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SUMMER 2012

Engineering

More than one hundred years of
teaching and research excellence

Raising marine opportunities

Jim Hanlon heads up the new collaborative
Halifax Marine Research Institute

Shell energizes faculty with learning fund

Alumni leave legacy in Lunenburg



Faculty of Engineering

engineering.dal.ca



Engineering at Dal is looking forward to an exciting year. We continue to have strong demand for our

programs, attracting extremely bright and motivated B.Eng. students from across Canada. We have had continued growth in our graduate programs with expectations of topping 500 grad students in the 2012-2013 academic year.

We continue to work with companies in Canada and around the world on research and development projects. This year has seen major research initiatives funded in every department with expectations of more than 20 per cent growth in research funding in the coming year. These projects cover everything from drinking water to the next generation of aircraft engines.

Bold Ambitions: The Campaign for Dalhousie is well underway and the Faculty of Engineering continues to be a recipient of great generosity. I'd like to thank everyone for supporting the Faculty of Engineering. Please keep us up-to-date with your news, stories and successes and help us spread the message of what this faculty and its alumni are capable of accomplishing.

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

Contributors

Editorial: Mark Campbell, Jennifer Moore, Julie Sobowale, Joanne Ward-Jerrett, Marie Weeren

Photography: Danny Abriel, Nick Pearce

Design: Dave MacDonald, Karen Brown

For more news and events, visit the engineering alumni website at:
alumni.engineering.dal.ca/

Contact: Jennifer Moore, Alumni & Communications Officer;
jennifer.moore@dal.ca 902-494-3158

Hanlon engineers marine research collaboration

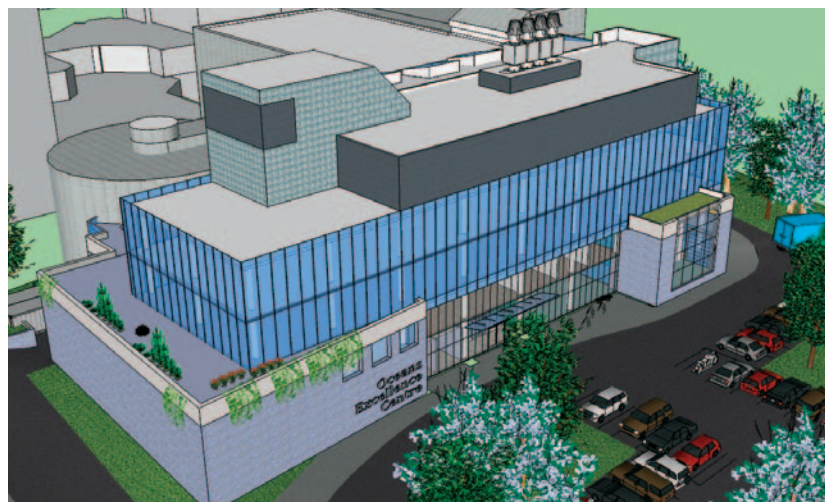
When Jim Hanlon (BEng'79) travels, he always gives his profession as engineer. "I've had many roles over the years," he admits, "but I still think of myself as an engineer because my approach to problem solving is very logical." That approach is sure to serve this highly accomplished business leader well in his newest role as founding CEO of the Halifax Marine Research Institute (HMRI). Launched in June 2011, this bold initiative seeks to increase the scale, quality and commercialization of marine research in the region by encouraging more industry, university and government collaboration.

"We know there is a lot of activity taking place in federal labs, universities and the private sector throughout

the greater municipality," says Hanlon. "The question is how can we get more economic value out of all this research? How do we bring everyone to the table to harness the full potential? That's the challenge that excites me."

He certainly has the credentials to meet that challenge. "Marine science has been a recurring theme in everything I've done over the past 30 years," says Hanlon. "It's the area where I'm most comfortable and it runs the gamut from pure science instrumentation to naval technology."

His resume is a testament to that. A successful entrepreneur with a knack for managing change and negotiating mergers, Hanlon has held senior management and shareholder roles with



The Halifax Marine Research Institute will be headquartered in the new Oceans Excellence Centre on Dalhousie's Studley Campus.



companies such as Ultra Electronics Maritime Systems, Magneto Inductive Systems, Seimac and Iotek/Titan Radar. He also participated in the industrial advisory committee that helped shape the HMRI. With all that experience and expertise, there's no question he was the perfect candidate for the position, except Hanlon originally had other plans.

"I stepped down as president of Ultra last February and went sailing. I had thought I would come back, go into retirement, and keep busy with some consulting. When I returned, there was a search on for a permanent CEO for HMRI and I was encouraged to interview for it. The opportunity to work closely with the Engineering faculty and build ties between researchers and sectors appealed to me."

Martha Crago, vice-president research at Dalhousie, says Hanlon's background wasn't the only factor that earned him the nod to lead the institute.

"Marine science has been a theme in everything I've done." As engineer, entrepreneur – and sailor – Jim Hanlon's background made him the perfect candidate for founding CEO of HMRI.

"He has a real sense of excitement about this because, in his eyes, it's an opportunity to give back and help others share in the kind of success he's enjoyed. He's very approachable, which will be crucial in forging connections between university researchers and industry. And he has a lot of good ideas for what he wants to accomplish." So what does Hanlon want to accomplish? He envisions a future where ocean technology plays a larger role in our region's economy. "Around the world, we're recognized as being in the top tier in this field. With the influx of money for the federal shipbuilding contract, we have the opportunity to be the world leader in this field. We're on the brink of that now, and this would put us over the top."

Even so, Hanlon sees there is a lot of work to be done. Canada lags the G8

in commercialization of marine-based research, and the HMRI is relatively new on the scene.

"Right now, we're in the start-up phase, so there's much to be done – everything from restructuring the board to setting agreements with partners. I've made a three-year commitment, so when that is over, I'll look at the progress we've made and determine if it makes sense for me to stay on in this role and make more headway."

It may be his heart, and not logic, that ultimately has the final say in that decision. "This is about making a difference; it's about giving back and creating something of value for the private and public sectors that has the power to benefit the whole community. It may sound grand, but it's true."



Problem solver

Class of 2012: Courtney McCarthy

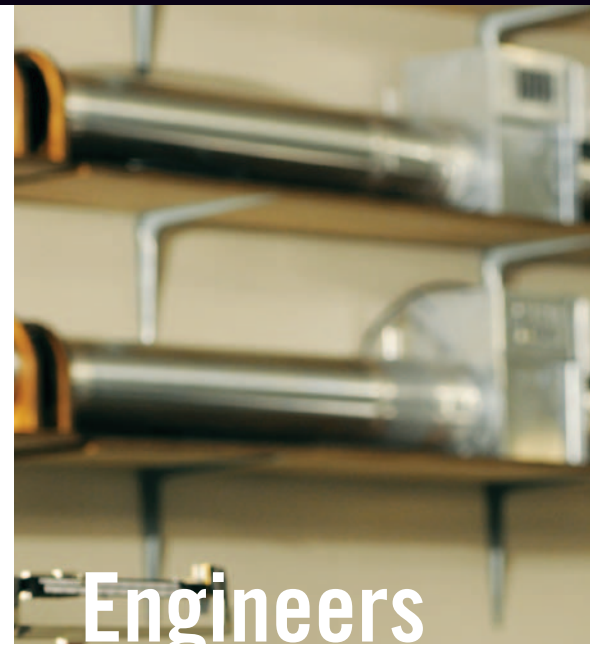
Courtney McCarthy had three options she was considering for her studies at Dalhousie: accounting, pharmacy and engineering. She loved math and science and knew she wanted to be part of a technical program. “I wanted to be a problem solver,” says Ms. McCarthy. “I found out engineering is really cool.”

A driven leader within the Faculty of Engineering, she recently received the Volunteer of the Year Award from the Dalhousie Undergrad Engineering Society and was awarded a Gold D, recognizing her elite level of involvement in campus life over the course of her university career. Her journey to Dal began in her hometown in Enfield, N.S. She spent her

early years at Dal, attending summer camps on campus and an Open House during her final year in high school. She was drawn to the Faculty of Engineering by the opportunities in the field.

“I love engineering because it’s so broad and challenging,” says Ms. McCarthy. “I want to go into project management. It’s a stable field.”

Ms. McCarthy has dedicated herself to giving back to the community. “My community raised me. I knew it was time to give back.” She is the president of the Civil Engineering Society and vice-president of logistics for the Atlantic Engineering Competition 2012. Ms. McCarthy’s proudest achievement is



Engineers designing

her work as a peer mentor. She is one of 10 to 15 women graduating from the civil engineering program. In a typically male-dominated field, Ms. McCarthy works to attract more women into engineering. This year she was a member of the Women in Engineering Committee and attended the National Conference on Women in Engineering (NCWIE). “It was a wonderful experience. It’s nice to be with female engineers and get a female perspective of the industry.”

Following graduation, Ms. McCarthy heads to Hatch Mott MacDonald, an engineering consulting firm in Cornerbrook, N.L.



the future

If you think that engineering is just about math and science, think again. “Innovation can’t exist without creativity,” says third-year mechanical engineering student Alastair Wood. “In engineering, there’s always more than one solution to a problem. It’s not

always just about doing the calculations and coming up with one answer – there are infinite possibilities.” Mr. Wood’s insight can be attributed to his work placement last summer with Clifton Johnston, the new NSERC Chair in Design Engineering at Dalhousie.

“We worked with different professors to get design projects integrated into their curriculum, especially in first- and second-year courses,” says Mr. Wood. “Now, rather than go from lecture to lecture and then have one class that is all about design, students have exposure to design much earlier in the curriculum. It’s so much more interesting.” The increased emphasis on design helps students confirm their commitment to the engineering program and to see the role that creativity plays in the design process and the application of math and science. “In the past, the first two years of the program were so general that students didn’t always get a sense of what engineering is really about. Having these design projects at

a much earlier level means they get the whole picture right off the bat. It adds a whole new creative flow to the program.” For his own part, Mr. Wood says the first design project he worked on has helped shape his understanding of an engineering education. “Having that hands-on experience made me realize that this is why I want to be here. Now, students are getting that experience much earlier. It makes a really big difference to student learning.” Providing students like Alastair with the opportunity to gain hands-on experience in design engineering is a funding priority under the Enhanced Design and Innovation theme of Dalhousie’s Bold Ambitions campaign. The campaign is currently fundraising to create a \$3-million endowment that will allow the Chair in Design Engineering to continue once the NSERC funding expires. With curriculum enhancements, innovative projects and multi-disciplinary partnerships, this chair will maintain the focus on design as a critical component of our engineering program.



The NSERC Chair in Design Engineering at Dalhousie University 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

Engineering alumni shaped

John James Kinley (DipEng '48)



Eddie Kinley (Industrial Eng. '86, MBA '88) says there was never any question that he or his siblings would study at Dalhousie University. Their father, John James

(Mechanical Eng. '48), known to many as JJ, saw to that.

"It was definitely in his psyche that we would all go to Dalhousie," says Eddie of his father, who passed away in May. "He was always talking about the university, and always involved in it at some level, and it became a family tradition to go there."

Though engineering was his passion, he was equally proud of the degrees his daughters Paula (BA '77, LLB '80) and Shona (BCom '91, MBA '93) received from Dalhousie.

"Going to Dal was in his blood. What you took there was not as important as

going there. He loved the place."

Eddie says it was JJ's father who suggested the former Royal Canadian Navy stoker enroll in the Engineering program at the Nova Scotia Technical College.

"My grandfather had become president of the Lunenburg Foundry after it burned down and he needed someone with a mechanical engineering background to help him run it. This was right up dad's alley. He was a meticulous engineer, but he was so much more."

Indeed, JJ, who later studied at MIT, became one of Lunenburg's most prominent businessmen and community leaders. He served as President of the Lunenburg Foundry and Engineering Company Ltd. and the Lunenburg Marine Railway Company. He owned Chrysler and Volkswagen dealerships and had associations with Ford, Irving Oil, and Apple Computer. JJ also received the Order of Nova Scotia and served as the province's 29th Lieutenant Governor (1994-2000).

"Dad used to say being Lieutenant Governor didn't make him a better engineer, but being an engineer made him a better Lieutenant Governor. It gave him skills he valued, and a lasting affinity with Dalhousie."

That affinity continues with the John James Kinley Memorial Education Fund of the Faculty of Engineering at Dalhousie University, which the family agreed to establish in honour of a great Dad, Uncle and Grandfather.

"For all his achievements, he always thought his family was his biggest accomplishment, particularly seeing us all go to Dalhousie. So this seemed like a lovely way to remember him and honour his legacy."

Speaking of honouring JJ's memory, his granddaughter, Stephanie Howatt, is a recent Dalhousie BCom graduate, and more grandkids are planning to attend the university. That's the kind of legacy that would make him very happy indeed.



Kinley and his son Peter (B.Eng, Mechanical '79) in the machine shop at the Lunenburg Foundry



Kinley with his wife, and The Right Honourable Roméo LeBlanc

community, profession

Andy (Daniel Andrew) Eisenhower (DipEng '45)



Andy (Daniel Andrew) Eisenhower (DipEng '45) was not someone who sought the limelight. So when Dalhousie University presented him with an Honourary Doctor of Laws in 2009, he

was surprised but very appreciative of the gesture, according to his son, James (BSc, DipEng '72).

"Both he and my mother were graduates of Dalhousie," says James of his father, who passed away in the fall of 2010. "He chaired the board of governors at the Technical University of Nova Scotia when it merged with Dalhousie. He served on both the Dalhousie board of governors and the business school's advisory board. He was very proud of his association with Dalhousie."

Born in 1923, Andy's contributions to the university and the faculty are significant, but his influence stretches far beyond the walls of academia.

Just two years after he graduated, he co-founded the Atlantic Bridge Company in Lunenburg in 1947 with his brother and some friends.

"The company had such small beginnings," recalls his wife, Jo (Josephine, BSc '46). "They would do anything to make a penny - refurbish boats, repair engines. But they kept it running through the meagre years, eventually getting into designing and building aluminum fish-processing equipment."

Today, the company is known as the ABCO Group of Companies, one of the main employers along the South Shore, and James is its president. Though Andy retired in 1988, you would find him on-site virtually every day.

"I always fed him company information on a need-to-know basis, but he always seemed to find out much more," says James.

You can find other signs of Andy's legacy around Lunenburg, specifically St. John's Anglican church. He chaired the committee that restored it after it was destroyed by fire in 2001.

"We were fortunate in that there were five engineers in the congregation, including Andy and James, who was the only one that wasn't retired," says Jo. "It kept him busy in his retirement and he enjoyed the challenge, raising money and contributing to the design."

"He took a lot of pride in this community, the people who lived here and



Andy Eisenhower received an honorary degree at Dalhousie convocation in May 2009.

his work," adds James. "I think it was a thrill for him to create a business and jobs here. He associated well with people, and people thought highly of him."



BOLD AMBITIONS THE CAMPAIGN FOR DALHOUSIE

Shell Experiential Learning Fund boosts recruitment of Dal students

Not long ago, Shell Canada did a review of their Campus Ambassador Program (CAP) to see where they were having the most success in terms of university recruitment. It may not surprise you to learn Dalhousie University graduates ranked very well.

"We have always been pleased with the talent that Dalhousie produces," says Stephanie Sterling, the VP of Business & JV Management, Heavy Oil, with Shell. "It is one of our top tier schools when it comes to recruitment."

The energy and petroleum corporation is looking to build on this legacy with the announcement of a new Shell Experiential Learning Fund. It is investing \$500,000 in this three-year initiative to ensure that science, business and engineering students receive the best possible learning, while reinforcing its reputation as the employer of choice in its industry.

Although funds will be used to enhance teaching facilities, programs and

equipment, the emphasis is on delivering learning activities and events that offer students not only hands-on, real-world experiences, but also opportunities to engage with Shell.

"For example, Dalhousie alumni working with us can join in on geological field trips to share their work life experiences with students," says Sterling. "Other employees may present guest lectures, or offer feedback on chemical, mechanical and mining design competition presentations. So this is more than a monetary fund. We're bringing the industry into the classroom."

That aspect of the agreement will significantly impact the quality of training for all Engineering students according to Josh Leon, Dean of Engineering. "Better access to real world problems, support, and advice from practicing engineers at Shell is a tremendous opportunity for Dal." says Leon. "Not only are these great learning opportunities they are great motivators. Knowing that

the problems that our students are working on are real problems, typical of the kind of problems that they will face in their future careers puts the theory and book-learning in context."

This is the third learning fund that Shell has created with Dalhousie since 2005, and the latest initiative in a relationship spanning more than 20 years. Sterling expects the bond between the two will continue well into the future, with outcomes that benefit everyone.

"We want to build on this legacy. We want to enrich the learning experiences of Dalhousie students and recruit more of them to Shell to build their careers and help us get better. Because when we are better as an organization, that's good for society."

Since 2008, Shell has hired 33 full-time Dalhousie graduates and supported 40 internships.

come
home
to Dalhousie

September 27-29, 2012

Just imagine who
you might run into



Thursday, September 27

Engineering Golf Tournament
9 a.m., Glen Arbour Golf Course

Dalhousie Alumni Dinner
6 p.m., McInnes Room, Dal SUB

Friday, September 28

Engineering Dean's Coffee Club
9:30-11 a.m., Sexton Campus, A Bldg.
Alumni Lecture - Dr. Sara Iverson
10:30 a.m., Studley Campus

President's Reunion Lunch and
Milestone Anniversary Class Photos
12-2 p.m., Shirreff Hall
Engineering Wine Tasting
6-8 p.m., Sexton Design Commons

Saturday, September 29

Engineering Alumni Brunch
11 a.m.-1 p.m., Sexton Design Commons

Lobster Tailgate Party and
Dal Tigers, 1-6 p.m., Studley Quad

Visit dal.ca/homecoming
for complete event details, tickets and registration.



Lesson Learned

Every day, the president of the University of Waterloo, Dr. Feridun Hamdullahpur, PhD'85 (TUNS Chemical), applies a lesson he learned from his doctoral advisor at the Technical University of Nova Scotia (TUNS).

He remembers excitedly sharing results from his work with Dr. David MacKay, who would then pose the question: "What does it all mean?"

Through these few words, his advisor communicated so much: "You're telling me all these great things – this equation does this, this measurement shows that – but then, what? What does it mean? Go deeper..." Dr. Hamdullahpur recalls. "As you went deeper, you had to also broaden your thinking."

Dr. Hamdullahpur now brings this depth and breadth of thinking to his role as president and vice-chancellor of Waterloo. He says he asks, "What does it all mean?" in the context of the university, as well as the region, province, country and world.

Dr. Hamdullahpur came to TUNS from Turkey. He has fond memories of his

experience at the university, its collegiality and the individuals involved in its Centre for Energy Studies.

"They were visionary people. What they were able to foresee at that time is happening right now," he says, also noting Dr. MacKay's leadership in the centre. "I was absolutely privileged to be in that environment."

While a PhD student in chemical engineering, Dr. Hamdullahpur taught at TUNS and engaged in research through the Centre for Energy Studies. This included connecting with industry. He would talk to his students about this work – a practice he continued after he joined the faculty full time.

"I always ensured that my interaction with the students was well beyond what the textbook covered," says Dr. Hamdullahpur. "I wanted them to have as much exposure as possible to the world outside the walls of the university."

In addition to his contributions as a professor and researcher, Dr. Hamdullahpur served as dean of graduate studies and research at TUNS and associate

principal, graduate studies and research at DalTech. He went on to Carleton University where he held leadership positions.

He draws on all of these experiences as president of Waterloo, where he is also a professor of mechanical and mechatronics engineering. Engineering has been an integral part of the university from its beginning.

"Waterloo has a whole slew of programs and I'm very proud that all of them are of excellent quality," he says. "But engineering is the founding faculty of Waterloo and it came out of necessity in this region. Given all the manufacturing capacity in this region, there was a dire shortage of engineering talent.... The university was able through its creation and then, of course, its development, to answer that need."

While Ontario is his home, Dr. Hamdullahpur is still influenced by his time in Halifax at TUNS.

"It was a good environment where we could really work around ideas and take risks, but make them happen," he says. "And it happened because of the quality and calibre of people I had the opportunity to work with....Quite a few of them are lifelong friends."

Class Notes

Eric Miller, BEng '96 (TUNS Mechanical)

Eric and his family have been living in China for the past year and a half. Eric lives in Suzhou (near Shanghai) and works in Wuxi. In the morning he takes the company supplied drive, but after work he rides his bicycle home, a 45 km ride meandering thru the mix of tangled city and open rural riding. His work involves managing product launches for an automotive precision-machined parts supplier.

David Macneil, BEng '65 (NSTC Mechanical)

David received the honorary designation Professor Emeritus in computer science for his outstanding contributions during his career at the University of New Brunswick.

During his 21-year tenure as Director of Computing Services, David became internationally recognized for building something that is used daily – the Internet. David served for seven years on the NATO Science Committee panel on Computer Networks. He is a founding member of the board of directors of CANARIE, a federal government initiative to construct a world-class research network infrastructure, and was inducted into the Canadian Internet Hall of Fame.

Calder Creelman, BEng '74 (TUNS Mining)

Retired and living at Shortt's Lake near Brookfield Nova Scotia, Calder is open to receiving calls and emails from past classmates. We have lots to catch up on! Calder and his wife Donna have two children and two grandchildren.

Dick Menon, MEng '72 (NSTC Mechanical)

After a 37 year long career with the Manitoba Government, and the past 21 years as the CEO of a provincial crown corporation, Dick has joined Dillon Consulting in Winnipeg. dmenon@dillon.ca

Bob Myles, BEng '89 (TUNS Mechanical)

Bob became President and CEO of Tartan Canada in September 2011. Prior to joining Tartan, he was President of ATCO Pipelines and ATCO Energy Solutions, and most recently was responsible for ATCO's Corporate Development Business Unit.

Cyril McKelvie BEng '79 (NSTC Chemical)

Marport Deep Sea Technologies Inc., a leading developer of advanced sonar technology, has appointed Cyril McKelvie as President & Chief Executive Officer. Cyril brings over 25 years of senior management experience in advanced engineering, R&D and operations.

Darryl Fry BEng '61 (NSTC Chemical)

Darryl was inducted into the Junior Achievement Newfoundland Labrador Business Hall of Fame on May 24, 2012 in St. John's Newfoundland.

He was the visionary behind the development and growth of Cytec Industries Inc. and served as Chairman and CEO until his retirement in 1998.

Daryl was awarded an honorary Doctor of Laws degree from Memorial University and has served on the Board of Directors of Fortis Inc. Darryl is the co-founder of the Fry Family Foundation, an organization that contributes significantly to Newfoundland and Labrador.



Dr. Ronald Gilkie '62 (NSTC Civil)

Ron has recently been inducted into both the Canadian Society for

Senior Engineers and The Canadian Academy of Engineering. Congratulations Ron!

Citation from CSSE: Dr. Ronald Gilkie has enjoyed a distinguished teaching and research career at the Technical University of Nova Scotia and Dalhousie University as a professor of Civil Engineering and Dean of Students. He also served as a Project Coordinator for the Canadian International Development Agency, as a Design Consultant in plastic structures, and as a Visiting Research Scientist at the Australian Defence Scientific and Technology Organization. Dr. Gilkie's professional contributions were paralleled by his service to society generally through his life-long leadership in several community organizations.

Gerald Walter Rose, BEng '72 (NSTC Industrial)

Gerald passed away peacefully in Comox, BC on February 18, 2012. Gerry was a proud military officer, an accomplished outdoorsman, and a loving family man. He is survived by wife Linda, daughter Michelle (Michael) son Gregory (Karima), grandson Daniyal, granddaughters Natalya, Raniya, and Selina.

A tradition continued: Calgary Engineering Alumni Lobster Dinner

Since 1981, Calgary Engineering alumni from Tech, TUNS and later Dalhousie Engineering have gathered together annually to enjoy a Maritime lobster dinner.

Alumni have been the driving force behind organizing the dinner. This year, 73 alumni and guests attended the dinner, ranging from graduates of 1958 to current Dalhousie Engineering Co-op Students currently completing their co-op terms in Calgary.

For the past 12 years, Chef Klaus has hosted the annual dinner at the Big Rock Brewery. Sadly, Chef Klaus who has always prepared a mouth-watering meal and has been a pleasure to work with will be leaving the Big Rock this spring to begin a new adventure. We wish him all the best!

On behalf of the Faculty of Engineering, thank you to all of the engineers in Calgary who continue to support the lobster dinner and keep the tradition alive!



Alumni Sid Isnor (centre) and Bill Ellsworth (right) present Chef Klaus with a gift of appreciation during the dinner.

**BOLD
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Clip and return to: Office of External Relations, Dalhousie University, Halifax NS B3H 4R2

Cheques may be made payable to Dalhousie University or visit www.boldambitions.ca to access our secure online giving option.

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Co-hosted by
Chuck Hartlen, BEng '83, (Electrical)
and **Len White**, BEng '75, (Civil)



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