

DALHOUSIE MEDICAL SCHOOL ANNUAL REPORT 2018–2019



**DALHOUSIE
UNIVERSITY**

FACULTY OF MEDICINE

A BRIEF HISTORY

Dalhousie Medical School's roots stretch back to September of 1843, when the Dalhousie College Act specified that a medical faculty be established within the college. With the support of the premier and a provincially-funded hospital located on the South Common, the Faculty of Medicine began its work in 1868, about 50 years after the founding of Dalhousie University.

The Dalhousie University Medical School's rich and diverse history has culminated in our position today as one of Canada's leading medical schools. The medical school has long focused on excellence in medical education. For 151 years, the faculty has been training students to become physicians and scientists, many of whom have made their mark on the national and international stage. Almost as old as the country itself, Dalhousie Medical School has endured two world wars, the Halifax Explosion, and numerous government and physical changes.

An integral part of Maritime Canada since 1868, Dalhousie Medical School's success has always been linked to our relevance to the communities we serve. While most Maritime doctors earned their MDs at Dalhousie, our well-trained, highly skilled graduates can be found caring for people of all ages throughout Canada and around the world.





MESSAGE FROM THE DEAN

Following the success and excitement of last year's Med 150 celebrations has not been easy! 2018 was a year of reflection and celebration, while 2019 has shifted our attention to the future, with a renewed focus on establishing Dalhousie Medical School as an international leader in medical education and research, while being responsive to health needs across the Maritimes.

As you will read in this year's report, Dalhousie Medical School has been remarkably productive in 2019, featuring historic scientific appointments, significant expansions of our medical education programs and meaningful engagements with communities across the Maritimes.

We are proud to share some of the many highlights and accomplishments achieved by our talented and dedicated faculty, students and staff — indicating the clear progress we are making in our efforts to better serve our communities and address current and future challenges.

My sincerest thanks to our faculty, staff, students, residents, fellows, alumni, patients and donors — everyone who is a part of the Dalhousie Medical School community. As we move forward, you have always been — and will continue to be — the reason for our success.

David R. Anderson

David Anderson, MD
Dean, Dalhousie Medical School

SPOTLIGHT ON RESEARCH

DALHOUSIE HOME TO TWO CIHR SCIENTIFIC DIRECTORS

Dalhousie is the first Atlantic Canadian university that is home to one of the Canadian Institutes of Health Research's (CIHR) 13 specialized research institutes, and only the second university in the country to host two institutes.



In October 2018, Dr. Chris McMaster became the scientific director for the CIHR Institute of Genetics (IG). The IG supports research on the human genome and in all aspects of genetics, basic biochemistry and cell biology related to human health and disease, including interaction of genes with physical and social environments.

"I look forward to working with and supporting Canada's genetics community," says Dr. McMaster. "Canada has a rich history in training and conducting world class genetics spanning basic, translational, clinical, and outcomes research. There is substantive momentum across all areas that the Institute of Genetics will seek to further foster and grow."

The grand opening of the Institute of Genetics (IG) was held in Dalhousie Medical School's Tupper Building lobby, just a few steps away from the IG's newly renovated headquarters in the former home of the Dalhousie Medical Research Foundation.

In August 2019, Dr. Christine Chambers, Canada Research Chair in Children's Pain and a Killam Professor in Dalhousie's Departments of Pediatrics and Psychology & Neuroscience, was appointed as the scientific director for the CIHR Institute of Human Development, Child and Youth Health (IHDCYH).

Among its many priorities, the Institute spearheads the Healthy Life Trajectories Initiative, which aims to prevent non-communicable diseases by focusing on health during conception, fetal life, infancy, and early childhood; the Preterm Birth Initiative, which focuses on achieving improved outcomes for premature babies; and IHDCYH Talks, an annual video competition that encourages knowledge translation.

"I'm a passionate believer in the power of health research to improve the lives of children and their families," says Dr. Chambers. "I look forward to engaging with stakeholders — researchers across all career stages and from different disciplines, trainees, health professionals, administrators, policy makers, partners and, importantly, children, youth, and families themselves — to build on IHDCYH's strong foundation."



As scientific directors, Drs. Chambers and McMaster will work with their communities to identify research priorities, develop funding opportunities, build partnerships, and translate research evidence in policy and practice to improve the health of Canadians and people around the world. And, as members of CIHR's leadership team, they will participate in implementing CIHR's strategic direction.

WAVE UPDATE

Dalhousie Medical School's leading research teams that align with strategic research priorities, known as the "Waves" have been busy during the past year launching new initiatives and establishing the infrastructure needed to support these world-class research teams.

Key Updates

- Genomics in Medicine (GiM) officially became a Wave 1 consortium of Dalhousie University research groups
- Dalhousie Medical Research Foundation (DMRF) has disbursed funds for a GiM graduate studentship, which was launched in August 2019
- DMRF has secured funding for the "Genomics in Medicine: Emerging technologies and bioinformatic challenges" conference in December 2019. This Faculty-wide event will bring together all Faculty of Medicine researchers working under the umbrella of genomics and bioinformatics
- The Infection, Immunity, Inflammation & Vaccinology (I3V) group has received funding from DMRF to launch a graduate student training program, and seminar series. Both programs launched in the summer of 2019
- Overall, DMRF has invested over \$5.1M into Faculty of Medicine research, much of the investment associated with WAVE activities in 2018/2019
- A collaborative effort between Genomics and I3V teams is seeking to bring new mass spectrometry infrastructure through the Fall 2019 Molly appeal
- Substantial investments have been made by the Faculty of Medicine to support WAVE teams over the past year:
 - Jaymi Cormier in the Medical Research Development Office (MRDO) has been retained as Health Research Strategy Manager supporting the WAVE teams
 - Jodi Reid has been added to the MRDO staff as Manager of WAVE Programs
 - Dr. John Sapp has been appointed Assistant Dean in the MRDO, with responsibility for research activities in the clinical departments. Dr. Sapp is a highly accomplished clinical researcher and will be engaged in growing research activities in our affiliated hospital departments and seeking clinician researchers who can align with WAVE teams

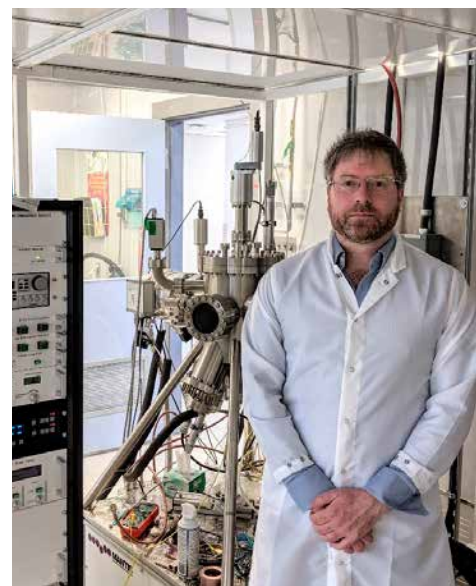
TWO DALHOUSIE RESEARCHERS NAMED CO-APPLICANTS IN HISTORIC DATA AND DIGITAL TECHNOLOGY INVESTMENT

Faculty of Medicine members, Drs. Steven Beyea and Jeremy Brown, have both been named as co-applicants in a federal investment of up to \$49 million in data and digital technology.

The investment, made through stream 4 of the Strategic Innovation Fund, will support the Industry Consortium for Image Guided Therapy's (ICIGT) estimated \$126 million project to

accelerate the application of artificial intelligence and machine learning technologies for more accurate image-guided therapies such as MRIs, CT scans and ultrasounds.

With the support of their commercial partners, NSHA, and Dalhousie University, Drs. Beyea and Brown are at the forefront of image guided therapies in Canada.



SPOTLIGHT ON RESEARCH



FACULTY OF MEDICINE WELCOMES TWO CANADA RESEARCH CHAIRS

Established 18 years ago, the Canada Research Chairs program supports and attracts the world's best researchers in the fields of engineering and the natural sciences, health sciences, humanities and social sciences. In addition to conducting research that improves our depth of knowledge and quality of life, chair holders also train the next generation of leaders in their fields through student supervision and teaching.

Dr. David Kelvin, Canada Research Chair in Translational Vaccinology and Inflammation,

will be investigating how immune history results in increased vaccine success. He will also look for the emergence of novel influenza viruses that have the potential to cause a pandemic.

Dr. Sandra Meier, Canada Research Chair in Developmental Psychopathology and Youth Mental Health, will use an innovative design to study the impact of social interaction on mental health by combining subjective self-ratings, behavioural experiments and measures of online (particularly social) activity.



DAL MED NB RESEARCHERS PARTNER WITH TECH COMPANIES TO BETTER TREAT VULNERABLE PATIENTS

Impart, a research group at Dalhousie Medicine New Brunswick, is working with Innovatia, the provincial government, the New Brunswick Heart Centre, and Family Plus on the Vulnerability Index Project.

“Often as physicians we assume, ‘oh I think my patient is a refugee,’ or ‘I think my patient is unemployed,’ or ‘I think my patient is having trouble at home,’ or ‘I think my patient can’t buy food.’ But they don’t have a number to work with,” says Juliana Prestes, the researcher leading the project. “My supervisor, Dr. Keith Brunt, wanted to start a social medicine project to help clinical medicine and to figure out a way that we can measure a person’s social vulnerability.”

The goal of the index is to help doctors get a better understanding of their patients’ social circumstances in order to better treat them.

The Vulnerability Index Project is based on a questionnaire that’s given through a mobile app and grades a patient’s social determinants of health related

to housing, food security, employment, social support, education/literacy, health habits and coping skills. The combination together can be a sophisticated indicator of poverty. Once they’ve completed the questionnaire, patients will be given a number to pass on to their doctor.



SPOTLIGHT ON EDUCATION

ACCREDITORS RATE DALHOUSIE MEDICAL RESIDENCY PROGRAMS EXCELLENT OVERALL

Dalhousie Medical School's residency training programs have received a stamp of approval from the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada, following the site visit in early December that marked the culmination of years of preparation for this accreditation.

"With the weeklong accreditation site visit, the institutional review team completed their in-depth review of 52 of our residency training programs," notes Dr. Andrew Warren, associate dean of Postgraduate Medical Education (PGME). "By all accounts, we had excellent overall results. Most programs received the top rating of 'accredited with follow-up at the next regular survey' in eight years. This is a testament to the structures and processes we have built to support our PGME training programs... it is certainly cause for celebration!"

The accreditation review team noted a number of leading practices and innovations that set Dalhousie Medical School apart from other Canadian medical schools. These include its clinical grade cadaver program, program director performance management process, and the Quality Improvement-Patient Safety Task Force.



Dalhousie Medical School residency training programs had been preparing for this year's accreditation review since the last site visits six years ago, primarily by making and documenting the recommended changes. But then just last year, the colleges released new accreditation standards to reflect the shift to competency-based medical education across Canada, the changing health care and educational environments, and the changing expectations of Canadians.

"The colleges made substantial changes to their accreditation standards, as well as to the system by which these standards are assessed," Dr. Warren says. "Dalhousie is the first medical school in Canada to be accredited according to these new standards and processes."

In spite of the challenge of having to respond to brand new standards with just one year of prep, Dalhousie Medical School's dean, Dr. David Anderson, was pleased by the opportunity.

"We'd rather Dalhousie Medical School be the first medical school to be judged using the new standards than the last with the old," said Dr. Anderson at the initial meeting with the RCPSC and CFPC accreditation teams. "It is really to our advantage to be early adopters of these new standards. Our learners, teachers and ultimately our patients will benefit from the increased stringency and focus on patient safety and quality improvement, in particular."

SPOTLIGHT ON EDUCATION

FIRST EVER DMNB PHD GRADUATE

Dalhousie Medicine New Brunswick (DMNB) marked a historic milestone in October 2019 with the graduation of their first ever PhD student, Dr. Kenneth D'Souza, who pursued his doctoral studies under the supervision of Dr. Petra Kienesberger (Department of Biochemistry & Molecular Biology).

Dr. D'Souza originally came to DMNB in 2014 to work as a research technician in Dr. Kienesberger's



laboratory after completing a Master's degree in Biochemistry from McMaster University. After a year of working alongside Dr. Kienesberger, Dr. D'Souza decided to apply for a PhD with her laboratory in 2015. The rest, as they say, is history.

"I consider myself fortunate that Kenneth chose my lab at DMNB, which was in its infancy at the time, to pursue his doctoral studies," says Dr. Kienesberger of Dr. D'Souza. "Being the first PhD student in the DMNB life science research facility, he excelled in his ability to secure awards and scholarships and produce high quality data to further our understanding of the role of lipid signaling in obesity and diabetes."

Having successfully written and defended his dissertation, "Autotaxin is Nutritionally Regulated and Alters Mitochondrial Function in Obesity-Induced Insulin Resistance," Dr. D'Souza received his official diploma on Tuesday, October 8 at the Dalhousie University Fall 2019 Convocation.

DALHOUSIE RHEUMATOLOGIST WINS NATIONAL TEACHING AWARD

In April 2019, The Association of Faculties of Medicine of Canada (AFMC) named Dr. Trudy Taylor its Clinical Teacher of the Year for 2019. Dr. Taylor is an associate professor in the Division of Rheumatology in the Department of Medicine at Dalhousie Medical School who is known across the country for her skill and passion for teaching.

The AFMC Clinical Teacher Award recognizes excellence in clinical teaching by a faculty member in a Canadian medical school. It highlights the importance of excellent clinical teaching by recognizing one individual a year who demonstrates "vision, innovation and leadership in clinical teaching in their faculty of medicine."

Dr. Taylor is program director of Dalhousie Medical School's rheumatology sub-specialty training program and chairs the Department of Medicine's continuing professional development committee. She's known for innovation, leadership and collaboration when it comes to running a relatively small residency program.



Even though she is well known for her work with groups both large and small, Dr. Taylor finds her greatest satisfaction in one-on-one teaching. "It is really gratifying to meet a student in their first year of medical school and then watch them as they develop their confidence and skills over the course of their MD and residency training," she says. "Some of the people I've taught are my colleagues now... it's a pleasure to see them come into their own."



PROVINCE INVESTS IN 16 UNDERGRADUATE MEDICAL EDUCATION SEATS AND LONGITUDINAL INTEGRATED CURRICULUM

In August 2019, we were thrilled to welcome the Premier of Nova Scotia, the Honourable Stephen McNeil, to campus to announce 16 additional undergraduate medical education seats that will be added to Dalhousie Medical School.

Guests packed into the atrium of the Life Sciences Research Institute building as the Honourable Randy Delorey, Minister of Health and Wellness, welcomed guests before introducing the Premier, to announce the province's new investment.

The undergraduate class size increased by four in the 2019/20 academic year, with the remaining twelve seats to be added to the medical school the following year. It is important for us at Dalhousie

that our medical students reflect the community we serve, this is why these seats have been specifically earmarked to address balance between urban and rural students in medical school and to reaffirm our commitment to students of African Nova Scotian and Indigenous backgrounds.

This investment comes at a time when access to family physicians is top of mind for many Nova Scotians, and the addition of 16 undergraduate medical school seats over the next year is a big step in addressing those needs.

In September 2019, the provincial government continued their investment in undergraduate medical education with a \$120,000 investment in the Cape Breton

Longitudinal Integrated Curriculum program.

For the first time, four Dalhousie University Medical School students are spending their entire third-year in North Sydney and New Waterford as part of their training. "We are very excited by this opportunity to welcome four third-year medical students to our communities for the next 48 weeks," said Dr. Joan Salah, co-director, Cape Breton LIC. "The students will work closely with family medicine and specialty physicians. They will be exposed to a comprehensive clinical experience and will benefit from the teaching expertise that has been fostered in Cape Breton over many years."

FAMILY MEDICINE TEACHING SITE IN NORTH NOVA WELCOMES SIX NEW RESIDENTS

In July 2019, the new North Nova Family Medicine Teaching Site in Truro welcomed six residents with a lunch at the Colchester East Hants Health Centre, featuring remarks from representatives from Dalhousie University, Nova Scotia Health Authority, and the Honourable Randy Delorey, Minister of Health of Wellness.

The additional spaces were announced last July and are part of Dalhousie University's Family Medicine Residency Training Program.

The residents will follow a non-traditional "longitudinal curriculum", spending two years in a family practice where they will follow a group of patients, gaining skills and experience in areas like maternal care, mental health and senior care.

Based out of the North Nova training site, two residents will work in Truro, two in New Glasgow and two in Amherst. The existing Cape Breton training site will also welcome two additional residents. Two more family medicine residents will gain more clinical experience in areas that will improve services in the community — women's health and community hospitalist medicine.



SPOTLIGHT ON **SERVING AND ENGAGING**



DALHOUSIE MEDICAL SCHOOL WELCOMES JAMES ROBINSON JOHNSTON CHAIR IN BLACK CANADIAN STUDIES

Dr. OmiSoore H. Dryden, an interdisciplinary scholar working at the intersections of health science, social science and humanities, has been named Dalhousie's James Robinson Johnston (JRJ) Chair in Black Canadian Studies.

The James Robinson Johnston Chair in Black Canadian Studies is an endowed national senior academic chair, established in Halifax to honour and recognize the unique historical presence of African Nova Scotians.

Esteemed holders of the JRJ Chair have been located throughout various Dalhousie faculties, including Law, Health and Arts and Social Sciences. With Dr. Dryden as Chair, the Chair will now be located in the Faculty of Medicine's Department of Community Health & Epidemiology.

Dr. Dryden will help the Faculty of Medicine strengthen Dalhousie's institutional priorities to enhance diversity, foster community outreach, and build a health research mandate that

is collaborative, interdisciplinary and nationally recognized.

"How do cultural and historical notions about medicine and racial bias in the health and medical system shape the health prospects of Black people and the society as a whole?" she asks.

"Public health discourse have, at times, framed the body as dangerous, with some bodies presumed to be more prone to risk and vulnerability to disease; and thus pose a greater danger to the rest of society. My research seeks to understand how the interlocking systems of oppression (through racism, gender, and sexuality) influence the health experiences of Black people in Canada."

Dr. Dryden's research has been published in various peer-reviewed journals and books. She has been a Researcher-In-Residence with the Ontario HIV Treatment Network, and has received research grants from Canadian Blood Services and the Public Health Agency of Canada.



MED STUDENTS CONNECT TO AND LEARN FROM PEOPLE WITH INTELLECTUAL DISABILITIES THROUGH SERVICE LEARNING PROGRAM

Two Dalhousie medical students delved into the difficulties that people with intellectual disabilities face when seeking health care, in a two-way information exchange facilitated through the medical school's Service Learning Program.

Alexandra Munroe and Nick Cochkanoff teamed up to work with the Regional Residential Services Society (RRSS), a non-profit agency that provides community-based supports in homes and apartments to 165 adults with intellectual disabilities in the Halifax Regional Municipality. The participants' disabilities are associated with autism, Down syndrome, cerebral palsy and many other health conditions.

Dalhousie Medical School's Service Learning Program is part of #DalMedForward, the school's five-year plan to continue to achieve excellence in medical education while serving and engaging the broader community. Run out of the Global Health Office, the program matches second-year medical students with community partners to give students a taste of the wider community's needs and resources to inform their future practice.

FIRST EVER FACULTY OF MEDICINE COMMUNITY VOLUNTEER DAY

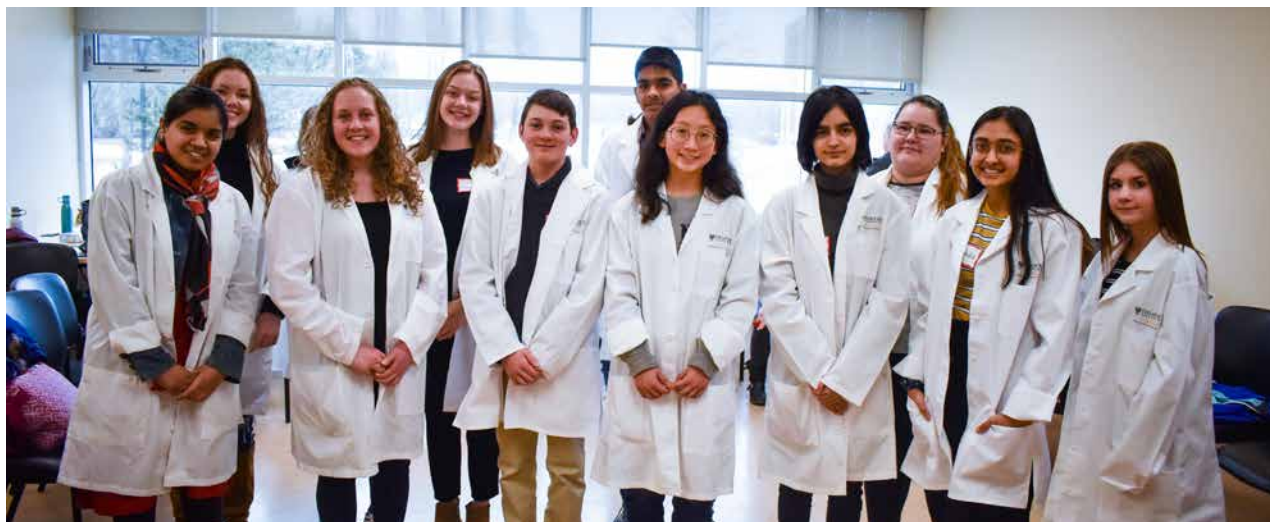
On June 5, 2019, the first ever Faculty of Medicine Community Volunteer Day took place at the Dartmouth North Community Food Centre. Although re-scheduled due to inclement weather, 19 dedicated Faculty of Medicine staff and faculty (including the Dal tiger) put on their boots and got to work.

"We did a lot of hard labour that day," says Sarah Peddle, Program Manager of the Service Learning Program in the Global Health Office, and chair of the planning committee. "We weren't just doing busy work, they had us doing work that mattered and they explained to us why it mattered."

Established in 2015, and a project of the Dartmouth Family Centre, the Dartmouth North Community Food Centre helps low-income families access healthy food, while proving that food can be a transformative force in our communities. It does this through a variety of programs such as Community Meals, an affordable weekly produce market, and their urban farm.



SPOTLIGHT ON **SERVING AND ENGAGING**



DOCTOR FOR A DAY: NEW BRUNSWICK

On March 22, 2019, Dalhousie Medicine New Brunswick (DMNB) welcomed a group of 12 students and three staff members from the Under One Sky Friendship Centre in Fredericton, NB to their building in Saint John, NB for the first ever Doctor for a Day at DMNB event.

In operation since 2004, the Under One Sky Friendship Centre is New Brunswick's only off-reserve Aboriginal head start program, which aims to enrich the lives of Aboriginal people in the Fredericton area through various programs and workshops.

The day started with a land acknowledgement and smudge ceremony led by Ramona Nicholas, Indigenous Archeologist at the University of New Brunswick. Then, it was on to four twenty-minute rounds of medical skills

sessions run by our DMNB students. Through these skills sessions, the Under One Sky Friendship Centre students from Grades 8 through 12 got to try their hands at suturing, taking vitals, testing reflexes, and performing an ultrasound.

Nearly a year in the making, the Doctor for a Day at DMNB event marked the culmination of many discussions between DMNB and the Under One Sky Friendship Centre. Together, they developed this one-day opportunity for interested students to explore the study of medicine through observation, hands-on skills development, educational activities, and discussion with medical students and local health professionals.



50 YEARS OF EUPHORIA! MEDICAL STUDENT-RUN EVENT MARKS MILESTONE

February 23, 2019 marked the 50th anniversary of performance of Euphoria! at the Rebecca Cohn Auditorium. Amid the spotlight of this show, the deep roots which have sustained this spectacle since 1969 are planted solidly in our desire to reach out to communities around the Maritimes and help meet pressing needs.

This year, students, faculty, and friends made possible the largest donation yet to regional charities. Total funds raised were over \$50,000—a record high for the production throughout its' 50 years on stage. All proceeds were split evenly between Camp Gencheff and Hestia House.



DAL MED 150 GALA



Part of Dalhousie's Bicentennial Celebrations

More than 1,200 people converged on Halifax's new convention centre on November 3, 2018, filling the grand ballroom to capacity for a long-anticipated evening of celebration.

The Dal Med 150 Gala was the finale of Dalhousie Medical School's year of celebrations marking its 150th year. Although the crowd was dignified and dressed to the nines, this was not a stiff event. Alumni, medical students, residents, faculty, staff, donors and friends of the medical school took up the theme of celebration with gusto.



Outside the ballroom, attendees in tuxedos and full-length ball gowns tried their hand—or demonstrated their prowess—at ping pong, darts and pinball throwbacks like Asteroids and Pac-Man.

Inside the ballroom, a wall of windows offered a view of the city lights below, while tiny white lights blanketed the vaulted ceiling like stars. Throughout the dinner—a delicious smooth squash soup followed by beef tenderloin in a reduction sauce and topped off with hot chocolate pudding cake—the crowd enjoyed live music from the Dalhousie Medicine New Brunswick Ensemble and a series of three videos.

The videos brought to life the conditions in Halifax that made the need for a medical school so urgent in the mid-1860s, told the story of the remarkable men who founded the medical school, described its long history of service to the community, and mapped its commitment to leading the way to better health in the Maritimes.

"While we do have a tendency to look forward, the Dal Med 150 celebrations have provided us with an opportunity to look back," remarked Dr. David Anderson, "and to appreciate the vision and dedication of those who went before us to



establish Dalhousie Medical School and help it grow into the renowned institution it is today."

After dinner, remarkably sprightly octogenarian alumni rubbed elbows with fresh-faced medical students on the dance floor, while Big Fish played the songs that everyone remembers. It was well after midnight by the time the Class of 1970 closed down the dance floor.

All in all, it was a night to remember—the perfect event to cap off a year of remembering and celebrating the past, and imagining and committing to a better future. Just like the founders of Dalhousie Medical School 150 years ago.

DALHOUSIE MEDICAL SCHOOL BY THE NUMBERS

475

medical students

138

graduate students

604

residents

143 Family Medicine

461 Royal College specialties

35

research chairs

18 endowed chairs

17 Canada Research Chairs

77

basic science faculty
members (full-time)

2301

clinical faculty members

448

full-time staff members

22

departments

11

Family Medicine
teaching sites in urban
and rural communities
throughout Nova Scotia,
New Brunswick, and
Prince Edward Island

30

New Brunswick
students admitted to
Dalhousie Medicine
New Brunswick
(DMNB) each year

5

teaching sites
throughout Dalhousie
Medicine New
Brunswick including
Fredericton, Miramichi,
Moncton, Saint John
and Waterville

RESEARCH FUNDING HIGHLIGHTS

\$64.6 million in total funding



\$9.3 million

in CIHR Spring 2019 competition in areas of cancer, mental illness, arthroplasty outcomes, inflammation/immunology, primary care, sexual health and cannabinoids

\$2.5 million

Social Sciences and Humanities Research Council Partnership Grant focused on substance misuse at Canadian Universities

\$7.3 million

secured for Networks of Centres of Excellence in Children's Pain

15.6%

success rate

4

Canadian Foundation for Innovation – John R. Evans Leaders Funds awarded in last intake

Dalhousie researchers named Scientific Directors of CIHR Institute of Human Development, Child and Youth Health and Institute of Genetics

\$450,000

Terry Fox New Investigator Award in the area of cancer immunotherapy



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