Benchmarks

WINTER 2007

The Science of Water

Researcher part of the largest national study on drought

The Dean's message

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Welcome to this newly designed edition of Benchmarks, our faculty newsletter. Since our last issue, both the S.J. Carew Engineering Building and the Faculty of Engineering have undergone some changes that we'd like to share with you.

Firstly, our main lecture theatre has been refurbished and renamed in honour of the first dean of our faculty, Dr. Angus Bruneau. In addition, we recently had our most well attended Angel Lecture since the series began more than 40 years ago. Academically, the Engineering 2010 initiative has received the approval of Memorial's Senate. You can read about the redesign of our programs in this issue of Benchmarks.

There are several articles dedicated to our outstanding faculty, our alumni and our students who never cease to amaze me with their achievements and their successes. From teaching awards, to major scholarships, to international recognition, our community of teachers, graduates and students are among the very brightest minds in the country. In addition, we've added a number of faculty members and staff to our faculty, all of whom I'm sure will add to the exciting and challenging experiences of our students.

We've also had the pleasure of forming new partnerships with various industries, further expanding the scope of what we can accomplish as a community group. We are very proud of these ties with industry, most of which employ our graduates. These partnerships are a testament to our dedication to serving the province's needs and staying in touch with the latest community developments.

I hope that you enjoy this issue of Benchmarks. Please feel free to contact me if you want any further information about anything you read in this issue.

With very best wishes,

Dr. Ray Gosine
Class of '86

Donation improves teaching technology and honours community builder

The first dean of the Faculty of Engineering and Applied Science received a standing ovation recently at an event to recognize his contributions and to officially open a newly renovated lecture theatre named in his honour. The heart of the S.J. Carew Building was given a facelift thanks to a $100,000 donation from Fortis Inc. The 213-seat engineering lecture theatre has been renamed the Angus Bruneau Engineering Lecture Theatre.

The donation from Fortis is in recognition of the contributions Dr. Angus Bruneau has made to the corporation and his years of service to Memorial. Dr. Bruneau joined the faculty in 1968 and served as dean from 1969 until 1974. During that time, he led the development of the co-operative engineering programs, which now have 800 undergraduate students who are in high demand from employers upon graduation. Dr. Bruneau was the chief executive officer of Fortis and was also the chairman of the board of directors of Fortis Inc. for 18 years. He retired as chairman in May.

"Fortis is proud to be a part of today's dedication ceremony to honour Dr. Bruneau. Both Dr. Bruneau and Fortis share a strong connection with Memorial University – Dr. Bruneau as founding dean of Engineering, and Fortis as a major employer in this province of graduates from the university. Dedicating this newly refurbished lecture theatre in his name is a most fitting tribute for Dr. Bruneau's unwavering commitment to Fortis and his years of service to Memorial University," said Stan Marshall, president and chief executive officer, Fortis Inc.

The lecture theatre is used by many university units because of its size. Improvements include new seating, carpeting, lighting, and a new entrance way, as well as refurbished walls and state-of-the-art teaching technology with two new projectors and a 24-foot screen. Dr. Axel Meisen, president of Memorial University, said the improvements will benefit the teaching of large under-graduate classes, public lectures like the Speaking of Engineering series, as well as other university and community events. "What most users will see is the physical enhancement of this lecture space, but it will also provide students and others with a richer learning experience," Dr. Meisen said. "This modern lecture theatre will complement the high-quality teaching practices and standards for which Memorial University is known."

Dr. Axel Meisen and Dr. Angus Bruneau hold the plaque that hangs outside the Angus Bruneau Engineering Lecture Theatre

Changes to engineering – the first in three decades

The Bachelor of Engineering program at Memorial is getting a redesign – the first changes to take place in the program in 30 years. The program has been redesigned to emphasize areas that have particular relevance to Newfoundland and Labrador (e.g. oil and gas, offshore, process industries, energy sector, advanced technology sector, etc.), with more team project work, and increased flexibility to take courses across engineering disciplines and from outside the Faculty of Engineering.

Scheduled for students entering in 2008, the most obvious change is that it will go from being a six year to a five year program, or eight academic semesters from the current 10. Other significant changes include students being admitted directly from high school and, although the program will still have a mandatory co-op component, students will only have to complete four work terms as opposed to the six they now have to complete. The new program will also include Engineering One, a first year program with more project-based, interdisciplinary courses after which there will be competitive entry into each of the five engineering disciplines: civil, electrical, computer, mechanical, and ocean and naval.

Eastern Edge Robotics Team takes gold again in international competition

For the second straight year, the Eastern Edge Robotics Team, which includes nine engineering students, captured gold at the Marine Advanced Technology Education (MATE) Center's International Remotely Operated Vehicle (ROV) competition. The event was held this past summer at NASA's Sonny Carter Neutral Buoyancy Lab in Houston, Texas.

Members of the Eastern Edge Robotics Team

The competition challenges teams to design, build and operate an ROV to perform a series of tasks like those performed by an ROV in an industrial setting. This year's competition was based on the theme of Ocean Observation Systems. Of the 16 teams competing in their class, Eastern Edge was one of only two teams to complete all of the tasks. Eastern Edge also turned in the fastest time requiring less than 15 of the allotted 30 minutes for the mission. As a result, the team was awarded first place overall as well as the Judges' Choice Award.

The 18-member team, including engineering undergraduate students Marianne Alacoque, Scott Follett, Jason Forbes, Justin Higdon, Renée Hodder, Sarah Howse, Peter Ma, Matthew Minay-Goldring and Tamara O'Connell, is also comprised of post-secondary students from Memorial University's Marine Institute, Faculty of Science, and School of Human Kinetics and Recreation and the College of the North Atlantic. The students had worked since January to prepare for the competition.

The Marine Institute's Dwight Howse, one of the team's four mentors, thinks the team is well deserving of the title. "Each student brings their individual skills, talents and education to the challenge. Together, they formed a team that produced an exceptional ROV which they successfully operated even under the pressures of competition," said Mr. Howse. "Their performance is a credit to the training they received and their ability to use that training in a real-world application."

Dr. Andy Fisher is the Faculty of Engineering's director of Industrial Outreach. He says the team's skills will definitely help them after graduation, as well. "These students have demonstrated an incredible appetite to solve real problems by bringing all of their skills and wits to bear in a focused fashion. In some ways, their ability to work together as a team and manage a project of this scope to successful completion is as impressive as any of the technology involved and will make them highly valued as they move into the workforce."

The Marine Advanced Technology Education Center is a partnership of educational institutions and organizations working to improve marine technical education. Headquartered at Monterey Peninsula College, the MATE Center is one of 11 Advanced Technological Education Centers.

Members of the Engineering Student Society feel the new program is definitely more efficient – allowing those students who are sure of their career choice to get started earlier after high school. Dan Hatcher, vice-president academic of the society, says he thinks the time has come for changes. He also thinks fewer work terms will give many students the opportunity to pursue complimentary studies. "I personally know of people who have attended other schools because there is more flexibility in the engineering program, which has allowed them to pursue dual degrees. Now people of this mindset might consider Memorial." His only concern is that, although students may appreciate not having to complete six work terms, they may not realize they're missing out on great experiences and opportunities to make important contacts in the industry that may lead to jobs later on.

The undergraduate engineering program has seen an increase in demand with enrolment up over 10 per cent since 2000/01. Until now, that growth has largely come from students recruited within the province. Those behind the changes are hoping that these amendments, coupled with a significant recruitment effort, will lead to more success in recruitment outside the province, including international markets, and from parts of the province where recruitment has not been a priority.

Engineering students travel to Florida with their award-winning robot

Back in January, three engineering students along with some other team mates and two of their mentors travelled to Tampa, Florida to showcase their award-winning remotely operated vehicle (ROV) from the 2005 team. The students, whose trip was sponsored by the Faculty of Engineering and Applied Science, were invited to attend the Underwater Intervention show, the combined annual conference of the Association of Diving Contractors International and the ROV Committee of the Marine Technology Society, which is the premier ROV show in North America. In addition to attending the show, the students presented a paper entitled "Students, Robots, and Ocean Science", which detailed their approach to building ROVs and indicated how ROVs can contribute to broadening education.

Standing room only at the 2006 Angel Lecture


Canadian astronaut Julie Payette

Astronaut Julie Payette spoke to a standing room only crowd of about 400 people recently. The Canadian Space Agency astronaut captivated the crowd, which included children and adults, with images from space, including images of Newfoundland and Labrador from more than 300 kilometres above the earth.

Ms. Payette was the guest speaker for the 2006 F.W. Angel Memorial Lecture on Sept. 27 at the Inco Innovation Centre. Her talk, entitled Space Exploration – An Astronaut's Perspective, included fascinating photos of the earth and the atmosphere, taken from the International Space Station.

In 1999 when Ms. Payette travelled on the Space Shuttle Discovery, she was not only the youngest Canadian astronaut but also only the eighth Canadian and the second Canadian woman in space. She also has the position of being the first astronaut from this country to board the International Space Station.

While visiting, Ms. Payette also gave a special presentation to 400 students at the Johnson Geo Centre as well as a presentation on the history of women in space to a group of female engineering and science students.

The F.W. Angel Memorial Lecture series was established at Memorial University of Newfoundland in 1967 through the generosity of the family of the late F.W. Angel and the firms with which he was associated. The series enables Memorial to bring an outstanding person to campus to speak on topics related to the profession of engineering and stimulating interest in this field among students, the academic community and the general public.

Annual Fund Appeal

Each year Memorial University of Newfoundland contacts alumni to update them on the latest initiatives of the university and its faculties. Faculty of Engineering graduates were contacted to ask for their support for excellence in education, research and scholarships, and service to the community. This year, two engineering students were rewarded for raising money for the faculty.

Work term 2 student, Julie Hedderson, received a prize for getting the most pledges and Term 5 student, Meaghan Couves, raised the most funds. Dean, Ray Gosine, presented each student with a faculty sweatshirt. Students Janet Cook, Krista Rebello, Mark Howell, Dan Hatcher, and Chris Hallett also volunteered in the fund raising efforts.

Dr. Ray Gosine receives a scholarship donation from Schlumberger's Glenn Samson and Barry North

Schlumberger celebrates a decade of giving to students

2006 marks the 10th anniversary of Schlumberger's scholarship program at Memorial. Every year, Schlumberger Canada Limited donates $10,000 to scholarship funds at Memorial University. Barry North, who is the personnel manager for Atlantic and Eastern Canada, says Schlumberger considers Memorial University to be a quality supplier of their most important resource - people. "Our mandate is to continue attracting the very best graduates and to ensure that they develop to successfully meet the challenges that not only face the oil and gas industry, but all sectors of our provincial, national and global economies." But, he adds, their responsibility does not end with scholarships. He believes they must also provide learning opportunities for students through work terms, guest lecturers, donation of learning materials, etc. He says organizations today must identify new and creative means to pursue learning opportunities for post secondary students.

Donation brings poverty issues to local high schools

H.J. O'Connell Ltd. is donating $15,000, in five annual instalments of $3,000, to the Faculty of Engineering in support of Engineers Without Borders (EWB).

The president of the Memorial chapter of EWB, Michael King, says H.J. O'Connell's financial support is an enormous contribution. "In the next five years, the funding will be directed towards our high school outreach program, a national initiative designed to educate high school students about the complex issue of poverty. It has already made a significant impact as we have reached over 400 students this term!"

Recently two EWB members, Ian Froude and Desiree Squires, travelled to Goose Bay and Corner Brook, expanding MUN EWB's outreach to high schools off the Avalon. "We're trying to become a household name, and gaining access to the rest of the province is certainly going to help," adds Michael.

Brian Lemessurier, president of H.J. O'Connell Ltd., says they are strong believers in the engineering program at Memorial. He adds that the company has been blessed by talented engineering graduates from Memorial and they felt it was time to give back. He says they chose EWB because of what they stand for. "I believe as a people we must be more aware of global issues. Contributing in a meaningful way to the well being of less fortunate people can be one of the most rewarding experiences of our lives. A solid engineering education equips us with many valuable tools with which to make such a contribution. Breaking down borders allows us to be less introspective and more aware of the big issues facing our world. EWB is an important and valuable organization in this regard."

Specializing in heavy civil infrastructure construction, mining applications and energy development, H.J. O'Connell Ltd. is a leading supplier to Canada's resource industries. The company is headed by Faculty of Engineering alum Brian LeMessurier and has offices in St. John's, Wabush, Montreal and Oakville. 2006 is the company's 75th anniversary of servicing resource-based clients. Their client base includes The Iron Ore Company of Canada, Quebec Cartier Mining, Wabush Mines, Abitibi Consolidated, Fortis Inc., Inco, and Voisey's Bay Nickel.

C-CORE renames internationally renowned facility

C-CORE, a centre long associated with Memorial University, is renaming one of its main facilities. The Centrifuge Building is the cornerstone of international geotechnical research conducted here at Memorial. It is the largest in Canada, one of the largest in the world, and the only centrifuge purposely designed to model cold regions. The building is being renamed the Dr. Jack Clark Geotechnical Engineering Building in honour of the man who served as president and CEO of C-CORE from 1984 until 1997 and remained a consultant until 2005.

C-CORE

In 1988 C-CORE, in conjunction with the Faculty of Engineering and Applied Science, embarked on an initiative to acquire a world-class centrifuge facility for experimental modelling of ice-structure and soil-structure interaction. Under the leadership of Dr. Clark, $5.7 million was raised to construct the building and purchase the centrifuge machine where models up to 600 kg can be subjected to forces of up to 200 gravities providing an unprecedented capability for geotechnical modelling. This research has brought C-CORE, and Memorial University, to the attention of the international geotechnical engineering community. The facility has been used for approximately $1.25M annually in contractual research as well as in the generation of numerous graduate theses at the university.

C-CORE was established in 1975 as a centre affiliated with Memorial University, and incorporated in 1991 with Dr. Clark serving as the first president and CEO. As a self-reliant, not-for-profit corporation, C-CORE now employs over 60 fulltime staff and invests over $250K annually in support of undergraduate and graduate students. The centre earns over 90 per cent of its revenue, which this year will exceed $8M, from clients outside of Newfoundland and Labrador.

Sinking ships:
Girls have fun with hands-on learning

This past summer, nearly 70 girls from around St. John's learned first hand from engineers how to sink a ship with pennies and a milk carton. They also learned how robots work and how kids in underdeveloped countries get water. It was part of Girl Quest, a science and engineering education program, designed specifically for girls, offering hands-on, interactive projects to students in Grades 2-8. Our faculty members, and the Memorial chapter of Engineers Without Borders, spent a Saturday with the girls for some hands-on interactive engineering fun.

Sponsored by Memorial University, the Faculty of Engineering and Professional Engineers and Geoscientists of Newfoundland and Labrador, Girl Quest is a Future SET program – an award-winning science and engineering education program designed with fun, interactive and educational projects to boost girls' confidence and interest in science.

"These six posts did more for me than just allow me to travel across Canada and to Europe. The diverse experience I received through my work terms made me realize that a young graduate with a MUN engineering degree could do anything he or she wanted!"

Angela and Stuart Gill at Stuart's graduation

Angela Gill

Alumni Profile:
Siblings who chose the road less travelled

Angela and Stuart Gill have a lot in common. Besides the fact that they are brother and sister and both graduates of the engineering program, they both knew that the experiences they gained on their work terms would affect the rest of their lives. Doing as many different jobs as possible in as many different places, they knew, would give them a better idea of where they wanted to work and live.

Stuart Gill at Wyle Laboratories GmbH, which performs services for the European Space Agency

Angela used her work terms to travel around the country and explore different industries. Her first two work terms, both in Newfoundland with the Department of Transportation, introduced her to how an engineering office operates. Her third work term was in Ottawa with the National Research Centre conducting research on offshore oil rigs and how they are affected by different forces applied by ice in the Atlantic. Next, she worked in Fort St. John, British Columbia with Petro-Canada where she worked in the onshore gas fields. It was here she says she faced a lot of different challenges. Angela recalls, "Learning to drive on dirt, gravel and muddy roads, dealing with no toilets in the field and of course being aware at all times about wildlife, mainly grizzlies!" Angela then spent a work term in Port Hawkesbury, Nova Scotia at with a pulp and paper company followed by a term in Aberdeen, Scotland. She graduated with a bachelor of engineering (mechanical) in 2000.

Before graduation Angela was hired by an international company that manufactures fibre optic components where she discovered her strength in process engineering. Unfortunately, after about a year and half the high tech crash hit in 2001 and she lost her position.

Alumni **UPDATES**

ALUM CY CHIN (Dip. Eng. Advanced Studies '64) is living in India as director of Aircel Limited. He and his wife Juliet have four children. Cy Chin would like to reconnect with fellow classmates from 1964. His email address is: *cychin_malaysia@hotmail.com.*

After two decades in shipbuilding and pipe fabrication, **CHRIS RITCEY** (B.Eng. '85) has moved from New Brunswick to Alberta as an entrepreneur adapting advanced modular construction and project management from shipbuilding and offshore construction to oil sands developments.

Having spent the first 20 years of her engineering career working in the engineering consulting business in Newfoundland and Labrador, **KAREN THOMAS** (B.Eng. '86) has recently accepted a position with Chevron Canada Resources and relocated to Calgary, Alberta. Her husband, Allan and their children, Ashley (15) and Greg (13) are settling into their new neighborhood. They are hoping to return to Newfoundland in the near future to work on the continued expansion of the oil and gas sector.

After spending the past 10 years practicing engineering exclusively in the fire protection field in Ontario, **ALLAN MARSH** (B.Eng. '88) was recently appointed vice president of Engineering and Code Compliance at Onyx-Fire Protection Services Inc. in Ontario. Here, Allan says he is exposed to a broad and diverse client base, covering everything from high-rise, multi-unit condominiums to single and multiple location manufacturing plants to hotel chains. Allan and his wife of 12 years, Christine (Sellors) have a daughter Colleen, aged three. Allan also has a 16-year old son Ryan. Allan and his family live in Rockwood, ON (just outside of Guelph), along with their treasured dogs. Fellow alumni from the 1980's can feel free to contact Allan at *prodigal@idirect.ca* or *allan@onyx-fire.com.*

PETE BROWN, P.Eng., (B.Eng. '90, M.Eng. '94) has recently accepted a senior mechanical engineer position at Enersul L.P. in Calgary where he lives with his wife, Sharon (BA '95) and daughters Chloe and Katherine. Those wishing to catch up with Pete and Sharon can do so at *peteandsharon95@yahoo.ca.*

After 10 successful years as an environmental consultant with MGI Limited and Conestoga-Rovers and Associates, **BRIAN TAITE** (B.Eng. '94) decided it was time for a change. He is now working for Shell Oil as a senior reliability engineer in the City of Assen, Netherlands. "Coming to Europe for the first time and changing career paths has been an exciting and fulfilling adventure."

ROBERT MILLS (B.Eng. '95) and his wife Tracey welcomed their new baby girl, Lucinda Jane, into the world on Nov. 29, 2005.

DARRELL BISHOP (B.Eng., '04) and **LAURA WELLON** (B.Comm., '03) were married on August 20, 2005 in St. John's. Both are enjoying living and working in Calgary, Alberta. Darrell works at Devon Canada and Laura at National Public Relations.

DANIEL BURT (B.Eng., '97) received a masters in engineering from the University of Calgary's Department of Chemical and Petroleum Engineering at the June 2006 convocation.

Civil engineer **OVERTON COLBOURNE**, P.Eng. (B.Eng. '77) has been accorded Fellowship from the Canadian Society for Civil Engineering (CSCE) for his outstanding contributions to the civil engineering profession. This award is given to individuals who have contributed actively towards the progress of their profession. The CSCE Fellowship was conferred during the CSCE Annual Conference Awards Banquet held in Calgary, Alberta in May. Mr. Colbourne is branch manager for SGE-Acres in Corner Brook, NL. He is also past president of the Professional Engineers and Geoscientists of Newfoundland and Labrador.

For the next two years, Angela worked at jobs outside her field including retail, engineering drafting and tutoring university students. "I decided that it was a great time to go to Australia as I've always wanted to go. I entered the country on a working holiday visa that allowed me to stay in the country for a year and work with an employer for up to three months. Because I liked it so much here, I spent most of that year looking for an employer that would sponsor me on a skilled worker visa so that I could stay in the country." She's worked for a few companies since moving there. After about a year and a half Angela was headhunted for her current role with the Capital Safety Group, an international company that manufactures and distributes fall safety harnesses and equipment.

She does a wide range of tasks and has been working in research and development of new products, creating new bills of materials, sourcing new materials, drop testing of harnesses and helping

Alumni Profile continued on page 11

Founders of Cathexis Innovations Inc. (l-r): Mark Gillingham, Mark Simms, Steve Taylor and Colin Power

Graduate student among top 25 people to watch

Engineering alum and graduate student Steve Taylor has been named by *Progress* magazine as "one of 25 People to Watch for 2006". He is the CEO of the high-tech company Cathexis Innovations Inc., a company founded by engineering students Mark Gillingham, Mark Simms, Colin Power and Steve Taylor. Cathexis is a provider of wireless, mobile RFID readers, advanced integration software and Radio Frequency Identification (RFID) application models built on its proprietary RFID Engine™ architecture.

Progress magazine publishes the list each year to recognize "enterprising trailblazers who stand apart for their accomplishments and their thinking about uniquely regional issues."

Cathexis achieves multimillion-dollar deal with United Arab Emirate's leading technology investor

Cathexis Innovations Inc. has entered into a $3 million agreement with the CERT Group of Companies in Abu Dhabi, United Arab Emirates, to bring its industry-leading Radio Frequency Identification (RFID) technology to the global market.

The market for RFID technology is rapidly expanding – the current sales in the range of $5 billion U.S. are expected to increase to $10 billion by 2012. The deal with CERT will see IDBlue launched in the South Asia-Middle East - North Africa region in a working collaboration between CERT and Microsoft. Cathexis was recognized in the November issue of Microsoft's Innovation magazine as an emerging force in RFID and is one of only a handful of Microsoft Gold Certified partners worldwide.

"The partnership with CERT will help position Cathexis to be the leading provider of mobile RFID technology to help corporations and governments track and manage their assets," explained Steve Taylor, CEO of Cathexis. "We are now looking to expand our existing production and sales channels throughout North America and Europe, and to launch our products into the rapidly growing Middle East market. We expect that the partnership with CERT will help facilitate this growth."

Group of engineering alumni share $10,000 prize

Engineering alumni Patricia LeFeuvre, B.Eng.'95, Rodney Hale, M.Eng. '98, and John Guzzwell, B.Eng.'86, are hoping to put Newfoundland and Labrador on the map with their automated technology for fixing red-eye in digital photographs.

The three engineers will share a $10,000 Manning Innovation Award, sponsored by Xstrata, for inventing Pixfix (TM) Red-Eye software, which is used in thousands of photo kiosks, consumer photo-printers, photo mini-labs and large central processing labs around the world to analyze billions of photo images each year. The software scans digital photos for the red glow from the pupils that often occurs with flash photography. The system then automatically restores red eyes to their natural colour.

The technology, which is produced by LeFeuvre, Hale and Guzzwell's company, iSYS - Intelligent System Solutions Corp., has been licensed to 12 companies in nine countries in North America, Europe and

Engineering alumnus on second place team in Molson International Case Competition

Engineering alumni John Kearsey (right in the back row) poses with the HEC team

Memorial University and its alumni were dominant players in the 25th annual John Molson School of Business MBA International Case Competition in Montreal. The Competition challenges the MBA teams business savvy by presenting them with real-life challenges faced by today's leading corporations. The teams develop their solutions under the watchful eye of more than 200 judges from the business community. Faculty of Engineering alumnus John Kearsey, B.Eng.'94 was a member of the second place team from HEC – Montreal. Mr. Kearsey credits his time at the Faculty of Engineering as key to the success. "One key factor that the faculty developed in us was our ability to think independently, which remains one of the most important abilities in the business world. Adaptability and ability to think outside the box were two traits that really helped during the MBA case competition at Concordia University," says Mr. Kearsey. "What we learned at Memorial was to analyze a situation, scenario or design, think about what is actually occurring, and what improvements could be implemented. At all levels of university and business, team work has become so essential to success, so learning how to work in teams and bring out the best in yourself and others for the benefit of the project. This started in my engineering studies and has carried on through to this day."

Mr. Kearsey left his former job in Calgary to undertake an intensive energy management program at HEC. He says about 40 per cent of his MBA class have engineering backgrounds, from all over the world. "Just six months ago, I never contemplated being part of such fun competitions, now I am succeeding beyond my expectations!" Mr. Kearsey hopes to remain in the oil and gas sector when he completes his MBA, preferably moving to operations with a Canadian oil and gas producer, probably headquartered in Calgary. However, having worked and lived in Europe (London, Helsinki and Inverness during engineering work terms) he still has a taste for international work.

Asia. Hale, director and vice-president of product development at iSYS Corp., says it feels great to see what they've created being used by millions of people.

LeFeuvre, Hale and Guzzwell developed their expertise in image analysis at Memorial, where they worked for the research organization C-CORE. In 1999, the three engineers founded iSYS Corp in order to apply their skills to real-world problems. They decided to tackle the red-eye phenomenon since the solution would be a product they could develop on their own, with minimal investment.

Within six months of conceiving of an automated red-eye removal system, iSYS Corp. had a working prototype.

"It is very gratifying to be one of the very select few to win this award," says Hale. LeFeuvre notes, "People are starting to see that you don't have to be from a big place to make an impact."

THE ERNEST C. MANNING AWARDS FOUNDATION

This year, the Ernest C. Manning Awards Foundation will award a total of $165,000 in prize money. The Foundation was established in 1980 in the name of prominent Alberta statesman, Ernest C. Manning, to promote and support Canadian innovators. Since 1982, the Foundation has presented over $3.6 million in prize money through its annual awards program.

Engineering alumni get top honours with Nati's Innovation Award

A company started by three engineering alumni of Memorial was honoured with Nati's Innovation Award recently. Verafin Inc., founded by Raymond Pretty, Brendan Brothers and Jamie King, is a St. John's-based software company that specializes in anti-money-laundering and fraud detection solutions for the financial services industry.

The Innovation Award recognizes a technology company that has demonstrated outstanding innovation developing products or services, penetrating new or existing markets, or sustaining a successful corporate organization.

JAMIE KING is president and a co-founder of Verafin. Prior to Verafin, Jamie co-founded Intrignia Solutions, a company specializing in robotics and artificial intelligence. Jamie has been a featured speaker at a number of international anti-money laundering conferences in both Canada and the Caribbean. He has taught computer engineering at Memorial University and has authored numerous publications.

RAYMOND PRETTY is the chief software architect and a co-founder of Verafin. Raymond has worked as a software developer and researcher at a number of companies including Nortel Networks, Charles River Analytics and Intrignia Solutions. Raymond has significant experience in large-scale software development and has worked on the design and development of a number of sophisticated artificial intelligence projects including an intelligent battlefield display for the US Army, Air Traffic Management research for NASA, and a Telerobotic Management System for managing underground mining vehicles.

BRENDAN BROTHERS is director of Professional Services and a co-founder of Verafin. Brendan has significant expertise in intelligent systems and distributed computing. He has worked for a number of high-tech companies including xwave, Mitel Networks, National Research Council (Institute for Ocean Technology) and Intrignia Solutions.

Verafin founders (l-r): Jamie King, Raymond Pretty and Brendan Brothers pose with their Nati award

"The 2006 Nati Achievement Awards recognize outstanding member companies and executives who are effectively accelerating the business of technology in Newfoundland and Labrador," **said Todd Hiscock, the new Chair of the Nati Board of Directors.** *"These awards celebrate the vision, leadership, enterprise and intelligence of the technology industry in this province. Our companies are gaining world renown and respect for their competitiveness, innovation and overall excellence."*

In August, Killick Capital, a private equity investment firm based out of St. John's, announced a significant equity investment in Verafin Inc. Jamie King, president of Verafin, says the company has established itself as a leader in the Canadian market and has recently installed systems in Texas and California. He went on to say, "This investment from Killiick will enable Verafin to pursue a more aggressive marketing strategy outside of Canada and establish itself as a key player in international markets."

Read the blog of an engineering graduate in Zambia

Ed Martin never imagined himself travelling around the world, working in a developing country. In fact, he was only interested in helping from this side of the globe. With that in mind, in 2005 he took on the challenge of getting one of the most active groups on campus off the ground as part of a work term: the Memorial chapter of Engineers Without Borders. However, Ed left this past summer for Zambia, Africa and is now committed to a year of volunteering in the developing country.

Ed, who graduated with a mechanical engineering degree this past spring, was one of the driving forces behind Memorial's chapter of Engineers Without Borders (EWB), a leading charitable organization dedicated to reducing world poverty by promoting human development through access to technology. Their slogan: Because technology can drive extraordinary change. Ed is the second engineering student to travel to Africa. Term 3 student Ian Froude recently spent four months in Africa; spending his work term travelling and volunteering through a program run by the national EWB office called the Junior Fellowship Program.

Ed said the majority of the placements are in Africa. In 2005, Canadian students were sent to East Timor, Ghana, Tanzania, Lesotho, Senegal, Guinea Bissau, Benin, Cambodia, Madagascar, Cameroon, Nepal, Indonesia and the Philippines.

In the past four years, EWB has sent more than 70 young Canadian engineers to work on 35 projects in 20 countries. Closer to home, their 6,000 members across the country strive to make Canada the most development-friendly and sustainable country in the world. Volunteers with the Memorial chapter have been working hard to promote EWB and their hard work paid off when the group co-shared the MUN Volunteer Club/Society award at the 20th annual MUN Volunteer Days this past March.

To read about Ed's Zambia experience, visit the EWB website at www.mun.ewb.ca. There you'll find a link to Ed's blog in Africa as well as Ian's journal about his travels.

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make improvements to their manufacturing processes. "I think moving here is one of the best things I've ever done. The economy is wonderful, there's so much work and the weather is great. Aside from Sydney being quite expensive to live, it's a lot like Canada. People are friendly and the standard of living is much the same. I don't think I would have gained the same experience so quickly if I didn't take the leap to pack my bags and fly to the other side of the planet."

Like his sister, Stuart wanted to experience as much as possible during his work terms. And he got what he wanted. He taught engineering to kids with the FutureSET summer camps, did CAD drafting at an engineering firm, worked on the development of oil well simulation tools in Norway, and manufactured fibre optics components in Ottawa at which time he and Angela's paths intersected. Since then, however, they've literally been heading in opposite directions.

"These six posts did more for me than just allow me to travel across Canada and to Europe. The diverse experience I received through my work terms made me realize that a young graduate with a MUN engineering degree could do anything he or she wanted!" However, Stuart adds, that led to the problem of choosing one industry for a career. "After much soul-searching, I decided to shoot for the stars and get a degree in the space industry. However, up to this point, I had no experience in the field."

In 2002, his final term of engineering, he applied for a one-year master's course that served as an introduction for professionals to side-step into the space industry at the International Space University in Strasbourg, France. Stuart says this also offered him the opportunity to return to Old Europe, which had stolen his heart two years before during his overseas work term.

Stuart then applied to space engineering firms in Canada and Europe and after a period of many rejection letters from companies looking for more experienced engineers, he convinced a firm in Cologne, Germany to give him a chance. That company is Wyle Laboratories GmbH, which performs services for the European Space Agency for medical monitoring of their astronauts.

As a biomedical engineer, Stuart works with the current European Space Agency mission to the International Space Station. "My role in this big project is as a member of the biomedical flight controller's team, which means we are part of the medical team on the ground that helps keep the crew healthy during the six month journey. We work very closely with the doctors who monitor the crew's de-conditioning due to microgravity and the space environment looking at things like bone loss, muscle atrophy, radiation monitoring, etc."

Both Angela and Stuart say they don't regret the decisions they made and are very grateful for the very diverse experiences they've had. Their advice for students: Get as much as you can out of your experience at Memorial — it may just lead to something extraordinary.

Engineering researcher part of the largest national study on drought


Dr. Ken Snelgrove

Dr. Ken Snelgrove's job is to study what a lot of Canadians spend a great deal of time talking about – weather. In fact, Dr. Snelgrove is part of a national research project studying weather and climate and how it relates to one of Canada's worst natural disasters. He is part of the Drought Research Initiative (DRI), a research network looking at improving knowledge of drought in the Prairies and the ability to predict droughts such as the one that happened there from 1999-2004. This was the worst drought in over 100 years and affected the entire Canadian economy. The 2001 and 2002 drought years saw Canada's Gross Domestic Product lose some $5.8 billion, while agricultural production in Canada dropped by an estimated $3.6 billion in 2001-2002.

Researchers with the DRI, the largest ever Canadian university study on drought, hope to better understand the physical characteristics of, and processes influencing, Canadian Prairie droughts, and to better predict them. Dr. Snelgrove, associate professor with the Faculty of Engineering and Applied Science, was asked to join the DRI group because of his research on the relationships between soil moisture and land surface evaporation. He has also been part of a larger collaboration between atmospheric scientists and hydrologists called the Mackenzie GEWEX Study. "Much of this work will take place at Memorial and I have two PhD students and a postdoctoral fellow engaged in these activities," said Dr. Snelgrove. "New computing resources available within the university through ACEnet will be important to the success in this project, as well." More specifically, Dr. Snelgrove's research will detect small changes in moisture, on the order of 2 cm of water, looking at how the patterns of moisture evolve as the drought begins and ends and the role of groundwater during the drought as a source of atmospheric moisture.

However, although the scientific aspects of the project are funded, the objective to apply progress to address critical issues of importance to society has not been and Dr. Snelgrove says this does not help farmers. "While our five year, $3 million study will help to improve drought forecast and knowledge, it is of little use if farmers and other stake-holders are not aware of the uncertainty in these predictions and methods to put this new knowledge into practice on the ground. It's like you and I deciding not to wear a coat if there is a cool forecast in August. Similarly, farmers would have to alter their crop selection in the spring if there was a reliable drought forecast for the next season."

Dr. Snelgrove is an investigator in the project along with 14 others from universities in Manitoba, Saskatchewan, Alberta and Quebec. Also working on the project are, collaborators and research partners from federal and provincial departments, research organizations and utility companies. The project, which runs from 2005-2010, is supported by the Canadian Foundation for Climate and Atmospheric Sciences, which is providing $3 million to the study.

New partnership with the Faculty of Engineering could help bring natural gas from the arctic

The world's growing concern about greenhouse gases has made natural gas a highly sought after commodity, leading to a rapidly growing interest in the many large fields of natural gas in cold regions. While the arctic is rapidly becoming a key area of activity for offshore oil and gas development, shipping liquefied natural gas in the arctic presents many challenges in the areas of ice loads and ship strength research. However, a new program on artic research, called the Ocean and Arctic Structures Research Program, has been launched creating an industry-leading team for cold regions development with extensive arctic research and design expertise. The program, funded by BMT Fleet Technology Ltd., a subsidiary of BMT Ltd., will support researchers in this field at Memorial University. The university and BMT have long been centres of research in ice and structures.

Memorial's ocean research reaches new depths

Researchers lower the new Explorer AUV into the water at Holyrood

On a windy, sunny day in June, a large transport truck, followed by a crane arrived on Memorial University's St. John's campus. In the truck was a $1 million piece of equipment, the MUN Explorer, which had travelled across the country to reach its destination – the Underwater Vehicles Laboratory in the basement of the S.J. Carew Building. Underwater researchers in the Faculty of Engineering had been waiting for this delivery for quite some time.

The MUN Explorer is a 4.5 metre autonomous underwater vehicle (AUV) with a 100 kilometre range which was built by International Submarine Engineering Ltd. (ISE) in Port Coquitlam, British Columbia. Weighing 700 kilograms, it is the only AUV of its size and capability available to the university research community in Canada. In fact, there are only a handful of groups worldwide involved in AUV research and even fewer specifically focused on what engineering researchers at Memorial are undertaking.

The MUN Explorer is a survey class AUV which means it can handle up to 150 kg of different sensors allowing it to do large-scale surveys of the water column or seafloor. It also means it can go to depths of 3000 m – something very few underwater vehicles can do. And researchers at Memorial will be pushing the boundaries of what it can do in offshore environmental engineering, iceberg exploration and characterization, and seabed surveys.

The Explorer is initially being operated in coastal areas of Newfoundland for environmental monitoring and vehicle dynamics testing (e.g. how the vehicle moves, and if there are things that can be done to make it more efficient). Work is on-going to develop the sensors of the vehicle to include measuring the conductivity, temperature and depth, and sonar and camera devices, giving it more versatility and capabilities. This past summer research was conducted in the waters off Holyrood on the vehicle dynamics and environmental monitoring.

Funded by the Atlantic Canada Opportunities Agency through an Atlantic Innovation Fund Award to the Pan-Atlantic Petroleum Systems Consortium, it is the second vehicle in a line of three. The first of its kind is operated out of France.

Sara Adams is a research lab co-ordinator with the Marine Environmental Research Lab for Intelligent Vehicles, as part of Memorial University's CREAIT Network. Sara says most people are familiar with C-SCOUT, the smaller, green AUV that's been used by MUN researchers since 2000. And although still used for research purposes, C-SCOUT doesn't compare to this AUV. As Sara explains, they would never have thought of bringing C-SCOUT down to even 20 metres and unlike C-SCOUT, the Explorer is ocean-ready. "C-SCOUT was a test bed, a development vehicle that graduate students worked on building and developing innovative parts for. C-SCOUT was never ready to conduct large ocean missions." But, Sara adds, C-SCOUT is not completely dead in the water. "It will still be a test bed type vehicle but the Explorer will be our flagship, ocean-going vessel. For the next while our main focus will be getting Explorer out there as much as possible."

Dr. Claude Daley, chair of the Ocean and Naval Architectural Engineering program, will be the first director of the BMT Ocean and Arctic Structures Research Program, which will see BMT fund graduate students. "This is the ideal form of industrial support for universities", said Dr. Daley. "The research activities and results will all be open and public domain, with none of the specified focus that is sometimes associated with industrial support. BMT has a great depth of expertise and we'll gain a great deal from their input and collaboration. Graduate students want to know that their research is leading edge and relevant to industry."

Dr. Daley adds that the students will be engaged in research such as ship structures, ice loads, ice mechanics, safety, regulation, and structural sensors, with input for topics from BMT. Both BMT and Memorial University have a long history of applied research and development in the areas of structural design and testing, evacuation, risk assessment, and vessel operability and survivability.

BMT Fleet Technology Limited

And the award goes to...

excerpts from letters of nomination for Michael Bruce-Lockhart

LORI HOGAN (B.ENG.'03):
"His concern for his students and love of teaching are to be held as an example of how a professor should be."

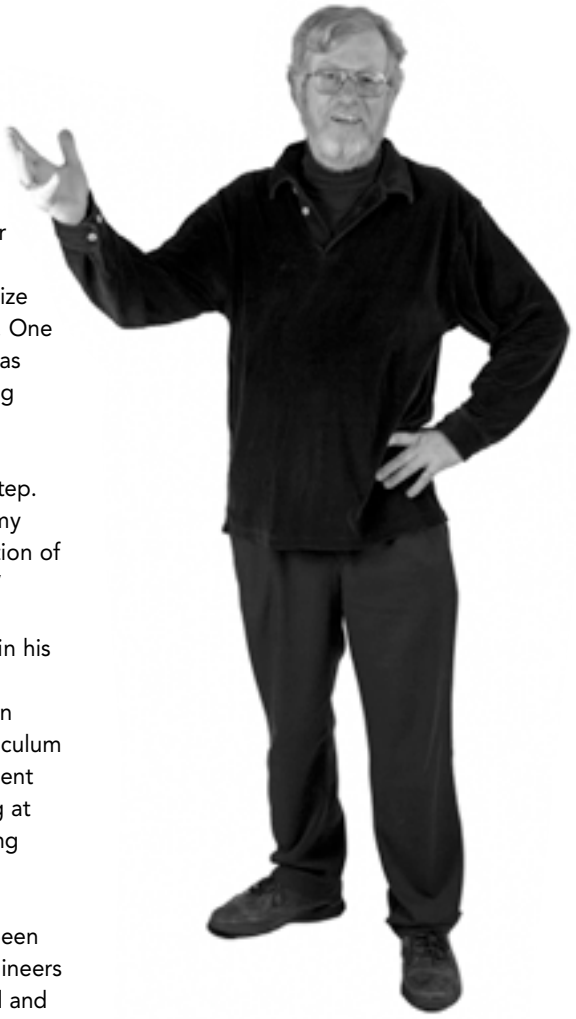
DEAN RAY GOSINE (B.ENG.'86):
"While I was an undergraduate, I was fortunate to have Michael as a supervisor for my final year design project. I found him to be an excellent mentor who encouraged his students to take on significant intellectual challenges through their projects and who helped guide them to the successful completion of their projects. As a student, who was considering graduate studies at the time, I found Michael's thoughtful approach to be inspiring and confidence-building and it certainly was a significant factor in my decision-making about pursuing graduate studies at that time."

JENNIFER MURRAY (B.ENG.'96):
"Professor Bruce-Lockhart always did an excellent job at teaching the material in his courses and, in my opinion, was one of the best teachers in the faculty. More importantly, I think more than any other professor he taught me what it meant to be an engineer."

JONATHAN ANDERSON (B.ENG.'06)
"He always knew where to draw the line between giving advice and giving opportunity to grow. He was always there when we needed direction, but he never held our hands. We stood on this giant's shoulders, but our work was our own, and the confidence that we gained is priceless."

Michael Bruce Lockhart is one of the recipient's of the 2006 President's Award for Distinguished Teaching. Professor Bruce-Lockhart has been a member of the faculty since 1971 and was Memorial's first professor to specialize in computer and digital technology. One of his most notable achievements has been the development of a Teaching Machine with Dr. Theo Norvell that interactively shows students how computers process codes step by step. "As I am closing in on the end of my career, this award is really a validation of what I have stood for in my career."

He says what he is most proud of in his career is the calibre of Memorial's engineering graduates. "I have been deeply involved with teaching, curriculum development and course development since the beginnings of engineering at Memorial. This is a good engineering school."



Professor Michael Bruce-Lockhart, recipient of the 2006 President's Award for Distinguished Teaching

Professor Bruce-Lockhart has also been honoured with the Professional Engineers and Geoscientists of Newfoundland and Labrador Teaching Award, which recognizes an exemplary contribution by an individual in the area of engineering and/or geo-science education. It assesses teaching effectiveness, contributions to education, service to students, professional practice, and service to peers.

Memorial University, in conjunction with the Alumni Association, established the President's Award for Distinguished Teaching in 1989. The award recognizes excellence in teaching over an extended period of years. It honours faculty members who, through their creative approaches and sustained commitment to teaching, have generated intellectual excitement and fostered the development of students' skills and interest in their disciplines. It also honours educational scholarship and leadership.

The President's Awards were recently given out at a special ceremony. Bruce-Lockhart's wife, Carole Peterson, received a university research professorship at the same ceremony. Dr. Peterson, a professor in the Department of Psychology, is the first woman in science to be so honoured and only the fourth female recipient.

Renowned engineering researcher is awarded the Richard H. Kaufmann Award from IEEE

Dr. Aziz Rahman has been selected as the 2007 IEEE Richard H. Kaufmann Award recipient for his "contributions to analysis, design, and development of interior permanent magnet motor drives." He is the first Canadian to receive this award.

The IEEE Richard Harold Kaufmann Award was established by the IEEE Board of Directors in 1986 for outstanding contributions in industrial systems engineering. It is presented annually to an individual, or team of up to three persons, who have made exceptional contributions to electrical engineering in the industrial environment through the design or application of systems technology, as well as apparatus, devices, or materials for plant power distribution, drive systems, process control, or other utilization systems.

The award is named in honor of Richard Harold Kaufmann in memory of his many important contributions to industrial systems engineering and his dedicated service to the IEEE Industry Applications Society. It consists of a bronze medal, certificate and honorarium.

Dr. Rahman has been teaching for more than 44 years and 30 of those have been at the Faculty of Engineering and Applied Science at Memorial. In addition to his teaching, Dr. Rahman is a consultant to many companies including the General Electric Company, Iron Ore Company of Canada and Newfoundland and Labrador Hydro. He has published 565 papers and is a registered professional engineer in Ontario and Newfoundland and Labrador, a member of IEE Japan, a fellow of IEEE, a fellow of IEE (UK), a life fellow of the Institution of Engineers, Bangladesh and a fellow of the Engineering Institute of Canada. Dr. Rahman was the second Canadian in history to receive the 2004 IEEE William E. Newell Power Electronics Award for outstanding achievement and was also awarded the 1992 IEEE Industry Applications Society Outstanding Achievement Award.

Faculty and staff **NOTES**

NEW FACULTY

DR. SHAFIQ ALAM – assistant professor (mechanical), November 2006

DR. STEVE BRUNEAU – assistant professor (civil), January 2006

DR. STEPHEN BUTT – professor (civil), August 2006

DR. BING CHEN – assistant professor (civil), July 2006

DR. NICK KROUGLICOF – Industrial Research Chair in Machine Vision, July 2006

DR. FANG WANG – assistant professor (electrical and computer), July 2006

DR. LIHONG ZHANG – assistant professor (electrical and computer), October 2006

NEW STAFF

PHIL BALUK – programmer consultant, August 2006

PAUL BISHOP – engineering technologist, January 2006

PHIL BONNAH – programmer consultant, August 2006

MARJORIE MERCER – administrative staff specialist II, August 2006

DARRYL PIKE – manger of Engineering Laboratories and Industrial Outreach, September 2006

BRIAN PRETTY – engineering technologist, August 2006

LYNETTE SNELGROVE – research and development liaison officer, June 2006

STEVE STEELE – engineering technologist, August 2006

RETIREMENTS

Don Bass – professor, August 2006

Graduate student heads overseas for opportunity of a lifetime

Memorial engineering PhD student Sritama Sarkar just spent eight weeks in the United Kingdom doing something only a handful of researchers get to do. Ms. Sarkar was chosen as one of six student researchers from around the world to take part in an international exchange through the young researchers bursaries program.

Sponsored by the National Environmental Research Council (NERC), Ms. Sarkar was part of the Collaborative Autosub Science in Extreme Environments project, the autonomous underwater vehicle Autosub team of the National Oceanography Centre in Southampton. NERC funds 12 competitive bursaries of up to £5,000 for a program designed for young scientists and engineers to travel and collaborate.

The Autosub team is currently designing and building the Autosub6000, which will be capable of working to a depth of 6000 m. They are also processing a large amount of data gathered by the Autosub 3 from its previous missions. Ms. Sarkar helped the Autosub team process that data.

Autosub team of the National Oceanography Centre in Southampton, UK

She says being selected was very exciting and challenging. "It's definitely a nice way to start my professional career. I have just submitted my PhD thesis and am at the point of ending my academic life and entering into professional life. The experience with the Autosub team helped me gain practical experience with autonomous underwater vehicle technology."

Ms. Sarkar is in Ocean and Naval Architectural Engineering and her PhD research focuses on designing, building and testing an underwater walking dredger/miner. Ms. Sarkar grew up in a dredging environment. Her father is a mechanical engineer and since 1979 has designed and built surface floating dredgers. "When I was a child I watched him drawing the designs, because AutoCAD wasn't that common, and I would go to work sites with him." In the future, Ms. Sarkar says she would also like to work with underwater vehicles so, she adds, the time she spent with the Autosub team was really valuable in preparing her for the future.

"My visit to the National Oceanography Centre came at a really good time, when a lot of different activities were going on, involving different systems and sensors integrations and testing," said Ms. Sarkar. "All of these activities gave me a first hand experience to autonomous underwater vehicles technology."

The other students chosen for bursaries were from British Columbia, Australia, the United Kingdom and the United States.

Graduate student wins ASME award two years running

For the second consecutive year, engineering PhD student Mohamed Awad has won a scholarship from the American Society of Mechanical Engineers International Petroleum Technology Institute. Also for the second year in a row, Mohamed is the only Canadian to receive this award. The objective of the petroleum division's student scholarship program is to promote student interest in engineering in the petroleum industry. The ASME Petroleum Division distributes $22,000 annually in scholarships. Mohamed's research focuses on two phase flow pressure drop modelling, which has a variety of applications including applications in the petroleum industry.

First place brings a $10,000 award for new graduate

2006 graduate Jonathon Anderson recently took home a $10,000 first place prize after winning the IEEE Canada TELUS Innovation Award. His winning project — which won over nine other projects from across the country that advanced to the competition's finals — was titled, Scribe: A Real-Time Transcription Tool. Among other uses, the tool can be used by composers and arrangers to record music eliminating musical dictation for would-be composers. "This was, however, kind of a labour of love. Comments from the judges indicated that, aside from things like technical merit and presentation quality, they were impressed by my passion for the project, the fact that I was obviously doing it because I wanted to, because it was something that I was so very interested in."

"Overall, it was quite overwhelming. I don't think anybody expected the kid from Newfoundland to win, but then again, we're full of surprises," adds Jonathon, who is currently working on a master's degree. "Our engineering program has got to be one of the best-kept secrets in Canada, and I'm really glad that, for a day at least, I helped make us a little more visible."

The award offers IEEE student members the opportunity to engage individually or as a team in a significant ICT project, such as their final year undergraduate project in an engineering or technology program.

In other IEEE award news, recent graduate Joel Mercer has won the 2006 Hackbusch Award for the best paper by a university student. The IEEE administers an institute-wide undergraduate Student Paper Competition each year to offer student members the opportunity to exercise and improve both written and verbal communication skills. The Hackbusch Award brings with it $250 and, in addition, the winners from the regional competition may be invited to present their paper at an IEEE sponsored conference. Joel is planning to begin graduate studies at the faculty in January.

Engineering graduate second alumni to win Best Business Award

The Canadian Youth Business Foundation (CYBF) has chosen Michael Snow, owner of WES Power Technology Inc., as the 2006 Newfoundland and Labrador Best Business Award recipient.

WES Power (short for wind, earth and sun) was incorporated in 2003 but before that Michael started research on renewable energy in 2002 as part of a senior electrical engineering project. The project was the design of a hybrid energy system, which consisted of a wind turbine, a solar panel and a controller. It formed the underlying technology base for WES Power, attracting both Philip Crowley, also an engineering graduate and Melissa Squires to the company.

The company, which is operating out of the Institute for Ocean Technology's Ocean Incubator program on Memorial's St. John's campus, has products that include control systems for residential and light industrial power systems, and recreational boats that have or will have renewable and/or alternative energy sources. This product is a Hybrid Energy Monitor and it solves the problem of integrating renewable energy sources with other power sources. In addition, the monitor tracks greenhouse gas emissions and shows the consumer how much money they are saving on power.

Michael is currently completing a master's degree in engineering at Memorial. He says his engineering education has helped him a great deal. "Engineering has taught me how to learn quickly and to adapt to different situations. It has given me the basis to analyze the problem and come up with an effective solution."

Each year, the Newfoundland and Labrador Best Business Award is presented to the best CYBF young entrepreneurial business in every province across Canada.

The 2005 Newfoundland Best Business winners were also MUN graduates: Steve Taylor and Mark Gillingham from Cathexis Innovations Inc.

EWB representative Jonas Roberts accepts the MUN Volunteer Club/Society of the Year from Dr. Lily Walker, dean of Student Affairs and Services

Engineering organization wins volunteer award

Engineers Without Borders won the MUN Volunteer Club/Society of the Year from Memorial's Student Volunteer Bureau (SVB). The Annual MUN Volunteer Day, which was held in March, is one of the most important events for the SVB. The ceremony allows both community and campus organizations to recognize publicly the outstanding efforts of their volunteers. During the ceremony, the SVB presents awards to various members of the university community.

The MUN Volunteer Club/Society of the Year award is presented to a club or society active at Memorial that has constantly shown a zest for contributing to student life, helping others and making a difference by organizing volunteer efforts for a great cause during the academic year. Engineers Without Borders - MUN was formed in 2005, joining 23 other Canadian university Engineers Without Borders chapters across the country in the fight against poverty. A registered Canadian charity, EWB helps people in developing communities gain access to technologies that will improve their lives.

Second annual Pi Throw gets requests from as far away as Dalhousie

The Engineering Student Society 'A' raised over $2,100 for the Janeway Children's Foundation with their second annual Pi Throw. In March student volunteers from the faculty delivered pies around the St. John's campus and around the city. For $10 you could have a pie delivered to anyone in St. John's and Mount Pearl. Volunteers picked up contributions and delivered pies. Those on the receiving end could take the pie in the face, buy the pie for $20, redirect the pie for $10, or choose not to participate.

VP of Finance for the Society and electrical engineering student Stephanie Roberts says they didn't keep track of the number of pies thrown but she estimated that approximately 40 - 50 pies were actually thrown at victims that Tuesday. "We did receive many interesting orders for pies. One order came in from Central Newfoundland to be sent to her friends at a business here in St. John's. Another came from an engineering student from Dalhousie to be sent to a student here at MUN. It was an extremely fun day and we'd like to thank everyone that supported Pi Throw 2006!"

Sponsors for the event included Sobeys, City Tire and Auto, Blue Sky Promotions, Best Dispensers Ltd.

Dean of Engineering, Ray Gosine takes a pie in the face for charity

Engineering student says national conference very inspiring

Engineering student Julie Hedderson is very enthusiastic and prides herself on being a very outgoing person. She also plans to get the most out of her time at Memorial, just one of the reasons she applied to attend Withinsight 2006, a bilingual, non-profit, interactive, four day conference for post-secondary students from across Canada. 150 post-secondary students were selected to attend the conference, which took place in January in Ottawa. The theme of Withinsight 2006 was "Leadership in Motion," focusing on the challenges facing the next generation of Canadian leaders and engaging youth in the policy-making process.

Julie said she found the conference very inspiring. "It was great to be surrounded by so many students dedicated to changing Canada and making it a better place for us to live and raise our children." Students from 32 different universities and 47 disciplines made up the group of delegates. "It was an incredible mix of people. It was absolutely amazing how we all meshed together to form an effective team to change our country," said Julie. She says she was also very honoured to have been the only Memorial student chosen as one of 14 delegates asked to help select policy and present it at the final banquet. The team met for hours to formulate a policy report, which they presented to the delegates and special guests. "I spoke on a prominent issue in our country and in particular our province of Newfoundland and Labrador, 'brain drain'. 'Brain drain' is when educated people leave their country or province for work. This was an issue of particular interest for me as an engineering student of Memorial University because I am well aware that many graduates of my program are forced to leave the province for jobs."

But the conference wasn't all work. "We also had the opportunity to skate on the Ottawa canal, have many social lunches and dinners, see the Royal Winnipeg Ballet at the Nations Arts Centre and also walk around the city on our free time." Julie liked the conference so much she plans on becoming a regional co-ordinator for Withinsight to encourage more Memorial students to attend.

Withinsight was created by a Queen's University student in 1997 and is completely organized by students. From energy and the environment, to corporate social responsibility, the conference seeks to empower students to develop innovative solutions today for the problems of tomorrow. The end result of the conference is a report that details the discussions of the nation's current leaders and the delegates of the conference, to be distributed to various governmental departments and agencies. The other Memorial students who attended the Withinsight conference were Kate Boland, Angela Wareham, Keith White, Allison Tucker, Danielle DuChene, Trevor Hickey and Zoiey Cobb.

Civil engineering graduate gets full scholarship at Stanford

Alum Steve Cranford before graduating and heading to Stanford University

New graduate Steve Cranford says although he's enjoyed his experience at Memorial, he had no problem listing off the many things he was looking forward to at his new university. Mr. Cranford received a full scholarship for a master's in engineering at Stanford University.

In March he made a trip to Stanford and described the campus as "a dichotomy of old and new with grounds and buildings that are architecturally beautiful, with mosaics and art pieces throughout campus." But Mr. Cranford was also amazed that the campus has a very modern vibe, which includes a library with no books; only computer resources where students can check out the latest PlayStation or X-Box games. Stanford is, after all, located in the famous Silicon Valley, birthplace of the computer and high-technology industry.

Mr. Cranford received the maximum scholarship available for students in the Department of Civil Engineering at Stanford. To qualify, students have to be admitted to the department, have an excellent undergraduate record as well as graduate record examination test scores, a statement of purpose outlining research objectives and professional goals, and letters of reference. Qualifications are then ranked among all applications and fellowships are offered to the most qualified students. Not an easy task.

Mr. Cranford says he was extremely surprised and excited. "My goal was to pursue a master's program at one of the top ranked universities in North America, but the finances required are exigent, to say the least. I was accepted at a few other schools, but without any funding offers." He says it was tough to decide if the expense was worth it, and he was considering other options, including universities in Canada. "Upon receiving the offer from Stanford, I was elated. This fellowship is allowing me to pursue one of my dreams."

"The program I'm in is set up in such a way that I can curb my academics towards any area of my choice. Research under a supervisor is not required, but allowed and encouraged if the student is interested," said Mr. Cranford. "The professors do not have to drive their students, as the student body is largely self-motivated and extremely competitive. Constraints are removed and creativity is encouraged." Although there are about 3,000 engineering graduate students at Stanford, there are only about 60 students in the Structural Engineering program with their own building, complete with labs, classrooms, and offices.

The award is for a nine-month 2006-2007 academic year and can be renewed depending on his success there. It is valued at $55,700, covering three-quarters of tuition, as well as a monthly stipend of $2,275. Mr. Cranford received 12 scholarships during his undergraduate degree at Memorial from the Faculty of Engineering, Memorial University, and the Provincial Government, totaling approximately $25,000 over six years.

Memorial students learn some lessons about women in non-traditional careers

By HEATHER BROWN

This past June, five Memorial University students attended the 11th national Canadian Coalition of Women in Engineering, Science, Technology, and Trades (CCWESTT) conference. The conference, which was attended by 450 people from across the country, was entitled Producing Influential Leaders, and was held in Calgary, Alberta. It provided a forum for participants to gain leadership skills, network with other dynamic colleagues and celebrate women's achievements in these predominantly male professions.

The students, Heather Brown, Jenny Earle, Krista Gates, and Melissa Robinson from the Faculty of Engineering, and Erica Lester from the Faculty of Science, are executive members of Women in Science and Engineering Undergraduate Project (WISE UP). Along with WISE UP co-founder Alison Noftall, they presented a paper entitled *WISE UP: Lessons from a Woman in Science and Engineering Undergraduate Project*. The paper was on how to start a similar program in other universities. Some topics discussed were the need for, and formation of, WISE UP chapters, challenges faced, such as, co-ordination between rotating executives as well as science and engineering faculties, and community outreach.

If you are interested in learning more about WISE UP go to: www.cdli.ca/wise/wiseup.

Term 6 student receives national volunteer award for his work with learning disabled after a diagnosis of his own

Student Jeff Newhook helps a youth build an electronic circuit

Jeff Newhook says volunteering with the Learning Disability Association of Canada (LDAC) was a natural choice. "I was diagnosed with a learning disability in my adulthood after a life of frustration and struggle in school, college and university. I slipped through the cracks of the school system, and was labelled as an underachiever and troublemaker growing up, because I had difficulty reading, writing and meeting deadlines," explains Jeff. "I always felt I worked so much harder than my peers, but my marks would never reflect my knowledge and ability. Once I was diagnosed with dyslexia and attention deficit disorder, things began to turn around and new doors were opened.

With my diagnoses, I went to the provincial association looking for information on my disability and they immediately recognized in me leadership, creativity, persistence, and a story that people could relate to. As I learned about my own disability, my responsibilities with the association grew," says Jeff.

Recently, the LDAC presented Jeff with their National Award of Excellence in Volunteer Recognition for his dedication and hard work in making significant contributions to persons with learning disabilities. Over the last four years Jeff, a term 6 electrical student, has contributed to the cause of persons with learning disabilities in several ways, including designing and leading hands-on science and engineering projects for a summer camp, creating and leading a monthly youth support group, speaking at schools, conferences and workshops, serving as a board member of the provincial association and fund raising.

He says when he was told he was being nominated for the national award he was happy, but, he adds, no award can compare to the feeling he gets from the volunteer work. "I've watched youth with disabilities learn about and accept their disabilities, and let go of past shame and embarrassment. I have seen children's self esteem be boosted as they successfully complete projects at my workshops. I have heard a parent brag about their child who is normally at the bottom of the class getting an 'A' in a science project after a little direction from me. I've watched kids who are normally isolated and bullied in school make their first friend at our camps and support groups. Parents have thanked me after I patiently listened to their frustration from the lack of supports and services for their child in the schools… The real awards come from the ongoing positive changes occurring in the lives of people with learning disabilities as a result of the time I give to the community."

Jeff says he now use strategies to help lessen the impact his disability has in his life. He records all of his lectures, and uses a computer to read back his textbooks, which is a more efficient way for him to study.

PhD student Abigail Steele, 2006 recipient of the Claudette MacKay-Lassonde Graduate Scholarship

Graduate student wins prestigious scholarship

Abigail Steel, a doctoral student in the Faculty of Engineering and Applied Science, has been selected as the 2006 recipient of the Claudette MacKay-Lassonde Graduate Scholarship. The $15,000 scholarship is one of the most prestigious awards given away by the Canadian Council of Professional Engineering as a part of the Canadian Engineering Memorial Foundation (CEMF). It is open to all Canadian women who are persuing studies in engineering at the PhD level. Ms. Steel is studying environmental engineering and more specifically, characterization, mitigation, treatment and disposal for hydrometallurgy waste residue.

Established in 1989 following the tragic death of 14 women at École Polytechnique, the CEMF offers scholarships and awards that encourage young women to choose engineering as a career. The CEMF believes that engineering will succeed in meeting society's needs and challenges by being a truly inclusive and diversified professional body, and that one way to achieve this is to attract women to the engineering profession.

Faculty of Engineering and Applied Science
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FRONT COVER PHOTO: The Explorer: Memorial's new autonomous underwater vehicle. Photo courtesy of International Submarine Engineering Ltd.

007-688-12-06-500