DAL MAGAZINE

SPRING / SUMMER 2019

MASTER MIND?

Dal's Faculty of Arts and Social Sciences experts on the promise of artificial intelligence

| BIG TALKERS | HEALTHY SOLUTIONS | WINNING ALUMNI |

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SMART TALK As part of 2019's Alumni Days, Dal welcomed speakers on a range of issues, including Edward Snowden on electronic surveillance. By Philip Moscovitch, Matt Reeder and Ryan McNutt
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MORE THAN CODE The phrase "Artificial Intelligence" conjures images of computer coders and vast networks or software and hardware. But AI has implications that stretch into the humanities and Dal researchers in the Faculty of Arts and Social Sciences are exploring them. By Genevieve MacIntyre
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HEALTHY SOLUTIONS Dal is taking a leading role in a new Nova Scotia-wide initiative aimed at helping make the province's health-care system smarter, nimbler and more efficient. By Matt Reeder
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DALMAGAZINE

DALHOUSIE UNIVERSITY

COVER BY JULIA BRECKENREID

MASTHEAD

EDITORIAL COMMITTEE
Brian Leadbetter, Hope McCallum, Ryan McNutt, Julia Watt

CONSULTING EDITOR
Kim Pittaway

ADVERTISING MANAGER
Patty Baxter, Metro Guide Publishing

ART DIRECTOR
Paul Williams

PUBLICATION DESIGN
Watkins Communication and Design

PRODUCTION ASSISTANT
Jane Lombard

CLASS NOTES classnotes@dal.ca

IN MEMORIAM alumni.records@dal.ca

ADDRESS CHANGES
Tel: (902) 494-6855; 1 (800) 565-9969
Email: alumni.records@dal.ca
Alumni Records, Office of Advancement, Dalhousie University, PO Box 15000, Halifax, Nova Scotia B3H 4R2

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ALUMNI OFFICE, DALHOUSIE UNIVERSITY, PO BOX 15000, HALIFAX, NS B3H 4R2

CONTRIBUTORS

PAT LEE has been a journalist for more than 30 years, working for 26 of them at *The Chronicle Herald* as a reporter, columnist and editor. She now freelances for various publications.

GENEVIEVE MACINTYRE works for Dalhousie's Faculty of Arts and Social Sciences as the Manager of Recruitment, Communications and Marketing. Prior to that, she worked for the Faculty as the Alumni and Communications Officer.

PHILIP MOSCOVITCH's work has appeared in *The Walrus*, *Reader's Digest* and *The Globe and Mail*. His book *Adventures in Bubbles and Brine* will be released in September 2019.

MATT REEDER spent more than three years as the senior online editor at the *Financial Post* and four years in the digital newsroom at Reuters prior to joining Communications and Marketing at Dalhousie.

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EDITORIAL

MIND EXPANDING

On page 5 of this issue, you will find an image of Dal's new ceremonial object, the New Dawn Staff of Place and Belonging. Along with the image is a description of the symbols embedded along the staff's length, including Mi'kmaq petroglyphs; flags representing Scottish and British settlers; West African Adinkra symbols; words in Arabic, Dutch and Chinese; textiles from Jordan, Mali, Nigeria, China and Nova Scotia; and so much more. The evidence of so many influences is beautifully featured, symbolizing how much richer we are when we welcome more voices to our conversations.

That theme is also threaded through the other stories in this issue, as we explore how the insights of thinkers in our Faculty of Arts and Social Sciences are enriching the conversation around Artificial Intelligence (More Than Code, p. 16); see how solutions to Nova Scotia's health-care challenges can be more efficiently found through collaboration that brings together universities, researchers, government, industry and frontline health-care professionals (Healthy Solutions, p. 24); and listen in as thinkers on computer surveillance, health and immigration share insights on facing the challenges presented in these critical areas (Smart Talk, p. 12).

It can be comforting to presume that there is one clear answer to a problem, one simple path from the problems of here to the solutions of there. But life is rarely like that: the path often has more twists and turns, the ground throws up a few more dips and hurdles, than we might initially expect. And drawing on the strengths of all in our community to help us keep our footing and find our way seems, in the end, simple good sense.

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FUTURE ALUMNI

Juggling passions

When medical student Sarah Nersesian needs a break from studying, she goes to work. “For me, being productive and doing things that make me happy are my form of self-care. I don’t need to take breaks from my life, rather the things that fill my life are like breaks,” she says, as she talks about her three main passions: research, art and helping others. First, there’s the art business she runs. While she earned a master’s degree in Biochemistry and Cell Biology before enrolling in Medicine, art never left her. She started Designs that Cell to help scientists convey their research with scientific figures and illustrations for research articles and publications, grants, information sheets and online courses. Nersesian is also involved with the Indigo Girls Group, an organization she helped found that now has five locations across Ontario. The group focuses on workshops, speaker visits and conferences on issues related to young women, including empowerment, leadership and women in science. As well, she’s a Dalhousie Research in Medicine program representative, involved in fostering interest in research among medical students. Along with a full course load, it’s a lot to juggle, and Nersesian is aware she needs to watch out for burnout. Fortunately, she has a solid group of friends and colleagues she can rely on, and says she's been pleasantly surprised by the amount of camaraderie she’s encountered so far from her fellow medical students. “Everyone is very caring.” *–Stefanie Wilson*

NICK PEARCE

DAL NEWS

Dr. Saini will join Dal in January, 2020.

DAL WELCOMES NEW PRESIDENT

On May 16, Dalhousie's Board of Governors announced that Deep Saini has been appointed as the 12th president and vice-chancellor of Dalhousie University.

Dr. Saini, currently vice-chancellor and president of the University of Canberra in Australia, brings to Dalhousie a compelling blend of national leadership and global perspective. He's a renowned plant scientist who grew up in India, was educated in Australia and has worked at four of Canada's leading research universities, having spent much of the past decade as president or principal of a major university campus.

"Dalhousie's students, faculty and staff are proudly devoted to the synergy between world-class education and a rich tradition of outstanding research and scholarship," says Dr. Saini, who will begin his five-year term on January 1, 2020. "I am thrilled at being given the chance to be part of writing the next chapter of this compelling story."

Dr. Saini was the unanimous choice of the search committee, chaired by Board of Governors Chair Lawrence Stordy and consisting of representatives from the Board, Senate, students and administration.

"The search committee was thrilled and thoroughly impressed by the quality and quantity of candidates who were interested in this opportunity, from around the world—a testament to Dalhousie's growing national and international reputation," says Stordy.

"Even among this competition, however, Deep truly stood apart. He's a warm, genuine and inspiring individual ready to build on Dal's 200 years of achievement and chart a course towards even greater success in our third century ahead." –*Ryan McNutt*

DANNY ABRIEL; SUPPLIED

JUST THE FACTS

A new symbol

Dalhousie's New Dawn Staff of Place and Belonging took its place on stage in Truro during the first Spring Convocation ceremony of 2019. The 7'4" (2.24 metres) tall Staff was designed and crafted specifically for Dal by artists Alan Syliboy of Millbrook First Nation and Mark Austin of Colchester County, with guidance from the university and in collaboration with a team of artists and craftspeople from diverse communities across Nova Scotia. With the introduction of the symbolic walking stick, Dal became one of the first universities in North America to retire its traditional mace in favour of a new ceremonial object. –*Matt Reeder*

Syliboy and Austin with the New Dawn Staff. BELOW An eight-pointed star laser-cut in rubber hidden at the base of the staff represents Mi'kma'ki's seven districts, with an eighth point signifying welcome into the territory.

NICK PEARCE

RISING "NEW DAWN" SUN: 3D printed at Dal's Product Design & Development Centre with hard resin and gilded by Mark Austin. Inspired by Dal's 200th anniversary logo, it is a reference to the Mi'kmaq—also known as the People of the Dawn, given Mi'kma'ki's location in the east.

DRIFTWOOD WITH WIRE WEAVINGS: Set into blackened driftwood, 13 gilded wire weavings by Lily Volio, one for each university Faculty (with room for more should new Faculties be created); diverse strands that represent faculty, students, support staff and administration.

QUILT WRAP: Textiles from around the world are incorporated for their cultural significance, including Jordanian keffiyeh material, indigo cloth from Mali, Nigerian batik, Chinese brocade and Nova Scotian tartan.

"IDENTITIES" AND BRAILLE: A decoupaged reproduction of "Identities" by artist Arjun Lal acknowledges our culture's growing awareness of different identities, while braille for the words "I belong" is embedded in both English and French, following script of the phrase in Arabic, Dutch and Chinese.

SANKOFA SYMBOL: African Nova Scotian artist Wendie Poitras contributed several adaptations of Adinkra symbols from West Africa. Her version of a Sankofa symbol emphasizes the importance of moving forward while reaching back to learn lessons from the past.

BIRCH-BARK GRIP: One of the four hand grips in different locations along the shaft, so that the Staff can be carried by individuals with different walking or sitting heights.

ELEMENTS OF THE MACE: The New Dawn Staff pays tribute to the ceremonial mace, replicating some symbols, including the shamrock, thistle and English rose here above the quill band.

KNOTTED RAWHIDE BAND: Laid over birchbark and reed, the band symbolizes the exchange of knowledge and welcome shown by the Mi'kmaq and the French upon their arrival to settle the territory. Flags representing Scottish and British settlers are included as are symbols representing conflict and violence, including the expulsion of the Acadians.

MI'KMAQ CREATION STORY: The staff's lower section depicts the Mi'kmaq creation story through a series of illustrations by artist Alan Syliboy inspired by Mi'kmaq petroglyphs (rock etchings).

"My research has defended the view that machines can think." More than code, p. 16

Adrian Herod, a PhD candidate in the Department of Microbiology and Immunology, took home top prize—a $2,000 scholarship—in this year's 3 Minute Thesis (3MT) competition, for a presentation on a possible solution to the issue of foodborne illness and food waste that arises from food contamination with salmonella. His project is focused on exploring the genome of infectious salmonella and identifying a common biomarker that can be used to distinguish infectious from non-infectious strains. –*Obinna Esomchukwa*

COMMUNITY CONNECTION

Ask an astronaut

Junior high students from Halifax and participants of the Ulnooweg Digital Mi'kmaq Initiative filled Rebecca Cohn Auditorium in March to hear David Saint-Jacques answer questions about life as an astronaut live from the International Space Station (ISS). Dalhousie and the Canadian Space Agency (CSA) teamed up to beam the live video link—via NASA mission control in Houston—from the ISS to the Dal campus. The event was also livestreamed on YouTube for audiences around the world.

Saint-Jacques answered 15 questions during the 20-minute session, most from school-age children. The topics ranged from big-picture questions about the future of Canadian space exploration ("we're going to discover a lot") to more elementary ones about the smell of space ("like the smell of a new toaster the first time you use it"). Saint-Jacques, who was entering his third month in orbit on the ISS, also shared insights into the scientific work carried out on the space station. –*Matt Reeder*

#

BY THE NUMBERS

Relieving children's pain

It seems an unlikely partnership: an academic psychologist and a former VJ. But together Dr. Christine Chambers, a Dal pain researcher at the IWK Health Centre in Halifax, and Erica Ehm, a former MuchMusic host turned parenting blogger, are helping parents around the world learn how to help relieve their children's pain with the #ItDoesntHaveToHurt initiative. Dr. Chambers and her research team co-created digital content with Ehm and her team at YummyMummyClub.ca, an award-winning online publishing platform geared towards Canadian mothers. The program has reached parents around the world, who share their experiences and learn about evidence-based pain-relief approaches. Dr. Chambers has gone on to create an new national knowledge network called Solutions for Kids in Pain (SKIP), which includes Ehm and her site and other national and international partners. –*Melanie Jollymore*

150 million
number of content views generated in one year

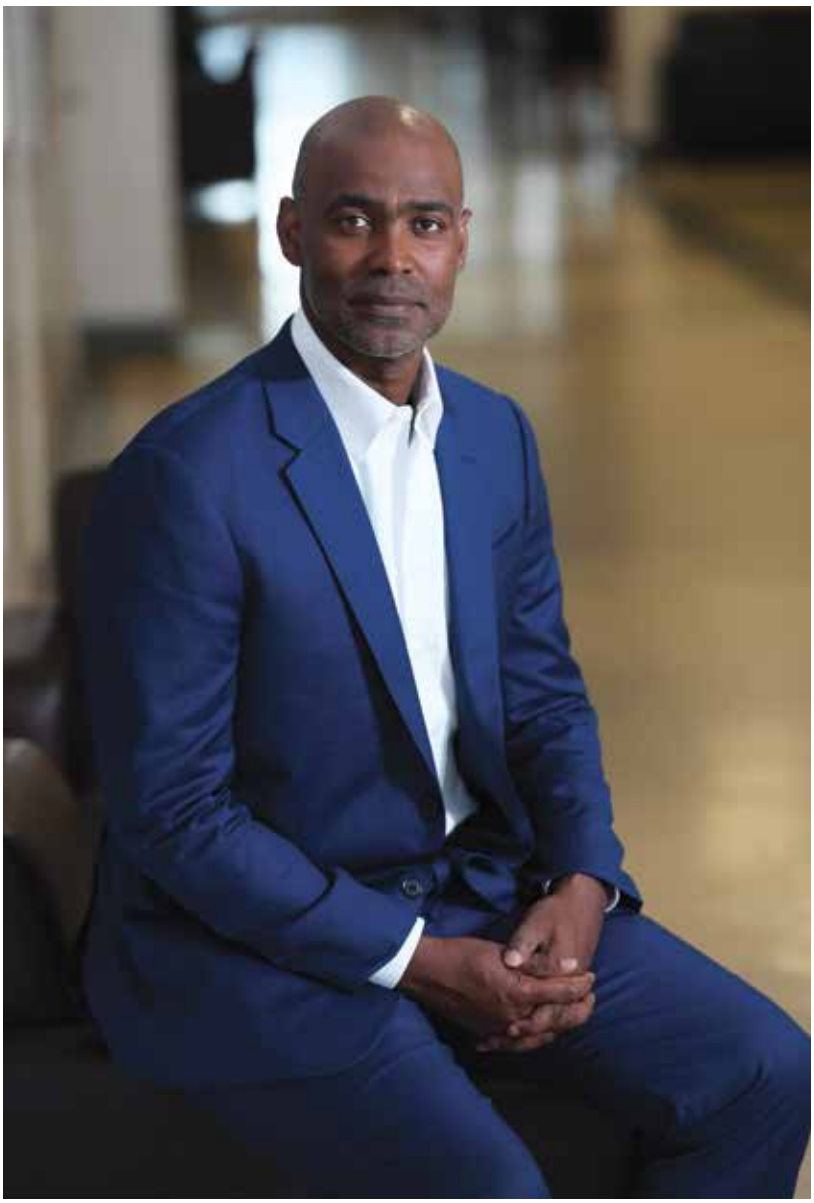
75+
number of partners in SKIP

NICK PEARCE

WHY I DO IT

CAMPUS CONNECTOR

NAME: Ivan Joseph
POSITION: Vice-Provost, Student Affairs
HIS BACKSTORY: Born in Guyana, Dr. Joseph moved to a farm in Maple, Ontario at a young age. His dad had first come to Canada to study in Truro at the Nova Scotia Agricultural College, now Dal's Faculty of Agriculture. Dr. Joseph's own journey to Dal had many more twists and turns, though: from considering a career in medicine and changing course towards higher education administration, to becoming an award-winning university soccer coach and completing a PhD in sports psychology.
HIGHLIGHTS: Dr. Joseph's career has revolved around the student experience, including as residence life staff, faculty member, soccer coach and director of athletics at Ryerson University in Toronto. He is an in-demand speaker and consultant in the areas of self-confidence and high-performance teams. In his new role, he helps oversee Dal's student experience, including student life, student wellness services, academic supports and the Registrar's Office. "People will blossom because of the experiences they have here," he says. "We don't do that by accident. We have to create intentional, educational experiences in every aspect of student life."
WHY HE DOES IT: While Dal is known for academic and research excellence, Dr. Joseph feels the extracurricular experience is just as important for students and yes, that's about fun, but it's about so much more. Dr. Joseph says he is inspired by the challenge of creating a university culture where every student feels they matter and belong "I firmly believe that exceptional student experiences arise from meaningful connections across our campus community." For him, it's the essential role of community, to make a big campus like Dalhousie feel small. –*Chris Benjamin*



DANNY ABRIEL

"Meaningful connections don't happen by accident. We must be intentional in creating spaces that all Dalhousie students see as welcoming and reflective of who they are and their values."

DAL NEWS

THE LIST

The 2019 Dalhousie Board of Governors' Award winners (left to right): Aisha Abawajy, Meredith Baldwin, Chloé Blackman, Justine Dol and Emma Finlayson-Trick.

Board of Governors' Award winners

Dalhousie's top award for student life, the Board of Governors' Award, is presented annually to recognize exceptional contributions or leadership in the extracurricular realm—building community on campus, service in the broader community, improving diversity and inclusion and much more. The recipients are nominated by their peers in the Dal community, and chosen by a committee consisting of the president, three Board members and the vice-provost student affairs. The 2019 recipients are:

For profiles of the winners, go to dal.ca/news/bogawards.

AISHA ABAWAJY, Applied Computer Science, founder of the Black, Indigenous and People of Colour Caucus student society, and incoming president of the Dalhousie Student Union.
MEREDITH BALDWIN, Planning and Sustainability, president of Your Environmental Sustainability Society and one of the creators of Trips by Transit.
CHLOÉ BLACKMAN, Community Health and Epidemiology, founding member of the Dalhousie Medical Campus Response Team.
JUSTINE DOL, Health, researcher on postnatal care and empowering new moms with evidence-based health information.
EMMA FINLAYSON-TRICK, Microbiology and Immunology, science communication advocate.

RESEARCH

UNDERSTANDING THE ATLANTIC'S BIRTH
A postdoctoral fellow studying at Dal as part of the Ocean Frontier Institute's International Fellowship is helping us better understand the Earth of 150 million years ago, when the supercontinent Pangaea broke up and the Atlantic Ocean was born — and he's doing it by studying the rock off the coast of Nova Scotia. Hanchao Jian is a marine geophysicist who, since arriving at Dalhousie in March 2018, is probing the crust and upper mantle off the Nova Scotian shore. "The oldest rock formations of the Atlantic Ocean are here, and if we can understand their structure, we can determine what processes affected the creation of the Atlantic Ocean, and learn more about the history of the Earth," says Jian. Jian explains that the method used to determine the rock structure (seismic inversion), is analogous to an X-ray or CT scan. Researchers from a ship lower an instrument (a seismometer) to the seafloor to record seismic energy that is later emitted by airgun shots and travels into the ocean crust and mantle. They then analyze the seismic signals to extract information about the Atlantic's sub-seafloor. Using the seismometer, Jian and his research colleagues can indirectly "see" the composition of the oceanic crust and mantle, up to 40 km below the seafloor. "By studying sub-seafloor processes, we understand why the seafloor looks like the shape we see." *–Staff*

DANNY ABRIEL

INNOVATOR

MATTHEW HERDER

Director, Health Law Institute; Associate Professor, Department of Pharmacology, Faculty of Medicine

INNOVATION: Matthew Herder researches the structures, incentives and policies that support bio-medical innovation—and looks at how we make sure drugs and vaccines coming out of that process are safe, effective and well-regulated. He has studied how an extremely promising experimental Ebola vaccine developed at a Canadian government lab languished in the hands of a U.S. company, and has worked to ensure data on drug research is widely available. He is one of the only legal scholars in Canada working in this area.

FOUNDATION: Prof. Herder started off looking at how discoveries made at universities get commercialized. But soon after coming to Dal in 2010, he began studying and advocating for greater drug regulation transparency. MP Terence Young, whose daughter Vanessa died after taking a prescription drug, introduced legislation (Vanessa's Law) allowing for unsafe drugs to be recalled faster. Prof. Herder supported it, suggesting amendments to increase transparency. In March 2019, Health Canada launched a website providing public access to research and clinical trial information.

INSPIRATION: "My mentors, Dr. Jocelyn Downie of the law school and Dr. Francoise Baylis of the medical school, have a commitment to translating scholarship into action in order to improve the public good and they have deeply embedded that commitment in me as well."

WHY IT MATTERS: Leaning on Vanessa's Law, Prof. Herder has argued that high-dose opioids could be deemed unsafe and recalled. His advocacy for greater transparency could help researchers spot problems with drugs earlier. The federal cabinet has recognized his expertise and appointed him to the Patented Medicine Prices Review Board. *—Philip Moscovitch*

NICK PEARCE

Prof. Herder's goal: To translate scholarship into action in order to improve the public good.

"Everything I have today I gained from my time at Dal." Active support, p. 33

NOTES

"I'm very honoured that my fellow Board members chose me to be their next chair," says Candace Thomas, who became Board chair on July 1.

Thomas to lead Dal Board

When Candace Thomas was invited to join Dalhousie University's Board of Governors in 2011, it wasn't an opportunity she expected would come her way—but one that felt right to her from the start.

"I'm such a huge proponent of higher education, of literacy and lifelong learning," says Thomas, a partner in the law firm Stewart McKelvey. "It's important for our society, our economy and education offers a pathway to self-sufficiency, self-empowerment and equality. When I volunteer and give back, I choose to contribute to things that are aligned with my core values."

Now, after serving eight years on the Board, and as vice-chair for the past year, Thomas has been appointed the Board's new chair effective July 1, 2019. She will serve a three-year term, succeeding Lawrence Stordy as outgoing chair, who has served in the role since 2014.

"Candace is an inspiring community leader, a passionate advocate for Dalhousie and its students, and a devoted member of our Board of Governors," says Stordy. "Dalhousie has benefitted greatly from her leadership to date, and will continue to do so with her as chair. As Candace is the first woman to hold the post, it's a historic milestone in the school's 200-year history."

Thomas, who is originally from East Preston and grew up in Dartmouth, Nova Scotia, is a member of Stewart McKelvey's Business Law Group. She focuses her practice on corporate-commercial law, advising clients on matters ranging from mergers and acquisitions and banking to corporate governance. She was selected by her peers to be included in the 2017, 2018 and 2019 editions of *The Best Lawyers in Canada* for her work in corporate law. She's co-chair of the firm's Diversity and Inclusion Committee and earned her Queen's Council designation in 2017.

"I'm very honoured that my fellow Board members chose me to be their next chair," says Thomas, who graduated from Dalhousie Law in 1995. "It's very humbling." *–Ryan McNutt*

Lending a helping device

A new assistive technology lending library at Dalhousie's Student Accessibility Centre in the Killam Library makes it possible for students to test and use assistive technologies that might otherwise be too costly for them to afford. Centre director Quenta Adams has been building budget and inventory of the devices over the past several years, which allowed the library to open last September.

Tools currently available in the library include Dragon Naturally Speaking software, which allows users to reduce the amount of handwriting and typing they need to do; handheld C-Pens which read written text aloud and upload content to computer; Livescribe Smart Pens, which record audio and text and synchronise them with notes; Kurzweil and Read and Write text to speech software; ergonomic keyboards, computer mice and laptop stands; noise-cancelling, noise-isolating and microphone-equipped headphones; Zoom Text screen-magnifying software; and Samsung tablets and iPads pre-loaded with useful apps. Students apply online to borrow the tools, and then are able to sign them out for two weeks. If there is no waiting list for the tool, they may request to keep it for an additional two weeks.

"The purpose of the library is to allow any Dalhousie student to try the tools we have available, free of charge, so they can decide before purchasing if it will be something that will enhance their learning experience," says Maria McNeil, technology and resource advisor in the centre. *–Graeme Gunn*

Marine Biology student Caroline Leherbauer dictates notes with the Dragon Naturally Speaking software.

SMITH & WHITTON; CARTER HUTTON

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TD Ready for you

SMART TALK

Edward Snowden on electronic surveillance. Dal experts on immigration and health. As part of 2019's Alumni Days, Dalhousie welcomed speakers on these essential issues as part of our Open Dialogue series, engaging audiences in thought-provoking explorations of some of the most critical questions facing people in Canada and around the globe.

WATCHING THE WATCHERS

The world of computer science is facing what Edward Snowden calls its "atomic moment": a reckoning that will determine whether its power can be exploited to benefit humanity or if we will be locked into a world of near-total surveillance.

About 600 people packed the McInnes Room at Dalhousie's Student Union Building on May 30 to hear Snowden speak live via video link from an undisclosed location in Moscow (with more than 15,000 viewing the video over the next five days). Snowden's keynote, taking place during the first Dal Alumni Days, was part of the Open Dialogue series, which launched in 2018. The series brings people together for thought-provoking conversations on timely and relevant topics.

"When you create a new capability, there are really two questions you face: can you do it—that's the one that seduces everyone—and should you do it? And that's a very different question," Snowden said. He described "an unholy connection of technology and an unusual interpretation of contract law"—the idea that we routinely "agree" to hundreds of pages of terms and conditions—as giving rise to a world in which governments spy on their citizens and companies find it more profitable to "abuse" their audiences than to treat them "with respect and dignity."

A former Central Intelligence Agency employee and National Security Agency contractor, Snowden came to worldwide attention in 2013, after he fled to Hong Kong and leaked a huge number of secret documents revealing the extent of global surveillance. Fearing capture, he applied to several countries for asylum and hid among the refugee community in Hong Kong. His Dal talk was a benefit for the "Snowden refugees" who sheltered him. According to the Montreal-based non-profit For the Refugees, Hong Kong cut off support payments to the people who protected Snowden and sped up proceedings to deport them to Sri Lanka and the Philippines—where their lives could be in danger. Canada recently accepted two of the refugees.

Over the course of nearly two hours, Snowden—an engaging and emphatic speaker—described the rise of the surveillance state, his own decision to break the law to reveal the extent of surveillance, and the new "digital arms race" with governments and companies racing to find more effective means to spy on us, and predict and shape our behaviour.

"Everybody in the room probably thinks Facebook is spying on them, and you are absolutely right. So is Amazon, so is Google, so is the phone in your pocket, so are the ad trackers in every app you install," he said.

Speaking directly to computer science students in the room, Snowden said, "Your code is not secure today. You know that, and I know that... It is the ecosystem that is the problem"—an ecosystem he described as "poisoned, polluted and toxic."

Snowden was introduced by Dr. Frank Harvey, dean of the Faculty of Arts and Social Sciences, and Snowden's Canadian lawyer, Robert Tibbo. Both struck a somber note, citing the rise of authoritarianism, attacks on whistleblowers and increasing hostilities to refugees and asylum-seekers.

NICK PEARCE

Former CIA employee and National Security Agency contractor Edward Snowden (on screen) was introduced by Dr. Frank Harvey (shown at podium), dean of the Faculty of Arts and Social Sciences, and Snowden's Canadian lawyer, Robert Tibbo.

But Snowden's address was more optimistic, saying that since we are now aware of the problem of surveillance, we can take steps to solve it. He noted positive developments, such as the rise of encryption ("we are winning") and an increasing discomfort with the surveillance economy. And he pointed once again to the Atomic Age as an example.

"Think about the nuclear era and all the harms that visited upon the world. And think about what nuclear energy does for us today... We have, in many ways, tamed these forces."

–Philip Moscovitch

STRENGTHENING ATLANTIC CANADA'S IMMIGRATION SYSTEM

When it comes to immigration in Nova Scotia, the discussion often seems to circle back to one central question: How do we encourage more of it? While a record 5,790 newcomers took up permanent residency in the province last year, that number is still shy of the target of 7,000 new immigrants annually recommended by the One Nova Scotia Commission.

For Dalhousie Professor Howard Ramos, one of the speakers at the "Opening Doors" panel held in the Weldon Law Building, attracting more newcomers hinges on three key points: better selling our region's benefits; educating ourselves and small- and medium-sized enterprises about where people are coming from and how to keep them; and taking a creative approach to how to recruit new immigrants in the face of competition from across Canada and the world. The panel was moderated by Marie Chapman, chief executive director of the Canadian Museum of Immigration at Pier 21.

Gregory Adolphe-Nazaire, an award-winning finance professor in Dal's Faculty of Management, noted Quebec's smart approach to attracting more French-speaking immigrants by strategically sending delegations to universities with large numbers of students from West Africa rather than to the countries themselves. Immigration and the post-secondary sector was one area of particular focus for the panel, both among student populations and in terms of faculty and staff. Karin McClay, legal advisor for Dalhousie's international portfolio, said Dal has little trouble recruiting top talent from other countries but more trouble when it comes to retaining them here. She said her work focuses on expanding efforts to help faculty and staff have a "soft landing" when they get here. Social worker Afolake Awoyiga, a Dalhousie alum whose background includes experience in child welfare and healthcare social work with the IWK Health Centre and the Nova Scotia Health Authority, said flexibility for families is also an important element in retaining new immigrants.

–Matt Reeder

IMPROVING HEALTH, IMPROVING LIVES

Meanwhile, over in the Tupper Link, health research was front-and-centre. "It's not just about hope—it's about results," said moderator Janet MacMillan, vice-chair of the Dalhousie Medical Research Foundation and current acting assistant vice-president of Communications and Marketing at Dal.

Those results were evident throughout the panel discussion, which featured researchers from Dal's Faculties of Medicine, Health and Dentistry. Dr. Shashi Gujar of the Departments of Pathology and Microbiology & Immunology spoke of his team's work in developing oncolytic viruses that not only target and kill cancer cells, but protect against those cells recurring. "The dream is that we develop new immunotherapies so we can actually stop these cancers from developing in the first place," he said.

Dr. Daniel Boyd of the Faculty of Dentistry and his team has developed glass microspheres that can be used to block the blood supply to tumours, causing them to shrink and disappear without surgery. He's also using glass to develop new bone cements, desensitizing toothpastes and synthetic bone grafts to treat osteoarthritis. Now a local spin-out company called ABK Biomedical is generating millions of dollars in funding to help bring such technologies to patients.

For Dr. Sara Kirk, professor in the School of Health Promotion and scientific director of the Healthy Populations Institute, prevention was the focus. She explained that upwards of 40 per cent of cancer cases and 80 per cent of heart disease and strokes could be prevented through diet, exercise and living smoke-free—but that fewer than 5 per cent of us are able to achieve a satisfactory level of all three behaviours at the same time. She's working on fostering those behaviours in young people, co-leading a new initiative called UpLift that just received $5 million in matching funds to build on existing best practices to engage school children in healthy living.

At the other end of life's journey, there's the work of Dr. Sultan Darvesh, Dalhousie Medical Research Foundation's Irene MacDonald Sobey Chair in Curative Approaches to Alzheimer's Disease. His team has identified a small radioactive molecule that can positively identify a key enzyme in the progression of Alzheimer's disease, enabling a definitive diagnosis of the disease in living patients. He's also at the forefront of not just diagnosing but treating Alzheimer's. "We still have no cure," he said. "And not finding a cure for Alzheimer's disease and dementia is not an option."

–Ryan McNutt

ABOVE The panel on immigration. RIGHT The panel on health care. BELOW About 600 people packed the McInnes Room at Dalhousie's Student Union Building to hear Edward Snowden speak live via video link from an undisclosed location in Moscow.

BRUCE BOTTOMLEY; NICK PEARCE

MORE THAN CODE

The phrase “Artificial Intelligence” conjures images of computer coders and vast networks of software and hardware. But AI has implications that stretch into the humanities as well, many of them being explored by researchers in Dalhousie’s Faculty of Arts and Social Sciences.

By Genevieve MacIntyre Illustration by Julia Breckenreid

Artificial Intelligence (AI) is a field rich with engineers, computer scientists and information technologists. But AI isn't just about technology. The philosophical and moral decisions that underpin our approach to AI's development and its applications in fields as diverse as music, language, health and security are as critical to conversations about this rapidly growing field as the nuts, bolts and software built into a computer program or machine. It's an expanding field with complex cultural and social impacts that cannot and should not be ignored. Scholars in Dalhousie's Faculty of Arts and Social Sciences (FASS) are engaged in important research on the role of artificial intelligence and related technologies. Professors in FASS are preparing students for a future in this field and imparting the tools they will need to understand and navigate a rapidly changing society, including in a new Certificate in Computing in Arts and Social Sciences, designed for students in the arts, social sciences and humanities. The program is intended to expand participants' digital literacy, allowing students to develop and apply technical computing skills while exploring key social and intellectual issues. As Howard Ramos, professor in the department of Sociology and Social Anthropology and associate dean of research for FASS notes, "FASS is lucky to have a wide range of researchers working in this field, and it's exciting to see how important arts and social sciences are for navigating changing technology." Here are some of the FASS faculty members exploring this critical field.

Artificial intelligence (AI) is the science and engineering of making machines, especially computer programs, that are capable of tasks and processes usually associated with human or animal intelligence. These tasks include visual perception, decision-making, translation between languages or speech recognition; the processes include learning, reasoning and self-correction. Machine learning is an approach to AI that involves teaching machines how to solve problems by processing examples of human intelligence. Through machine learning, problems that were intractable for AI are now being solved.

Dr. Duncan MacIntosh, Professor and Chair, Department of Philosophy

Research project:

Exploring the ethics of using AI to control autonomous lethal weapons

Are there times when it is morally right to put artificial intelligence in charge of lethal weapons? Some researchers suggest that only humans should make life and death decisions—but Duncan MacIntosh of Dalhousie's Department of Philosophy disagrees. "What matters is not that lethality be under the control of humans," Dr. MacIntosh explains, "but that it be under the control of morality. And there are many situations where we are more likely to see a morally good outcome when machines are making these decisions."

He suggests these decisions should be made by whatever would result in the morally best outcomes. Dr. MacIntosh's research generally explores what outcomes would emerge if we only insert AI machines with the right competence in the right scenario that would not jeopardize the situation with an immoral outcome. These situations include when there would be excessive dangers to human decision-makers in the decision environment (such as from radiation, poison gas, bullets or blast, so that it would be immoral to put humans in that situation); when a human making the decision would likely experience extreme psychological trauma and inappropriate levels of guilt, and so a machine-made decision would spare the conscience of a human; and when a lethal action should be performed, but its performance is beneath the dignity of a human, so that a human shouldn't have to perform it.

Dr. MacIntosh sits on the executive board of the Center for Ethics and the Rule of Law (CERL) at the University of Pennsylvania Law School. His work echoes the center's belief that real-world practitioners in government, national security, intelligence, the military and business need academics to help them process issues of the moment, and that academics need practitioners to help ground their theories in the world and to make them matter. His work with CERL has included explorations of the causes and cures of conflict, how to respond to foreign interference with democratic institutions, the

protection of cultural artifacts in time of war, and whether outer space should be militarized.

Dr. MacIntosh's research also explores the argument that AI machines are unlikely to be able to be designed with the levels of moral intelligence and social awareness required to effectively make morally correct life-and-death decisions. For example, can we design machines able to detect people's attempts to surrender? Dr. MacIntosh believes that we can correct this by carefully deploying AI machines only in contexts where their competences are likely to have morally good outcomes.

"Morality is stratified in this way, and the responsible use of AI only requires us to insert machines with the right competence in the right strata," says Dr. MacIntosh. "We don't need to have a morally omniscient intelligence in charge of a given decision. We only need something intelligent enough to be in charge of some limited effect in some limited purview. And we shouldn't deploy a machine in a given context until we know it is unlikely to make a moral mistake in that context."

Jennifer Bain, Professor of Musicology, Fountain School of Performing Arts

Research project:

Teaching computers to read medieval music

Imagine that you are a music historian, searching for a particular piece of medieval music. In the past, this might have involved trips to specialized libraries, some of them a continent away. Or perhaps you would be able to arrange for a library to send a manuscript via post (as they did in Europe in the nineteenth and early twentieth centuries)—potentially risky should the manuscript go astray, and even when feasible, could take months. Once you had the manuscript, hours would be spent analyzing it, deciphering notations written by hand, often on material that had suffered physical deterioration over time. But what if AI could make that process simpler?

That's what Dalhousie musicologist Jennifer Bain and a team comprised of computer scientists and musicologists from the U.S., Germany and Portugal, as well as from other universities in Canada including Western, McGill and Waterloo, hope to achieve. They are working together to produce online digital tools for analyzing early musical sources through a project centred at McGill University called Cantus Ultimus, one arm of a larger undertaking called the Single Interface for Music Score Searching and Analysis (SIMSSA). The Cantus Ultimus site allows researchers, choir directors and musicians from around the world to remotely access and search medieval music manuscripts for musical content alongside catalogues and metadata from the digital Cantus Database (a database of the Latin chants found in over 140 manuscripts and early printed books).

One of SIMSSA's aims is to provide optical music recognition software to search for musical content in any kind of digitized document. It's similar to the optical character recognition software which reads digital content such as in Google Books or the banking apps that read the numbers on your cheque to facilitate electronic deposit. The researchers are using a system capable of encoding—or describing—music notation structures to allow musical content to be analyzed and searched in a standardized way. Part of their project is to develop a module for musical encoding specifically targeted at medieval neume notations. (A neume is a note or group of notes sung as one syllable.)

How does AI enter into this effort? Teaching a computer how to read medieval musical notation is complex. Dr. Bain leads the team of musicologists and more than a dozen student researchers who have manually transcribed thousands of melodies so a machine can read a melody and compare it with the manual transcription. They can then identify where the machine is going wrong and target those areas and correct them—teaching the computer how to read music so they can then use the computer to search for music. Once Dr. Bain's musicology team has done their work, the computer scientists on the project team develop and refine the software required to correct errors and feed them back to the computer so that it can "learn." Fundamentally, the process is one of pattern recognition or machine reading, a branch of AI in which a computer learns how to decode something.

"The Cantus Ultimus and SIMSSA projects are important because they are providing tools to help us better understand the first few hundred years of notated music produced in the Western world," says Dr. Bain. "The groundwork we've established we will now build on in our new project, the Digital Analysis of Chant Transmission, in which we will trace the movement of liturgical plainchant from Europe to other parts of the world through colonialism and assess its dissemination and impact."

Dr. Duncan MacIntosh advises on the moral questions around AI's use in weapon control.

"I strongly believe that arts students and faculty have everything to gain by viewing computer programming as something they can do," says Dr. Abramson.

Dr. Jennifer Bain's team is teaching the computer to read medieval musical notations so that they can then use it to search for music.

DANNY ABRIEL; DR. ABRAMSON: THOMAS DAGG

Darren Abramson
Associate Professor, Department of Philosophy

Research project:

Investigating machines' ability to capture human natural language skills

Read this phrase: "Since it was raining, I carried the newspaper over my backpack to keep it dry." What was kept dry? You probably said, "the backpack," because that makes the most sense in context—but grammatically, "it" could also have been the newspaper. Most people can infer the correct response based on syntactic disambiguation: considering the word "it" in the phrase, and figuring out which word "it" refers to.

Some people in Philosophy say that no machine can ever answer these types of questions as well as a person, because the person has the benefit of a lifetime of embodied experience with the human world—and machines don't have that. "[My computer] doesn't have a body and it hasn't lived a life," explains Darren Abramson of Dalhousie's Department of Philosophy. "When I read these phrases, it seems like I have to really think about experiences that I've had, and it's those experiences that we think about in our own case that helps us to disambiguate these statements."

For at least 60 years, philosophers, linguists and psychologists have noticed examples like these and claimed that even short, simple sentences of English and other languages cannot be syntactically disambiguated without normal human knowledge of the world and the meanings of words.

"I'm skeptical of these claims," says Dr. Abramson. "My research has for my entire career defended the view that machines can think."

Dr. Abramson's research project empirically investigates the adequacy of language models built using machine learning for capturing such human natural language abilities. There are well-defined benchmarks, such as the Winograd schema challenge (designed to judge whether a computer program has truly modeled human level intelligence), that serve as intermediate goals to building a machine that can pass the Turing test—developed by Alan Turing in 1950 to test a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human.

"My interest in this research area has to do with an old idea called mind design: we improve our understanding of the human mind by attempting to build artificial ones. The tools I'm using are unique in that researchers in AI freely distribute both the tools and their improvements to them, along with an unusual commitment to reproducibility in research."

Dr. Abramson explains that with research internships funded by the Mitacs Globalink project, and supported by graphics processing unit time granted by Compute Canada, he is now moving from evaluating models produced by the research community to constructing new models. "My overall research goal is to help advance machine learning to a solution to the challenge, while encouraging members of the philosophy community to understand the significance of recent developments in machine learning."

His knowledge of computer applications and programming is rooted in the time he spent at Indiana University, where he completed his PhD in Philosophy and Cognitive Science. While there, he concurrently completed his MSc in Computer Science—without having an undergraduate degree in Science or Computer Science.

"I strongly believe that arts students and faculty have everything to gain by viewing computer programming as something they can do," says Dr. Abramson. "I'm a really big believer in universal computer programming ability. And I'd very much like to see our students think of computer programming as just one skill—in the same way that every arts student should know a little bit of calculus, history, maybe have a second language, they should also have some programming skills."

Dr. Abramson's research also explores insights from the humanities on what uniquely human capacities we should try to get machines to be better at. "Where are you going to go for insights about human capacities?" he asks. "The Arts and Social Sciences Faculty."

VIRTUAL REALITY: PUTTING PARTICIPANTS IN THE POTALA PALACE WITH THE DALAI LAMA

When you think of the sociology of religion, you probably don't think of virtual reality and video games. But it's an area of study that Dalhousie Sociology Professor Chris Helland is a pioneer in researching. He wrote one of the first PhDs on religion and the internet and developed the system of classification for studying this area of sociology.

"Around the year 2000, because of the limits of technology, there was some online ritual, but there wasn't a lot," Dr. Helland, who has studied online rituals for almost 20 years, explains. "So it was very rare, but it would happen and it was beautiful and fascinating to see how people were shaping computer technology so it could meet their social needs."

Dr. Helland, who is a practitioner of Tibetan Buddhism, recently received Social Sciences and Humanities Research Council grant funding for his research on a large virtual project with the Dalai Lama. Called the Virtual Tibet Project, it involves working with Silverback Interactive, a Halifax company that makes games and powerful virtual and augmented reality training systems, and with Oculus, a company that specializes in virtual reality hardware and software products, to create a virtual reality (VR) experience where users can have a close encounter with the Dalai Lama in Tibet. Where artificial intelligence is the science and engineering of making intelligent machines and computer programs, virtual reality is a computer-generated simulation of a three-dimensional image or environment, allowing the user to interact with simulated artificial worlds.

Using old photographs, documents and books, the research team has created a 3D VR experience with the Dalai Lama in the Potala Palace in Tibet (his residence until he fled to India during the 1959 conflict). The team has created this world based on their collected research, right down to the wood grains on the floor. "It's beyond what you can imagine," says Dr. Helland. "It's incredible."

For users of this VR experience to visit the Potala Palace, where the Dalai Lama himself hasn't been permitted to return since 1959, is significant because this is his traditional seat of power and where he historically would have conducted rituals. The team is recording statements that the Dalai Lama would say and mapping them to his face using computer generated imagery, so that the user experiences being spoken directly to by the Dalai Lama. The user can also experience traveling through northern India and the Tibetan territory, exploring the Potala Palace, the Himalayas and Mount Everest, as well as being greeted by the Dalai Lama and witnessing him perform the ritual of the Chenrezig empowerment initiation, where he transforms to the Buddha of Compassion.

Dr. Helland says that this VR experience will interest many people, including gamers, people in the tech industry, those interested in religious rituals, Tibetan Buddhists and people who are simply curious. He has been invited to the Smithsonian Institute in Washington to present on the project.

"The Dalai Lama is getting older," explains Dr. Helland. "It's harder for him to travel. But he's so popular and so many people love him. And the desire for people to be close to him, to meet him and to see him is huge. We can use VR technology to meet those needs, so that people feel that they have an intimate encounter with him. And based on the feedback we've been getting, it's a powerful experience."

Dr. Chris Helland is using VR to allow people to experience being in the virtual presence of the Dalai Lama.

DANNY ABRIEL

Healthy solutions

Dal is taking a leading role in a new province-wide initiative aimed at helping make Nova Scotia's health-care system smarter, nimbler and more efficient.

By Matt Reeder

ABOVE Dr. Alice Aiken, Dalhousie's Vice-President Research and Innovation

LEFT Dr. David Anderson, Dean of Dalhousie's Faculty of Medicine

If you live in Nova Scotia, or know someone who does, there's a good chance you've heard a story about a person stuck in health-care limbo waiting for surgery. For years, wait times in the province exceeded the national average, with some patients waiting up to a year and a half or more for surgery.

That can feel like an eternity, particularly for people suffering from painful, mobility limiting conditions such as osteoarthritis, which occurs when protective cartilage around knees, hips and other joints wears away and fails to repair. In some severe cases, the only option for relief is joint-replacement surgery—a procedure that has come with notoriously long wait times in the past.

That changed in 2018 when the Department of Health and Wellness invested millions in the Nova Scotia Health Authority (NSHA) to combat the problem, increasing the number of orthopedic surgeons and creating new programming focused on optimizing health outcomes pre- and post-surgery. Wait times decreased for the first time in years, says Dr. Marcy Saxe-Braithwaite, senior director of surgical services at NSHA.

Concurrently, though, rates of osteoarthritis in Nova Scotia are among the highest in Canada and rising. Rather than accepting a future surge in patients in need of joint replacements as a forgone conclusion, a research team led by Dalhousie's Cheryl Kozey is seeking a more sustainable solution by studying the positive impacts of early intervention.

"Dealing with a wait list is one piece of the puzzle, but it's not a sustainable solution to the problem. A system change would be back at the early intervention stage with the primary care providers," says Dr. Kozey, a physiotherapy and biomedical engineering professor and acting dean in the Faculty of Health. "Researchers need to do a better job at translating and mobilizing information and evidence so that it can be used to improve conservative management decisions."

That's just what she has been tasked with doing as lead on a collaborative, province-wide research project underway now through the Maritime SPOR Support Unit (MSSU), a patient-oriented research network. Dr. Kozey's team includes researchers, clinicians, policy makers and patients. They are looking to link some of the large provincial databases to better understand physical activity levels in individuals with osteoarthritis and the factors that impact these levels, with an eye to providing better evidence to primary care providers and to policy makers to improve joint health, quality of life and outcomes.

The research team is one of several collaborative projects being wrapped into the province's recently launched Integrated Health Research and Innovation Strategy (IHRIS)—a new approach to health research and innovation in Nova Scotia that brings together health leaders from across the province's many post-secondary institutions, its two health authorities, various government departments, the private sector and the public to address critical health and health-care delivery issues. By better linking health officials, policy makers, researchers and others, IHRIS will ensure health-care research and innovation becomes better aligned with the province's major health-care priorities including primary care, mental health and addictions, and continuing care.

As Nova Scotia's largest university and research powerhouse, Dalhousie has played a major role in getting IHRIS off the ground since its launch last fall. Most of the network's efforts so far have centred around identifying existing research activities and resources and bringing

> Creating a robust infrastructure for sharing health data will be key to the success of IHRIS.
>
> **–ALICE AIKEN, VP RESEARCH AND INNOVATION, DALHOUSIE**

Currently, patients are required to share their health story each time they see a new provider and this can put unnecessary pressure on them in trying times.

together health data that currently exists. Alice Aiken, Dal's vice-president of research and innovation, says creating a robust infrastructure for sharing health data will be key to the success of IHRIS. "We need a province-wide system so that everybody doing health research has access to appropriate data and everyone who needs the results of that data knows how to find it and where to go and how to implement it into policies and practices and programming," says Dr. Aiken, a member of IHRIS's governance committee.

Efficient knowledge exchange and evidence-informed decision making may seem like obvious principles underpinning health-care strategy, but it has taken time for health systems in Canada to take the necessary steps to integrate and coordinate access to health information. Currently, patients are required to share their health story each time they see a new provider and this can put unnecessary pressure on them in trying times. The goal? To secure and protect a patient's health data while ensuring that the appropriate health-care providers can access it to provide timely care.

The folding up of nine regional health authorities into one Nova Scotia Health Authority in 2015, with the IWK Health Centre as a separate authority taking the lead on women and children's care, set the stage for better data sharing and collaboration. With a simplified health-care system and a shared vision among leaders across the province, momentum started to build for an initiative to evaluate how care is delivered.

It also helped that Nova Scotia is a manageable size. "We really believe we are the right size of province to do this," says Dr. Aiken. "We're big enough to have impact and small enough to be nimble and get things done."

Creating a provincially coordinated program like IHRIS in a much larger province such as Ontario, for instance, would be a much tougher, even "monumental," task, says David Anderson, dean at Dal's Faculty of Medicine. "Ontario has six medical schools, other universities involved in health research, many more major cities and a much more complex health delivery system than we have here," says Dr. Anderson, who is also on IHRIS's governance committee.

Dr. Anderson's hope is that IHRIS will position Nova Scotia as a health-care leader and innovator in Canada. The province has the benefit of being small enough to experiment in a way that larger jurisdictions may not. But those larger jurisdictions can still learn and implement solutions based on Nova Scotia's experience.

While collaboration between researchers, government and other stakeholders in the health sector has happened in the past, IHRIS will enable health researchers at Dal and other institutions to become more responsive to what's happening directly in the health-care system.

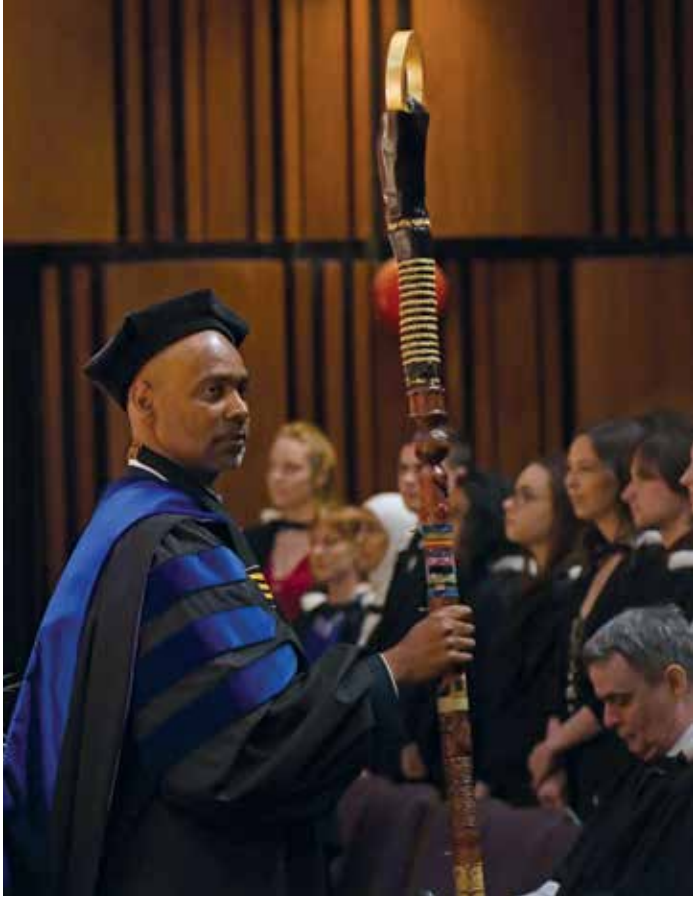
IHRIS also sets the stage for more innovation in Nova Scotia's health-care system, bringing the province's Department of Business on board to help close the gap between the public and private sector when it comes to health research and potentially powerful health data.

"Public health data is one thing and the province has responsibility for that, but there are all the private sources of health data that people have, too. All the insurance companies and the companies that do fabulous data collection and use it to help make their business better and help their clients," says Dr. Aiken, noting athlete performance company Kinduct and continuing care firm Shannex as examples.

Rigorous safeguards are in place when it comes to data sharing for those who want to commercialize research. As the province gets more sophisticated and can anonymize personal information and keep it private, there will be new opportunities to support better research and care. The trick to unlocking innovation in Nova Scotia's health system is figuring out how to navigate those relationships through collaboration so that the private sector is creating ideas and products that are more responsive to the needs of the health-care system and patients, says Dr. Aiken. With IHRIS, Nova Scotia is creating the connections to ensure that expertise in priority areas is being effectively mobilized for maximum innovation and impact.

"We have the highest number of ocean startups in North America, and we have the fastest growing tech sector in Canada," says Dr. Aiken. "We should be able to have a really robust health innovation ecosystem, too."

Dalhousie Alumni



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IN PRINT

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DANNY ABRIEL; NICK PEARCE

The Aurum Awards celebrate the innovators and visionaries making a difference in our communities and around the world.

RECOGNITION

‘Golden’ alumni

Sura Hadad, Anirudh Koul, Megan Leslie and Heather McNeill become the first recipients of Dalhousie’s Aurum Awards. By Mark Campbell and Fallon Bourgeois

On May 31, the Dalhousie community celebrated its inaugural Aurum Awards and recognized four alumni for outstanding achievements in innovation, community engagement, leadership and their contributions to the social, cultural and economic well-being of society.

The Aurum Awards honour the innovators and visionaries who are making a difference in their communities and around the world. And the first recipients are doing just that. Sura Hadad (DDS’03), Anirudh Koul (BCS’07), Megan Leslie (LLB’94) and Heather McNeill’s (LLB’94) contributions through their work and volunteerism have a far-reaching impact, touching the lives of many people. Whether it’s providing free oral care to Syrian refugees as Dr. Hadad has done, or Koul’s revolutionary smartphone app that is making the world more accessible for blind and low-vision people, or both Leslie and McNeill’s passion for public service, this year’s recipients are an inspiring group.

“We celebrate our alumni not only because we are incredibly proud of their accomplishments, but it’s also important to share their stories and highlight the impact they are making. Through the development of new ideas, sharing of knowledge and their commitment to giving back, they are truly impacting our world,” says Sheila Blair-Reid, associate vice-president, Alumni and External Engagement.

Building on the outstanding achievements and legacy of past Dalhousie Alumni Award recipients, the Aurum (Latin for gold) Awards symbolize the strength and wisdom of Dalhousie’s alumni community and capture the “black & gold” spirit of the university.

The recipients of the 2019 Aurum Awards shared some insight into their passions, motivation and the one thing closest to their heart.

DR. SURA HADAD (DDS’03)

A dentist who helped build a girls’ college in Kenya, established a scholarship for Dalhousie dental students, and provided free oral care to Syrian refugees, Dr. Sura Hadad knows how to make people smile.

What gets her going each day: Knowing that I’ll help somebody out of pain or make someone smile again. That’s what I enjoy.

Best part of what she does: The satisfaction of knowing that I’ve helped somebody, whether they are in pain or need, and that I helped relieve their distress.

Her favourite part of the day: The evening, when I can look back on what I’ve done and know I did not waste a single moment, and that I took time to help someone to the best of my ability.

One job she wishes she had tried: Being a pilot, so I can fly everywhere and not only see the world, but also see who else needs my help.

One thing closest to her heart: My mom. She worked so hard for us to get where we are. When I see her smiling, and I can do something that she wants, that’s incredible, because there were days when we didn’t even have a dollar in our house.

ANIRUDH KOUL (BCS’07)

Inspired by his grandfather, this tech savvy visionary is drawing on the potential of artificial intelligence to develop and advance groundbreaking apps that are enhancing accessibility and ability for people.

Best advice he’s ever received: There’s an African proverb that says ‘If you want to go fast, go alone. If you want to go far, go together.’ That’s the reality of most successful

projects I've done. When you have a diverse team, you have more people contributing ideas, and bringing their talents to bear, so you can achieve much more than you ever could solo.

The best part of what he does: Hearing things like "life changing" or "first time in my life" from the people who use the technology I've worked on.

One talent he rarely gets to use: Juggling. I took a course on it in university, but I'm not sure I could do it now. It's been a few years since I tried.

His happy place: Long-distance cycling. I used to be very sedentary, and it was exciting when I got to the point where I could go 200 miles. It gives me time to recharge, and to plan what's next.

One thing closest to his heart: In the blind community, 60 per cent of university students traditionally did not graduate. I'm happy to say that, with AIRA, we're able to reduce the dropout rate to 6 per cent.

MEGAN LESLIE (LLB'04)

From representing Halifax in Canada's Parliament to her role as president and CEO of World Wildlife Fund Canada, Megan Leslie

Dr. Sura Hadad (DDS'03) (top) and Anirudh Koul (BCS'07) (bottom) are among the first four alumni recognized with the Aurum Awards.

DANNY ABRIEL; NICK PEARCE

ABOVE Former MP Megan Leslie (LLB'04) is now president and CEO of the World Wildlife Fund Canada. RIGHT Heather McNeill (LLB'94) is creating change by helping to develop the first-ever governance model for Mi'kmaq child welfare in Nova Scotia.

continues to make great strides in advancing social, environmental, and economic justice.

What gets her going everyday: Right now, the people I work with. Our wildlife and our planet are in trouble, and it can be really overwhelming at times, but I know that everybody I work with is united by the desire to do something about it. I'm always excited to see what they are working on.

The best part of what she does: Inspiring people to see the world a little differently and to think that they can have a hand in shaping it.

What makes an idea worth pursuing: I always ask myself, "If I start this, how will it help me achieve environmental, social, and economic justice in my community and my country?" That is what motivates me.

If she had one extra hour day, she would spend it: Bike riding, skiing, paddling—I love being outdoors. It shouldn't feel like being in a different world, because it is our world, but it is an escape from the day-to-day world. And the meditative aspect of the activities I like to do is very therapeutic to me.

The one thing closest to her heart: When I brought the voices of transgender community to the floor of the House of Commons. We were debating a bill on extending the Canadian Human Rights Act and to the best of my knowledge there were no transgender people in the house at the time. I felt their perspectives were missing, so I am proud that I got to stand up twice and read those voices into the record. It was a powerful thing to do.

HEATHER MCNEILL (LLB'94)

After a 20-year career providing legal aid to those in need, this dynamic lawyer is applying her skills to help develop the first-ever governance model for Mi'kmaq child welfare in Nova Scotia.

Best advice she ever received: I remember wanting to be a nurse and I didn't have much education, so I didn't think I could do it. There was a nurse I knew who told me I could be anything I wanted to be so long as I believed in myself, and she was right.

Lesson she learned the hard way: That I can't be perfect. I kind of strive to be perfect at everything, even if I can't always be, and I have to accept that.

The best part of what she does: Knowing I can use my knowledge and skills to help change someone's life for the better.

Her favourite part of the day: The end of the day. It's an opportunity to power down and renew myself by doing the things I need to do, like spending time with my family.

The one closest to her heart: If I had to pick a person, it would be my daughter, Shana. My whole life changed when I had her. Everything I did was for her. But I'd also have to pick the one cause that is dearest to me, and that's Dalhousie Legal Aid. I loved working there. It was like family to me, and they always supported me in the community work I did. So did the law school. They gave me so many opportunities to go out and make a difference, and that meant the world to me.

READ MORE: FOR FULL STORIES ABOUT EACH OF THE RECIPIENTS, VISIT ALUMNI.DAL.CA

MEGHAN TANSEY WHITTON; NICK PEARCE

"I've always felt giving back to the program or area you studied is a way to help the profession move forward."

DONOR PROFILE

Active support

Physiotherapist and alumna Jill Tasker (BSc(Physiotherapy)'80) supports two areas that are near and dear to her–athletics and physiotherapy

When Jill Tasker (BSc (Physiotherapy)'80) was a young woman preparing for university, her father was adamant about one thing: he wanted her to live in residence during her first year. At the time she didn't fully understand his insistence, but when she started at Dalhousie, she quickly realized the sense of community that came along with residence living. And it remains strong nearly 40 years later.

While living in residence was one invaluable experience, her time playing varsity basketball and studying physiotherapy also helped shape her both personally and academically and strengthened her bond to Dal. "Everything I have today I gained from my time at Dal; it shaped who I am," says Tasker, who passed along her father's advice to her three university-aged children.

It's that sentiment which motivated Tasker to begin supporting athletics and physiotherapy at Dal. She has been loyally doing so since the early 1980s, not long after she graduated. In 2017 she was named a member of the university's MacLennan Society which celebrates alumni and friends who make the decision to consistently give back to Dal.

"I like what the Athletics Black & Gold Club offers for students," says Tasker referring to the Black & Gold Academic Support Program. The program, available with the help of generous donors like Tasker, is a major component of the club. It provides students resources—study skill seminars, free tutoring and academic support—to help them achieve their academic goals.

"I happily support that initiative because I understand what it's like to balance school and athletics. The free tutoring especially is a huge benefit in my opinion. I'm glad they have a resource that helps them with their studies and athletic endeavours."

A well-known physiotherapist in Halifax, Tasker established South End Physiotherapy Clinic in 1990 and continues to enjoy treating orthopedic and sports medicine patients. She is passionate about her field of practice and does what she can to support the next generation of professionals coming up through the ranks. And she's proud of how Dal's School of Physiotherapy has matured over the years. "I have watched the school grow from a diploma program to a degree program and now a master's degree," says Tasker.

"The growth enhances the reputation, skill set and reach of physiotherapists. I've always felt giving back to the program or area you studied is a way to help the profession move forward. In a way you're helping the next generation to grow because they can access the tools and resources they need."—*Fallon Bourgeois*

"Everything I have today I gained from my time at Dal; it shaped who I am," says Jill Tasker (BSc(Physiotherapy)'80). Tasker played varsity basketball while at Dal, and now supports athletics and physiotherapy at the university, including the Black & Gold Academic Support Program.

NICK PEARCE

Dr. Hamilton's passion for exploring volcanoes was sparked when he had the chance to spend a year abroad in Reykjavik.

SPOTLIGHT

Volcano watcher

Planetary scientist Christopher Hamilton (BSc'04) makes top 10 research list

From Halifax to Iceland to Mars and the moons of Jupiter: in the 15 years since graduating from Dal in Earth Sciences, Christopher Hamilton (BSc'04) has carved out a career path that has seen him apply his knowledge of the Earth's volcanic structures to better understanding the volcanic history of and activity on other worlds. It's work that is helping NASA develop missions to understand the potential habitability of other moons and planets in our solar system. And in 2018, it garnered Dr. Hamilton an early career award in the division of mineralogy, geochemistry, petrology and volcanology from the Geological Society of America (GSA) and landed him a spot on *Science News Magazine*'s top 10 researchers list.

"Every terrestrial body in the solar system, the moon-size or above, has a volcanic history," says Dr. Hamilton. He and other planetary volcanologists seek to examine and understand the Earth's volcanoes and then compare that activity to what they can see happening on other planets. For instance, in researching Mars, Dr. Hamilton and the team he works with are trying to understand that planet's volcanic history and its potential to host habitable environments. "We have the opportunity to look at places on Earth that are similar in characteristics to Mars, such as Iceland, seeing firsthand different volcanic eruptions and what the life cycle is in terms of landscape evolution and habitability."

That's just one aspect of the work he is doing at the University of Arizona in partnership with NASA (he spent three years as a post-doctoral fellow with NASA's Goddard Space Flight Centre). "The projects with NASA span looking at Earth, Mars and even the outer solar system."

Dr. Hamilton's passion for exploring volcanoes was sparked in his second-to-last year at Dalhousie, when he had the opportunity to spend a year abroad at the University of Iceland. His experiences in Reykjavik helped shape his career and solidify his interests in volcanology. "Before studying in Iceland, there were many aspects of Earth Sciences that I felt were interesting, but when I had the opportunity to see a volcano and a glacier for the first time and to explore how they interact with one another, it was an otherworldly experience." When he returned to Dal, he and faculty member Dr. Barrie Clarke used the data Hamilton had collected to develop his senior thesis, for which he was awarded the Léopold Gélinas Medal from the Geological Association of Canada for the best undergraduate thesis in Canada relating to volcanology and igneous petrology.

Today, Dr. Hamilton continues to apply his knowledge of Earth's volcanoes to Mars, Earth's moon and Io, one of Jupiter's moons. "If you look at Earth's moon, the dark regions are actually lava flows," says Dr. Hamilton. "So anytime you look up at night, you can see evidence of volcanic history." —*Jocelyn Adams*

TOP Planetary scientist Christopher Hamilton (BSc'04) ABOVE Dr. Hamilton at the site of a drone deployment at the Laki lava flow-field in Iceland.

NICK PEARCE; SUBMITTED

“Not only are we making quality products, we are having a beneficial impact on our community.”

SPOTLIGHT

Building healthy communities

The two Dal alumae behind Made with Local aim to empower and support others by working with Nova Scotian social enterprises

When Sheena Russell (BSc’09) and Kathy Cooper-MacDonald (BCD’06) set out to create healthy snacks with no-nonsense ingredients, they never imagined they would go from making their first batch of bars at a community kitchen (in a lobster pot no less) to creating a product that is now available nationwide. But more than that, Made with Local is also making a difference in Nova Scotian communities by supporting social enterprises.

In the early days (2011), Russell and MacDonald were focused on making healthy snacks that tasted good. “It seemed the two didn’t go together,” recalls Russell. Through trial and error, they eventually created Made with Local bars. Once they got their product fine-tuned, the success of their business came quickly, in large part because of local famers’ markets.

“The markets were integral in those first few years. We were five inches away from our target market; we got to see our consumers interact with the product. And we were also working alongside our producers. We could hop over to the stall next to us and buy our honey,” explains Russell.

And as business grew, their impact did too. Made with Local began working with social enterprises on production and distribution.

“We found the perfect production partners in a local social enterprise called The Flowercart Group in New Minas. They provide opportunities for people who face barriers to mainstream employment,” says Russell, who describes it as the beginning of a “beautiful relationship.”

“We work closely with three social enterprises, which means we have 70 to 75 individuals who are a part of our business,” says Russell. “Much like our farmers and producers, these individuals are our greatest asset. Seeing how our products made a difference in their lives changed our purpose—not only are we making quality products, we are having a beneficial impact on our community.”

Today, Made with Local products are available nationwide and by summer 2019 will be in 1,000 retailers across Canada. Russell left her full-time job in 2015 to focus on Made with Local and MacDonald remains involved part-time with events and promotions.

The Made with Local products developed by Sheena Russell (BSc’09) (above) and Kathy Cooper-MacDonald (BCD’06) will be in 1,000 retailers across Canada this summer.

Last year, Made with Local was recognized as a SheEO venture. The initiative supports, finances and celebrates female innovators who are creating new mindsets, new models and new solutions for a better world. And later this year they will become B Corp certified, the only certification that measures a company’s entire social and environmental performance.

“Our product is a physical manifesto of the community we’re building. I see the growth of this brand as a true ripple effect,” says Russell. “We are nourishing the community, both literally and figuratively.”—*Fallon Bourgeois*

SUBMITTED

"You have to solve some complex problems."

SPOTLIGHT

Wounds of war

Dr. Steve McVicar (MD'88) tests his orthopedic skills in war-torn regions

ABOVE Dr. Steve McVicar operating in Doctors Without Borders mobile unit in Mosul. He performed more than 100 reconstructive surgeries on people caught up in the war against ISIS.

SUBMITTED

Orthopedic surgeon Steve McVicar (MD'88, '94) is used to dealing with trauma: soldiers who've just had their legs blown off, victims of logging accidents, people with bones sticking out at various angles. But what he found hardest to take while volunteering as a surgeon for Doctors Without Borders (MSF) in Mosul, Iraq was the suffering of animals.

"The humans were barely surviving, so the animals were on their own. Many were dead, lying rotting on the side of the road. It's distressing to see these big Anatolian-type dogs out there eating garbage. I just wanted to stop the truck and somehow help them," he says. Sometimes the problems one isn't equipped to solve are the ones that linger.

In Mosul, Dr. McVicar treated people still suffering from wounds incurred during the 2017 battle against ISIS. They had "chronic wounds, with bones exposed for the past year or more, or wounds that were not going to heal or were infected, or marked deformities," he says.

Dr. McVicar started his career as a marine engineer, serving in the Navy before studying medicine at Dal. An avid climber, skier and mountain biker, he moved to B.C. to practise. In 2006, he read that Canadian military surgeons in Afghanistan were burning out. He offered to go. The next year, the military hired him and sent him to Kandahar. He went on to work for the U.S. military in Afghanistan too, then, in 2013, returned to the country—this time for MSF, in Kunduz.

"I helped them set up the orthopedic program there and then I went back the following year as well because there was quite a need," Dr. McVicar says. He planned to return a third time, but "the US Air Force mistakenly bombed the hospital and killed a lot of the people that I helped train."

In Mosul, operating out of a new Mobile Unit Surgical Trailer (MUST) unit—basically a well-equipped shipping container—he saw about 10 patients a day. "We only had a limited amount of equipment to do the work, and limited medication and antibiotics," Dr. McVicar says. "It's a place for an experienced orthopedic surgeon. You have to solve some complex problems."

Dal, he says, prepared him well for the task.

"The Dal orthopedic program was so good. The experience I got there served me well in my career. When I started out in Northern B.C. with industrial accidents, logging accidents, I was totally fine dealing with that stuff," Dr. McVicar says. "The guys who trained me at Dal let us cut early on and trained us to be good surgeons. It was a hard program. But when you get through it you know your stuff."

Dr. McVicar is staying put at home for awhile—but not too long. Next year he's agreed to go to Gaza with MSF.—*Philip Moscovitch*

TAKE A SEAT FOR THE TEAM!

The time has come to take a seat for the Dalhousie Tigers!

Name a seat in the Dalplex fieldhouse to commemorate your time at Dal, to honour a coach or hero, or to celebrate a family member or friend.

Centre Court Premium Seating: $1,000

General Seating: $500

Name a seat at

GIVING.DAL.CA/TEAM

**Please note that no seating privileges are associated with the naming of a seat.*

DALHOUSIE TIGERS

ALUMNI EVENTS

Making memories

Dal alumni and friends have been enjoying popular annual events and new initiatives

Throughout the winter and into the spring, Dal alumni and friends gathered for meaningful and memorable events. The inaugural Dal Alumni Days (May 30–June 2) was the highlight. From thought-provoking Open Dialogue events to honouring four inspiring alumni to a truly energetic East Coast Kitchen Party, the weekend brought hundreds of alumni and friends together.

TOP The Women's Division presented the first Champagne Social hosted by The Hon. A. Anne McLellan (BA'71, LLB'74) at Shirreff Hall on June 2–a memorable closing to Dal Alumni Days. ABOVE LEFT On May 31, members of the Dal community gathered for a reception and ceremony at the Lord Nelson Hotel to honour the first ever recipients of the Aurum Awards. ABOVE The Dal Alumni Days East Coast Kitchen Party at Alexander Keith's Brewery was a night to remember with live music and East Coast flair. RIGHT Alumni sampled brunch fare at the Champagne Social.

NICK PEARCE

VISIT US ON FACEBOOK FOR EVENT PHOTOS AND MORE AT FACEBOOK.COM/DALUMNI

TO RECEIVE INVITATIONS TO ALUMNI EVENTS NEAR YOU, UPDATE YOUR EMAIL ADDRESS AT ALUMNI.DAL.CA/UPDATE

ABOVE Humanitarian and former United Nations ambassador Stephen Lewis gave a rousing presentation at the 2019 Shaar Shalom Lecture in February. **ABOVE RIGHT** Kinesiology grads got together for an evening of connection and discovery. **RIGHT** Alumni from Dal's School of Health Sciences Respiratory Therapy socialized at the Niagara Brewing Company in May. **FAR RIGHT** The annual Calgary Alumni Lobster Dinner.

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open dialogue

Open Dialogue brings people together for thought-provoking conversations focused on timely and relevant conversations. From mentorship panels to open forums covering current issues and historical events, the offerings are as unique and varied as the subject matter. Watch for Open Dialogue events in your community and online: **alumni.dal.ca**

DALHOUSIE UNIVERSITY
ALUMNI

Thank you to our sponsors for supporting the EDWARD SNOWDEN Open Dialogue event during Dal Alumni Days.

ATLANTIC SECURITY CONFERENCE ATLSECCON

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DANNY ABRIEL; SUBMITTED

1950s

'53

JOHN VACHAL, BEng, is enjoying his retirement in Seattle from Boeing (Aircraft Design). His classmates can reach him at jvachal@hotmail.com

'59

DR. FRANK LOVELY, DDS, has been honoured as the Founder of the Year by the Canadian Association of Oral and Maxillofacial Surgeons, at its annual meeting in Calgary on May 31, 2019.

1960s

'63

DR. SALLY ROSS, BSc and MA'68, was awarded an honorary Doctor of History degree from Université Sainte-Anne. Dr. Ross also holds a Licence ès Lettres ('66) and a Doctorate ('70) from the Université de Tours, France. "In recognition of her contribution to the Acadian community's historical record and her impact in raising its profile, Université Sainte-Anne is proud to award an Honorary Doctorate in History to Ms. Sally Ross."

'68

STEPHEN KNOWLES, BA (Honours History), finished his fourth European Camino in May 2018 by walking 850 km from Arles, France, through Toulouse and over the Pyrenees via the Somport Pass to Pamplona, Spain, in 36 days. Since he retired from the House of Commons Procedural Service, he has walked over 4,000 km in North America and Europe. He lives in Gatineau, QC, and may be reached at sknowles@videotron.ca.

1970s

'77

JEANNIE COLLINS BEAUDIN, BSC (Pharmacy), retired from pharmacy in January 2016 and has just published her first book, *Can I Speak to the Hormone Lady? Managing Menopause and Hormone Imbalances.* It is available in both e-book and print. Find out more at jeanniebeaudin.wixsite.com/author.

DALHOUSIE POSTDOCTORAL SOCIETY (DPS)
Together with the Faculty of Graduate Students, the Dalhousie Postdoctoral Society (DPS) is pleased to invite alumni to join the society to take advantage of the community which provides helpful information on careers provision for both academics and non-academics. This is particularly more useful for former PhDs at Dal who are targeting for a postdoctoral fellowship or an academic career around the world. For more information on providing support, please contact Edris Madadian, at dps@dal.ca or edris.madadian@dal.ca

1980s

'83

SYLVIE PELTIER (MES) ended up pursuing her passion for the environment by directing and producing documentaries for television, with Red Letter Films, the production company she founded. They have now partnered with Canadian Master Painter, Mike Svob, in the production of online painting courses and a companion YouTube Channel called "Create Paintings You Love with Mike Svob."

'85

LELAND (LEE) KEANE, BA (Honours), retired from the RCMP's Firearms Training Unit (FTU) at the Pacific Region Training Center (PRTC). Lee was a firearms instructor until January 2019, with 32+ years of service in various detachments and units. Lee also retired as a director of the Mounted Police Professional Association of Canada (MPPAC). Lee is returning to the East Coast where he plans to enjoy recreational use of firearms while seeking opportunities as an HR consultant.

'89

KAREN FERGUSON, BSc (PT) and the Class of 1989 are celebrating their 30th reunion. The class will be reuniting on August 9th and 10th, 2019 in Halifax. Reconnect with our classmates and enjoy a taste of summer in Nova Scotia! For more information, contact Annie Raghavan at annieraghavan@hotmail.com or Karen Ferguson at karen.ferguson@ns.sympatico.ca.

1990s

'97

GUILLAUME VAN MOORSEL (MLIS) has been appointed Director of the Office of Medical Education for the Stamford Health system, a primary teaching affiliate of Columbia University College of Physicians & Surgeons in New York City. The position, which has broad oversight of the health system's graduate, undergraduate and continuing medical education programs, comes after previous roles as director of Stamford's medical library system and as clinical assistant professor of health policy and management at Stony Brook University.

2000s

'09

FIONA MUNRO, BA, (and a MA'10 from U Ottawa), has spent the last 10 years in the marketing and communications industry as an associate director, client services with LoyaltyOne (AirMiles) and as a sponsorship manager with the Calgary Stampede. She recently returned to academics and is now a faculty instructor at the Chiu School of Business at Bow Valley College, Calgary, Alberta.

IN MEMORIAM

RUTH IRIS CLARK INGRAM, BA'35, MA'36, Annapolis, Md., January 11, 2019

BERNICE EVELYN DEXTER, BA'38, Halifax, N.S., December 28, 2018

BERNARD G. KUHN, AGFY'39, Escondido, Calif., December 19, 2018

MAX GREENBERG, DDS'40, Ponte Vedra Beach, Fla., April 24, 2019

LEONARD STANLEY GOLDBERG, DDS'41, Halifax, N.S., May 7, 2019

CATHERINE STERNS HARRISON, BA'42, DipEd'43, Dartmouth, N.S., November 19, 2018

ALEXANDER JOHN MACASKILL, DDIP'44, Unknown, May 4, 2019

MURIEL VICTORIA KIRKPATRICK, BSc'44, North Syracuse, N.Y., February 26, 2019

RONALD LLOYD EATON, FRC'44, Unknown, March 26, 2019

JOHN A MORSE, FRC'45, Unknown, April 4, 2019

BERYL MARJORIE BALCOM, BA'46, Halifax, N.S., January 7, 2019

NORMAN HUGH FERGUSSON, BSc'46, DipEd'50, BEd'51, Unknown, March 20, 2019

ALICE SYLVIA MOULTON, BSc'47, DipEd'48, Halifax, N.S., February 23, 2019

VICTOR T. LOTHERINTON, FRC'47, Moncton, N.B., December 22, 2018

RICHARD H. HARVIE, FRC'48, Canning, N.S., January 25, 2019

WILLIAM BORDEN CHRISTIE, DipEng'48, BEng'50, Ottawa, Ont., April 10, 2019

GEORGE RICHARD SEVIOUR, BEng'49, St. John's, N.L., May 16, 2018

J. ALLAN MYRDEN, BSc'49, MD'50, Halifax, N.S., April 5, 2019

JESSIE WALKER CHURCHILL-SMITH, BA'49, Toronto, Ont., April 26, 2019

PAULINE ISABEL CHURCHILL, BSc'49, Grand Bay-Westfield, N.B., December 24, 2018

WILLIAM GORDON STEWART, DipEng'49, BEng'51, Unknown, January 12, 2019

ALAN HUGH CURREN, BComm'50, Burlington, Ont., January 27, 2019

ARTHUR ALEXANDER MACDONALD, DipEng'50, BEng'52, Unknown, June 29, 2018

DAVID MURRAY GRAHAM, BA'50, North York, Ont., May 13, 2018

GENEVA ELSIE RAYMOND, BA'50, Windsor, N.S., January 31, 2019

KENNETH VINCENT REARDON, DipEng'50, BEng'52, Dartmouth, N.S., January 26, 2019

LESLIE ANN GAUNT, BA'50, Hubbards, N.S., December 16, 2018

VERNON JOSEPH DOUCETTE, DipEng'50, BEng'52, Yarmouth, N.S., January 21, 2019

WILFRED LESTER GIFFIN, BEng'50, Halifax, N.S., February 9, 2019

BRIAN WAKELEY EDWARDS, BSc'51, DipEd'52, Unknown, March 27, 2019

ELEANOR JOYCE DICKEY, BA'51, LLB'54, Halifax, N.S., May 6, 2019

PAUL ARCHIBALD HARDING, DipEng'51, BEng'52, Lethbridge, Alta., June 18, 2018

VAUGHN STUART NICHOLS, FRC'51, Aylesford, N.S., February 5, 2019

BARBARA JOAN KOPPERNAES, DPHRM'53, Unknown, December 20, 2018

GORDON WILDEY SINCLAIR BUTLER, BEng'53, Unknown, June 4, 2018

PAUL LOUIS LANDRIGAN, MD'54, Halifax, N.S., March 30, 2019

SALLY ANN ROBERTSON, BA'54, Unknown, April 14, 2019

KENNETH GORDON CHISHOLM, BSc'55, DDS'59, Surrey, B.C., October 29, 2018

WILBERT GEORGE PRENTICE, DDS'55, Unknown, January 21, 2019

WILLIAM BERTRAM WHITE, BComm'55, LLB'57, Riverview, N.B., April 27, 2019

DOUGLAS ROBERT F. MILLER, FRC'56, Unknown, January 11, 2019

PAUL ALLISTER SWAN, DDIP'56, Londonderry, N.S., March 2, 2019

CHARLES BURT PIERCEY, BA'57, Mississauga, Ont., April 4, 2019

EDGAR WILLIAM SCOTT, BComm'57, Guysborough, N.S., January 16, 2019

ELVA LORRAINE JOLLYMORE, BA'57, Chester, N.S., March 16, 2019

GEORGE WALLACE MCPHEE, BEng'57, Stouffville, Ont., January 4, 2019

JAMES KENNETH L. LITTLE, MD'57, Yarmouth, N.S., April 20, 2019

MICHAEL DONALD MACDONALD, LLB'57, Edmonton, Alta., April 16, 2019

PAUL DEXTER ROGERS, FRC'57, Centreville, N.S., March 30, 2019

ROBERT GORDON RUDDERHAM, BEng'57, Exeter, Ont., April 9, 2019

GERALD BURDITT LOCKE, DPHRM'58, Halifax, N.S., December 21, 2018

GLENDON HOWARD ATWOOD, BEng'58, Unknown, February 2, 2019

GRACE ORMISTON VEINO, BA'58, Halifax, N.S., March 23, 2019

JOHN LEVESON POTTS, MD'58, Dryden, Ont., March 16, 2019

DONALD JOSEPH MACDOUGALL, BEng'59, Halifax, N.S., March 2, 2019

ELIZABETH JOYCE BEMBRIDGE, DPHRM'59, Dartmouth, N.S., April 22, 2019

ELLISON ELENA HARTLING, BEd'59, Wolfville, N.S., January 20, 2019

JEAN LOUISE HEBB, DTSN'59, Burlington, Ont., March 19, 2019

JONATHAN CHIPMAN NOBLE, DipEng'59, BEng'65, Halifax, N.S., February 23, 2019

GERALD GEORGE TURNER, DDS'60, Glace Bay, N.S., April 27, 2019

RAYMOND CLAYTON ARCHIBALD, BEng'60, New Glasgow, N.S., March 7, 2019

SEAN ALPHONUS KEYES, MD'60, Saint John, N.B., July 30, 2018

SPENCER MOODY BRIDGER, MD'60, St. John's N.L., January 19, 2019

CORNELIA MURRAY, FRC'61, Summerside P.E.I., September 3, 2018

DAVID SINCLAIR ROMKEY, BA'61, BEd'62, Unknown, May 1, 2019

FREDERICK RUSSELL SELLER, BA'61, North Wiltshire, P.E.I., March 20, 2019

MEHMET ERDOGAN, PGM'61, Halifax, N.S., January 29, 2019

PETER BURTON MACDOUGALL, DipEng'61, BArch'65, Halifax, N.S., May 2, 2019

DENNIS GORDON CATO, BEd'62, Lachine, Que., November 6, 2018

DOUGLAS R. PETRIE, DDIP'62, Unknown, March 25, 2019

MARY ANN MCGINN, DPHRM'62, Halifax, N.S., December 17, 2018

PAUL MURDOCH HARRIMAN, MD'62, Peterborough, Ont., October 17, 2018

DONALD HOWARD TAIT, MA'63, Ottawa, Ont., January 5, 2019

HOWARD SINCLAIR HIGGINS, DipEd'63, BA'68, BEd'68, Unknown, March 5, 2019

WAYNE BLAIR BARRO, DDS'63, Unknown, March 14, 2019

ALFRED HENRY LOHNES, BEng'64, Dartmouth N.S., March 26, 2019

JOHN FRANCIS BROOKFIELD, BEd'64, BSc'69, MSC'71, Waterloo, Ont., November 29, 2018

CYRIL WILLIAM JOHN COLWELL, BComm'65, Unknown, April 25, 2019

DONALD BERT MACKENZIE, BEng'65, BA'65, Hopewell, N.S., March 30, 2019

FREDERICK KINGSTON DUGAN, DDS'65, Sandwich, Maine, March 15, 2019

IAN HUGH MACDONALD, LLB'65, Yarmouth, N.S., March 17, 2019

JOHN ALBERT RENOUF, BComm'65, Halifax, N.S., December 16, 2018

LAWSON ALLAN PARKER, DipEng'65, BEng'67, Belnan, N.S., May 3, 2019

MURIEL FLORENCE SMITH, MSC'65, MD'70, PGM'78, Unknown, August 6, 2018

DORIS ALICE SWEET, DNSA'66, Halifax, N.S., January 30, 2019

MELVIN HARRIS FREEDMAN, MD'66, Toronto, Ont., January 2, 2019

RONALD KEITH SIEGEL, MA'66, PhD'70, Los Angeles, Calif., March 24, 2019

SHARON LYNN CRUIKSHANK, BA'66, Halifax, N.S., December 25, 2018

DIANE MAUREEN PARKS, BA'67, BEd'68, Gabriola, B.C., January 21, 2019

RICHARD STANLEY CAIN, MD'67, Wolfville, N.S., April 13, 2019

BARRIE JAMES FROST, PhD'68, Kingston, Ont., October 4, 2018

WINSTON SPENCER PARKHILL, MD'68, Halifax, N.S., January 15, 2019

DAVID GORDON COTTENDEN, BComm'69, LLB'72, Bridgetown, N.S., December 19, 2018

DAVID PAUL ZWICKER, BScEP'69, St. Margaret's Bay, N.S., March 5, 2019

MURDOCK ARTHUR SMITH, MD'69, Sydney, N.S., May 11, 2019

CLAIRE ELIZABETH MILLER, BEd'70, Sydney, N.S., June 19, 2018

DONNA JEAN CURTIS, MSW'70, Bedford, N.S., April 1, 2019

JAMES MEYNELL WHITTAKER, BComm'70, Unknown, December 17, 2018

ROBERT JOSEPH BRITTON, MSW'70, Halifax, N.S., March 29, 2019

WILLIAM GREGORY WARSHICK, BA'70, BEd'77, North York, Ont., February 4, 2019

DARRELL FULTON CROCKETT, BComm'71, New Minas, N.S., January 6, 2019

JANE ELIZABETH PALIN, MLS'71, Victoria, B.C., January 4, 2019

ROBERT LESLIE DICKSON, BEng'71, MEng'75, DipEng'70, Bedford, N.S., February 1, 2019

JAMES ROBERT CHETWYND, BA'72, BEd'72, Middleton, N.S., December 16, 2018

MADELEINE CHARMAINE DEVEAU, MSW'72, Church Point, N.S., January 19, 2019

PAUL ALEXANDER BREITHAUPT, BA'72, Toronto, Ont., April 24, 2018

SONIA LOUISE RUSSELL, PhD'72, MD'78, Unknown, February 28, 2019

ALBERT JAMES HARTLING, BSc'73, BEng'75, Halifax, N.S., January 1, 2019

BENEDICT JOSEPH COOKEY, MD'73, Dartmouth, N.S., April 13, 2019

JOHN DAVID MURPHY, LLB'73, Unknown, December 15, 2018

FOSTER LINDSAY DOYLE, BA'74, BAHC'75, MA'83, Lower Sackville, N.S., April 30, 2019

JAMES W. EISENER, TECH'74, Dartmouth, N.S., January 31, 2019

MARGARET EDNA FIFE, DDIP'74, Unknown, January 25, 2019

PAUL EDWARD MILLER, BSc'74, Calgary, Alta., March 13, 2018

WILLIAM ROBERT MANTLE, BEng'74, MBA'80, Halifax, N.S., March 11, 2019

CHARLENE MARIE FOLEY, BSc'75, DDH'77, London, Ont., January 24, 2019

NORMA KATHLEEN MACKAY PRICE, BN'75, Halifax, N.S., February 18, 2019

THOMAS GREGORY BOUDREAU, BSc'75, MBA'84, Halifax, N.S., April 22, 2019

A. SHIRLEY HAGGART, BA'76, Trenton, N.S., January 13, 2019

GEORGE RIGBY MARTELL, BEd'76, BA'61, Toronto, Ont., April 15, 2019

JOHN JOSEPH CHIASSON, MBA'76, Unknown, April 24, 2019

JOSEPHINE ELIZABETH MARSHALL, MA'76, BA'77, Unknown, January 21, 2019

RICHARD GARNETT MCLAREN, PGM'76, Glen Haven, N.S., February 8, 2019

WENDY SUZANNE HATFIELD, BEd'76, New Glasgow, N.S., March 29, 2019

BRIAN MICHAEL MARCOTTE, PhD'77, Unknown, February 7, 2019

KEVIN J. MACDONALD, BEng'77, New Waterford, N.S., May 5, 2019

KIMLEY MARGARET BABIN, BEd'77, Prospect Bay, N.S., May 1, 2019

MAURICE J. WALSH, BEng'77, High River, Alta., February 9, 2019

RALPH W. RICKARD, BEDS'79, BArch'81, Dartmouth, N.S., April 26, 2019

TERRENCE JOSEPH KREUTZ, BComm'79, Dartmouth, N.S., January 3, 2019

GARRY MICHAUD, BA'80, Cambridge, N.S., May 12, 2019

JOAN MARIE MCGEE, BA'80, BEd'83, Unknown, April 23, 2019

ANTHONY R. ATKINSON, PGM'81, Bridgewater, N.S., March 20, 2019

THOMAS EDWARD LANE, MSc'81, Unknown, March 18, 2019

PAUL ANTHONY ROSS, BComm'82, Unknown, January 17, 2019

ALVIN ERNEST RAMARD, BSc'83, DipEng'83, BEng'85, Unknown, December 28, 2018

WILLIAM GEORGE HODY, BA'83, BCSc'00, Nepean, Ont., February 3, 2019

STUART ARTHUR GIBB, DTECH'84, Truro, N.S., February 1, 2019

JACQUELINE MARIE LUCAS, BN'85, Unknown, April 18, 2019

JOHN REDMOND CURTIS, PhD'85, Stellarton, N.S., February 17, 2019

COLLEEN MARIE PHILLIPS, BN'86, MPA'97, Dartmouth, N.S., April 24, 2019

JAMES FREDERICK HORNER, BSc'86, Unknown, February 12, 2019

LINDA GRACE HARPER, BN'86, Ottawa, Ont., July 20, 2018

MAX WILLIAM RICHARDSON, LLB'86, Charters Settlement, N.B., March 26, 2019

STEPHEN COUBAN, MD'86, PGM'92, Halifax, N.S., March 19, 2019

DALE CLIFFORD ROSS, MED'87, Amherst N.S., January 11, 2019

MALCOLM JOHN MACKENZIE, CEA'87, Wilmot Station, N.S., March 3, 2019

LORRAINE ELIZABETH DUPRES, BSW'87, MSW'92, Dartmouth, N.S., February 22, 2019

ROGER THOMAS COTTON, BCSc'87, Unknown, January 19, 2019

ARTHUR ALFRED MACDONALD, BSc'89, Dartmouth, N.S., December 13, 2018

STEVE WOHLMUTH, BEd'92, Port Williams, N.S., March 24, 2019

HELEN CREELMAN, MN'93, Rothesay, N.B., February 28, 2019

JONATHAN ANDREW WILKIE, BComm'96, Halifax, N.S., March 17, 2019

SHARON ELIZABETH PALMER, BScN'96, Centreville, N.S., February 8, 2019

CAROLYN ANNE MOORE, MES'01, Toronto, Ont., February 5, 2019

DAVID PATRICK LANGLANDS, BA'01, Toronto, Ont., April 26, 2019

ROBERT B. DE GRACE, BEng'01, Thornhill, Ont., December 1, 2018

WAYNE CHRISTOPHER CREGAN, BA'07, BCSc'13, Halifax, N.S., January 31, 2019

JOSH WADE HOUGH, BSc'11, Unknown, September 16, 2018

NICOLE JENNIFER CARDIN, JD'13, Unknown, November 1, 2018

OLIVIA QUINN BIBBY, BA'14, Windsor, N.S., April 18, 2019

KEENAN BARRETT ISAIAH BRIGHT, BSc'15, Dartmouth, N.S., March 15, 2019

ANGELA ELIZABETH MARIA REHHORN, BSc'17, Orillia, Ont., March 10, 2019

DANIELLE COURTNEY MOORE, BSc'17, UCERT'17, Halifax, N.S., March 10, 2019

FREEDOM TO MOVE

Abady Alzahrani (BComm'13) launched a Halifax dance school that celebrates the diversity of the city he has fallen in love with

Abady Alzahrani had never danced before coming to Dalhousie. "You weren't allowed in Saudi. Growing up there meant there were so many restrictions on what you could and could not do, that's why I wanted to come to Canada." Alzahrani, who grew up in the Philippines and Saudi Arabia and had never before been away from his family, arrived in Canada in 2008. The move was a life changing experience says Alzahrani, who studied commerce and marketing management at Dal and secured a job in his field before graduating thanks to a co-op placement. But it was the life he built around his studies that helped him become the person he is today.

"It has been quite the adventure," Alzahrani says. He had worked in Halifax marketing agencies for the past seven years, teaching dance on the side for the last five. In December, he opened House of Eights Dance Co. "I had got to the point where I was half invested in each side of my life but not but not fully invested in either. I had to choose, and decided to go full-tilt into this and see where it goes."

Alzahrani discovered dance at Dal. He wanted to become healthier but hated the gym, and thought the Dalhousie Dance Society sounded like a fun way to get fit and make some friends. "I took a beginners class and within one year they bumped me up to their advanced class, because I picked things up so quickly," he says. "Within a few years I was going to New York and Los Angeles to train. Soon I was teaching at a bunch of different studios in town."

At House of Eights, Alzahrani has hired on some of the friends he made at the Dalhousie Dance Society, with one teaching Bollywood classes, and another teaching the studio's most popular classes, K-Pop. Alzahrani brings star dance teachers from across North America to run workshops, another huge draw for the local dance community.

"What Dal gave to me I wanted to provide to everyone in the city, an opportunity to dance," he says. Offering a variety of drop-in classes in non-traditional styles for adult dancers makes House of Eights unique in Halifax (it's an approach more common in bigger cities). You can also take CannDance, an improv class where participants are invited to get high before class. "As far as I know, it's the first class of its kind in Canada, possibly even the world," says Alzahrani.

"I fell in love with Halifax very quickly when I moved here, and Dal was such a great environment for me to come out of my shell in so many ways. I became more comfortable with myself, I came out of the closet and became more confident," says Alzahrani. "I've always felt like an outsider growing up. Being at Dalhousie was such a positive experience for me, and helped me discover and live my dreams." *–Lola Augustine Brown*

Abady Alzahrani studied marketing and management at Dal, but found his true passion through the Dalhousie Dance Society, and has now opened his own dance studio, House of Eights Dance Co.

TREVOR BRADLEY

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