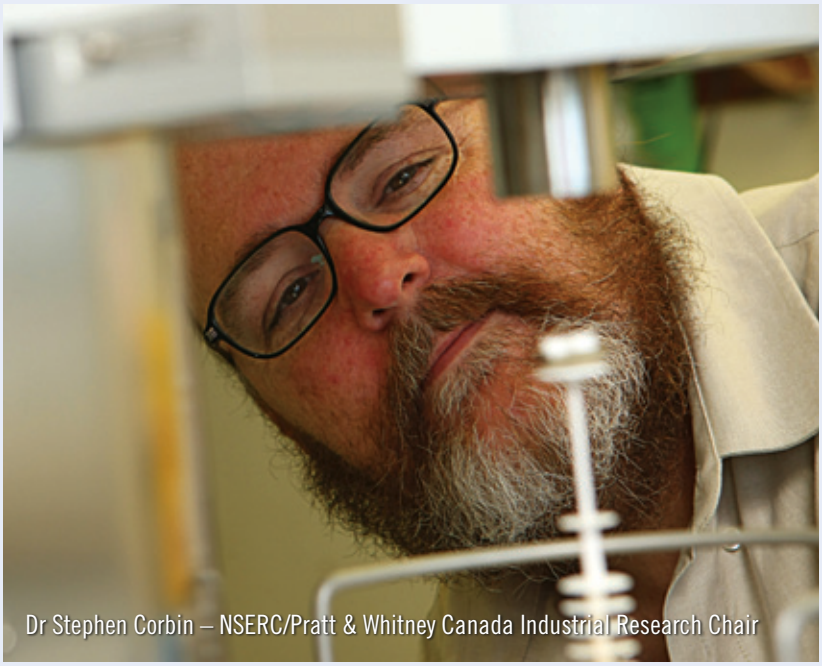
NSERC and Pratt & Whitney Canada partner on new industrial Research Chair

Dr. Stephen Corbin (B.Eng.'87 & MASc'88) laughs when asked what it's like to be a pioneer. "It's cool,' he concedes. 'It's nice knowing you've developed something no one else has thought of doing, and to be recognized not just with citations of your papers, but also by a company like Pratt & Whitney Canada."

What Dr. Corbin has developed is a unique application for thermal analysis tools such as differential scanning calorimeters and laser flash technology. For almost 20 years, many of which were spent at the University of Waterloo, he has used these tools to explore transient liquid phase sintering (TLPS) and bonding (TLPB) – fundamental components in the manufacturing process. Both the microelectronics packaging and automotive industries have benefitted from his work.

Now, as the NSERC/Pratt & Whitney Canada Industrial Research Chair with the Department of Civil and Resource Engineering at Dalhousie University, Dr. Corbin is expanding his manufacturing processes research to take on his biggest challenge yet: the aerospace industry. If the five-year research project he has just embarked on is successful, it will not only revolutionize how airplane engines are manufactured, it will also have impacts for Canada's economy and environment.

To understand the magnitude of what Dr. Corbin hopes to achieve, a bit of background is in order. For years, the aerospace industry has manufactured engine parts by taking large blanks of titanium or nickel-based superalloys, then cutting out required shapes. By



Dr Stephen Corbin – NSERC/Pratt & Whitney Canada Industrial Research Chair

Dr. Corbin's estimates, sometimes up to 90% percent of material is cut away. 'That's a considerable waste of material and energy, but it's also expensive because you have to machine away that material, so it's environmentally unfriendly.'

Companies like Pratt & Whitney Canada have been exploring near net, or additive, manufacturing - building complex engine parts from smaller components. These components are sintered, or formed, and then joined together by brazing, to create a completed engine part. Yet the tensile strength of these brazed joints has nothing on the traditional method of manufacturing when it comes to withstanding the demands of the hot section of the engine.

That's where Dr. Corbin comes in. By studying superalloy bonding as it occurs, he hopes to identify changes to the process that will consistently result in stronger, better brazed joints.

"Engine manufacturing is a very mature field," says Dr. Corbin. "Costs are pretty much fixed if you use traditional methods, so if you want to be cost competitive, particularly on a global scale, you have to be innovative. If this research works, Pratt & Whitney Canada will take near net processing to more parts in the hot section of the engine, allowing them to reduce their manufacturing costs and reduce the environmental impact of production."

Says Don McIntosh, Senior Fellow – Manufacturing Technology, Manufacturing & Tooling Engineering, Pratt & Whitney Canada: "The work Corbin is doing aligns with our objective to use less energy and make more parts.

"Engine manufacturing is a very mature field," says Dr. Corbin. "Costs are pretty much fixed if you use traditional methods, so if you want to be cost competitive, particularly on a global scale, you have to be innovative."

Photo courtesy of Pratt & Whitney Canada

We don't just want to be known for the best gas turbine engines in the world. We want to be known for the best gas turbine engines FOR the world. The less waste in the value stream, the better it is for the environment."

Additionally, 85% of research funds invested by Pratt & Whitney Canada and NSERC will go to hiring and training professionals in the field of engine manufacturing. "That's probably the most important deliverable of this undertaking," says McIntosh. "Dr. Corbin is leveraging bright young minds that will go on to extend this research into other forms of manufacturing, resulting in more cost-competitive Canadian companies."

In addition to his work for Pratt & Whitney Canada, Dr. Corbin is involved in several other research projects. He's exploring aluminum brazing of automotive parts in collaboration with DANA-Long Manufacturing and Professor Mary Wells of the University of Waterloo. He's leading a project involving Wells, Dalhousie professors Paul Bishop and Kevin Plucknett, Wescast Industries, and Kingston Process Metallurgy on the development of low-cost titanium parts for automotive manufacturing. And he's exploring the use of laser cladding to repair titanium parts for the aerospace industry in a project led by Dalhousie professor Paul Bishop for Boeing Inc. All of these projects have the potential to drive similar benefits as his work for Pratt & Whitney Canada.

But what really excites Dr. Corbin is the opportunity to conduct this research at Dalhousie. "That was a major consideration when the Dean of Engineering, Joshua Leon offered me this opportunity. over two years ago. This is my hometown, the university where I did metallurgical engineering, and my father did his civil engineering degree here in the 1940s. So it's great to be back here."

If Dr. Corbin is successful and his research allows Pratt & Whitney Canada to extend sintering and brazing to the hot section of the engine, what then? "I expect we may have a lot of questions left, even if we have solved the main problem," he says. "That may generate other opportunities for research on behalf of Pratt & Whitney Canada. Any time you understand the fundamentals better, there's an opportunity to do something more unique and novel."

Which means, five years from now, someone else will likely be asking him how it feels to be a pioneer.

Playbooks for new students

Pilot program enhances student engagement

New students started the year with more than just calculators and log books in their backpacks this September. A new initiative in the faculty has equipped all first-year engineering students with their very own tablet computer. Aimed at enhancing student engagement in class, the faculty subsidized the purchase of Blackberry Playbooks for all first-year students.

The tablets do all the usual things you'd expect in a personal computer; e-mail, web browsing, messaging etc. but it's how the students are using them for class work that is new. The idea is to create a live and interconnected classroom where students can engage with course material in entirely new ways; from following along with the lecture on their tablet and taking notes on the slides as they go, to asking questions and taking quizzes electronically, in real time. Introducing the tablets is taking class engagement and participation to a whole new level and adding real value to being in class.

Having Playbooks in the classroom has opened up a range of new teaching and learning opportunities- an exciting challenge for professors as well. In Engineering 1101, the Introduction to Design, the tablets have allowed professors to change how the course is structured and how class time is used enabling them to try new and innovative things. The development of customized in-house applications will soon expand the use of the Playbook and practically revolutionize the way students learn in and out of the classroom.

While the pilot has had a few growing pains, the initial response from both professors and students has been very positive. Professor George Jarjoura says, "Given its ultra portability and power, the playbook has given the students the ability to interact with the professors at an unprecedented level."

The faculty plans to run the program again next year and will build on this year's success.

The NSERC Chair in Design Engineering at Dalhousie is inviting applications for our Engineers in Residence (EiR) program.

Engineers in Residence are experienced engineers that are enthusiastic about design and engineering, and have an interest in developing design-ready engineers. A minimum of one day a week will be spent on Dalhousie's Sexton Campus coaching and mentoring student design teams.

The goal of our EiR program is to provide:

- Practical design experience to students and academic staff
- Links between students and industry
- Design resources in the Faculty of Engineering at Dalhousie University

Please note: Participants will receive a stipend. If you are interested in becoming part of the EiR program at Dalhousie University, please email your resume to:

Dr. Clifton Johnston, P.Eng., NSERC Chair in Design Engineering, clifton.johnston@dal.ca

A boost for engineering education

Robert Gillespie's academic excellence fund supports post-graduate technical students

It's been 48 years since Dr. Robert J. Gillespie (BEng '64) left the hallowed halls of the Nova Scotia Technical College. Yet time has not diminished the strong bond he feels toward the campus and Dalhousie University.

"My time there was perhaps the most important in my academic and personal development," he says. "I've remained close to Dalhousie over the years, particularly in the last decade."

That sense of kinship has culminated in the creation of the Gillespie Graduate Scholars Program. Launched at an alumni event in New York last winter, it will offer five $5,000 annual scholarships to Dalhousie University students who are entering into a Master or PhD program in Engineering.

"I wanted to do something to encourage students to strive for academic excellence. Together with Dr. Joshua Leon, the Dean of Engineering, we decided a fund that supports post-graduate work for engineering students would be a good way to achieve that goal."

Dr. Gillespie was further motivated by the fact that there are typically more funds available to arts and commerce students than those pursuing a technical degree. "In this way, I'm hoping it will help strike a balance and maybe lead to similar initiatives to support technical students."

A former Best Foods executive who helped steer that company to $9 billion a year in revenues when it was acquired by Unilever, Dr. Gillespie is now managing partner with Westmount Investments. He describes this New Jersey-based venture as a family owned investment firm focused on consumer companies.

"My career demonstrates that a technical education gives you a solid base to succeed whether you stay in technology, move into management of a commercial business, or pursue further education."

Despite distances and the demands of his current position, Dr. Gillespie indicates he will be very much involved with the fund that bears his name.

"I will be following it closely. I plan to meet students who receive the award, or have family members meet them. This is very important to the Gillespie family, and to me. The faculty and university have been outstanding in keeping me updated on it and I look forward to its success."

L to R: Melda Murray, André Lawson-Gentles, Shanice Haye, Richard Murray(BEng'66).

Murray Scholarship recipients meet the donors

For two civil engineering students, recipients of the *Richard and Melda Murray Scholarship*, the named award took on a personal touch. The students, both from Jamaica, were able to thank the Murrays in person at the Dalhousie Alumni Dinner in October.

The Murrays' gift to the Faculty of Engineering established an endowed fund for renewable scholarships valued up to $22,000 per year.

Lessons from the past

How innovative courses are making history

Teaching engineering from the stone age to the cybernetic age is a daunting task – but that didn't deter Dr. Mélanie Frappier, Professor in the History of Science and Technology program at King's College. Asked by the Faculty of Engineering to develop and deliver a pair of brand new courses on the history of engineering, Dr. Frappier took up the challenge. She soon realized she would be pioneering a completely new approach to teaching and learning.

"To be honest it was terrifying; there was no material, we looked to Caltech and MIT but nothing compared to what we wanted to offer here." says Dr. Frappier.

The courses she developed – *Technology and Engineering I* and *II* – delve into the relationship of engineering and society and how engineering has helped in the development and preservation of civilization. By looking at lessons from the past, the courses explore the reasons why we follow certain practices today. Students revisit events or circumstances in history that have shaped the roles and responsibilities of modern engineers. Students are also encouraged to make connections such as how the need to build irrigation canals ultimately led to widespread literacy.

What is unique about this class is how it has been borne from the work of a whole academic community. With no materials or textbooks from which to start, Dr. Frappier gleaned the expertise from her colleagues and engaged students right from the inception. Delivered almost entirely using case studies, students participate in lively small group discussions in addition to pursuing individual research projects.

"The Faculty of Engineering here is very creative, they have a vision and a fantastic deep understanding of its role. This course could have only been created here." says Dr. Frappier.

Initially, students can find the significant writing requirements to be overwhelming. While engineers often don't see themselves as strong writers or story tellers Dr. Frappier helps students to draw on their strengths in critical thinking, logic and constructing an argument. The results have surpassed even her expectations "Some of the best papers I have ever read, have come from this course," she notes.

In addition to developing stronger writing skills, students also gain broader perspective. "This course gives students the opportunity to think in a variety of different ways." says Dr. Pemberton Cyrus, Associate Dean, Engineering. "At times students need to think like a scientist, a mathematician, an arts major, or a life scientist. When solving problems, you have to take all of these experiences and put them into your solution."

Now in its fourth year, Dr. Frappier says even as the professor, she is still learning in this unique course "the students are always teaching me."

Homecoming — events and highlights

Homecoming 2012 was a great opportunity to connect with new and long-time friends. Engineering Alumni and friends were welcomed back to campus with a variety of activities and events. The class of 1962 celebrated their 50th class reunion and we were delighted to have Alumni, Ron Gilkie, as our 50th class lead and host for the weekend. Photos and music from his band, The Dixie Tech 7, were enjoyed at several events.

Dean's Coffee Club

Dean Josh Leon welcomed Alumni for coffee and conversation during his first Coffee Club of the year on Friday, September 28. Two excellent speakers from the Faculty of Engineering made presentations, Dr. Paul Amyotte spoke about dust explosions as part of industry safety while Dr. Clifton Johnston explained how new ways of teaching and learning design are transforming engineering education.

The Dean's Coffee Club meets monthly during the academic year. Please check engineering.dal.ca for more details.

Architecture & Planning and Engineering Wine Tasting

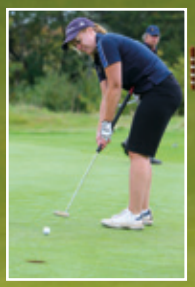
This fun event was presented in partnership by both faculties during Homecoming week. Our host was engineering professor and sommelier, Dr. Allan Paulson. Attendees sampled different wine and food pairings while architect, Roger Mullin, presented his works that were on exhibition. The evening was enjoyed by alumni, staff and faculty members alike.

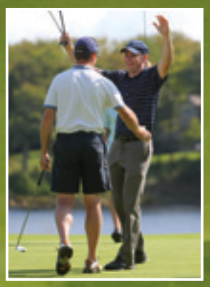
Farewell Brunch

A casual brunch was held to close out the weekend in the Design Commons on Saturday, September 29. Plans are already underway for next year's Homecoming 2013. The class of 1963 is looking forward to planning some new activities and bringing back some old favourites. We hope to welcome you to Homecoming 2013 next October 4, 5, & 6th.

Annual Golf Tournament

Homecoming week got underway with the 4th Annual Engineering Golf Tournament. Engineering Alumni were among the 138 golfers that enjoyed a wonderful day of golf on September 27 at Glen Arbour Golf Course. The weather was great and golfers enjoyed activities, giveaways at almost every hole, a steak dinner and many great prizes. The tournament was a success and we hope to continue the momentum into 2013 for our 5th Annual Tournament.





Class Notes

Wadih M. Fares, C.M., BEng'80 (TUNS) was recently named member of the Order of Canada. Wadih, a Halifax developer and philanthropist, was awarded the order for his contributions to Nova Scotia as an entrepreneur, community leader and committed volunteer.

Steve Willson, B.Eng'81 (TUNS civil), and Megann Willson, PHT(Hon) '81 have returned to Halifax after 31 years in the wilderness (Toronto), as Megann has accepted a position as the Director of Marketing, Faculty of Management, Dalhousie. Steve is continuing to run Panoptika, the Marketing Consultancy they started in 2001, helping companies create opportunities through customer understanding. Soon they will welcome friends, old and new, at their hilltop retreat in Head of St Margarets Bay, but first they need to get the driveway paved because it is quite a hill!

Ronnie LeBlanc, BEng'87 (TUNS electrical), is being followed by his daughter, Marianne, who is currently in her third year, studying electrical engineering at his alma mater.

Dean Robertson, BEng'88 (TUNS industrial) has been named the CEO of The Shaw Group. Dean has been with The Shaw Group since 1997 and has served as company President for the last year. The Shaw Group is a leading materials manufacturer and community developer in Atlantic Canada.

Mark W. Flint, BEng'90 (TUNS mechanical) recently became the CEO of The Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGA). Mark comes to the post after more than two decades of leadership in the Canadian Armed Forces where he was most recently Commanding Officer of the Mission Transition Task Force Engineer Regiment in Kandahar, Afghanistan where he led the engineering effort for the orderly withdrawal and relocation of Canadian equipment, supplies and personnel.

Sarah Devereaux, BEng'93, MEng'99 (civil) was recently elected to the position of President of Engineers Nova Scotia. Sarah is also a Partner and senior environmental engineer at the Halifax office of Dillon Consulting Limited.

Kenny Edison, BEng'97 (industrial) was recently promoted to Director of the FibreOP Program at Bell Aliant. Kenny is in his 15th year with the organization and oversees the planning, design and build of Bell Aliant's $500M+ investment in fibre optic network expansion. Kenny resides in Halifax with his wife Jenny and their 3 children, Kieran, Emily and Paige.

Steve Giles, BEng'02, LLD (Hon)'05 was inducted into the Nova Scotia Sports Hall of Fame in November. Steve was recognized for his remarkable athletic career and accomplishments on the water. Steve lives in Dartmouth with his family and works as the national manager of internet operations for EastLink.

Sheldon MacDonald, BEng'05 (electrical) was promoted to Vice President, Network Strategy & Engineering at Bell Aliant. In his new role, Sheldon is responsible for strategy, technology development and deployment of Bell Aliant s core network infrastructure including IP, switching, transport, power and buildings, and Bell Aliant's FTTH (FiberOP) network platform. Bell Aliant will provide service to more than 600,000 homes by the end of 2012.

Paul McCarroll, BEng'09 (biological) has started a new job as a Pipeline Design EIT at Stantec in Calgary. Paul had previously worked as a surveyor in the oilsands but is now enjoying new and diverse challenges of working on oil and gas pipeline design projects. He says every task is different and he has gained valuable experience in technical writing, research, design and working closely with clients and coworkers.

Craig Anthony Dunn, BEng'10 (electrical) has been in the Navy for the last two years. Travelling to the Arctic on HMCS St Johns, Craig was part of the crew who responded to the plane crash in Resolute Bay. Recently posted to Victoria BC, Craig has been working with the operational capability of naval vessels.

Duncan Gibb, BEng'12 (chemical) has recently been accepted into a M.Sc. program at Albert-Ludwigs-University in Freiburg, Germany. The program in Renewable Energy Management develops students into project managers of renewable energy worldwide and only accepts 30 students internationally.

Class Notes — We would love to hear from you! Please stay in touch and let us know how you are doing. Submit your class notes and updates (may include special achievements, in memoriam and birth announcements) to Amy McEvoy at amy.mcevoy@dal.ca.

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