FACULTY OF SCIENCE CASE FOR SUPPORT

2024

Making a difference starts here

Dalhousie's Faculty of Science is one of the largest in Atlantic Canada. The breadth and depth of our education and research programs set us apart from other institutions in our region. It creates a rich and collaborative environment filled with discovery and innovation. Our world-leading ocean and climate technology research has solidified Dalhousie's reputation as Atlantic Canada's premier research university and attracted partnerships from around the globe.

Access to ample opportunities for undergraduate research and experiential learning shape our approach to education across disciplines, so students gain the confidence and passion to be leaders in their field when they graduate. We are committed to not only making novel discoveries, but to sharing them to lift our local, national and international communities.

Our vision is to improve lives and make the world a better place through pioneering science education and groundbreaking research. To achieve this, we will continue to create the best environment to shape the next generation of science leaders. We will accelerate research that seeks to understand, mitigate and reduce the impact of human activity on the earth.

Through this campaign, we will inspire future-ready leaders by improving access to education, increasing opportunities for hands-on learning and research and building a more diverse community. We will focus on research to understand and mitigate the pressures of our warming climate, increase food security and create greater equity at home and afar. This campaign will amplify our ability to make a meaningful, positive impact on our local and global communities.

Enhancing our impact

Inspiring Future-Ready Leaders

We aspire to provide our students with an exceptional student experience — one that empowers them to turn their passion for science into a fulfilling career. When our students have an experience full of exploration, practical skill building and access to some of the world's leading researchers, they graduate as skilled, innovative and community-minded citizens who make meaningful contributions to society.

1. Increase financial support for undergraduate and graduate students — $4M

Access to financial support enables our students to focus their energy on being the best student they can be, without worrying about paying their bills. We envision an expanded financial support program that removes barriers, creates opportunities and inspires students to achieve their goals. Through this campaign, we will enhance financial support for undergraduate and graduate students to ensure their success and enable their groundbreaking research.

2. Increase opportunities for experiential learning and research — $1.1M

Experiential learning has a profound impact on students. It brings their classroom learning to life, teaching valuable skills, giving them confidence in their abilities and strengthening their passion for their chosen field. Our goal is to create an experiential learning opportunity for all students. These experiences may include internships, field trips, research positions, conferences and public engagement.

I'M EXCITED TO INSPIRE A NEW GENERATION OF OCEAN SCIENCE LEADERS.

— RUBY YEE

Where experience meets inspiration

Ruby Yee is a PhD student who is passionate about addressing climate change. She's gained hands-on experience in tackling this challenge through ocean-based carbon dioxide removal research projects with Ruth Musgrave, Dalhousie's Tier 2 Canada Research Chair in Physical Oceanography. Yee says the value of this work goes beyond protecting the ocean and the planet.

"I've gained practical skills and knowledge in the field of oceanography during my time at Dalhousie. That will open doors for me, whatever career I choose. I've also had opportunities to bring high-school students into the field with me. I'm excited to inspire a new generation of ocean science leaders to find solutions to climate change."

Where support meets ambition

Science student **Lily Coates** has always dreamed of making a difference in the lives of others. Much to her delight, the generosity of the Dalhousie community is helping to make her dream come true.

“I knew I wanted to do something in science that would open the doors to a health-care profession,” Coates says. “I did a microbiology research project through the Dal Integrated Science Program and realized it was the right fit for me, so I made it my major.”

But finding time to devote to her studies proved challenging for Coates, who was working part-time to help make ends meet. That changed when she discovered that she had received a Mary Margaret MacNutt Undergraduate Scholarship. The scholarship supports aspiring scientists like Coates in pursuing their passion just as Dal supported MacNutt in pursuing hers.

“It’s amazing that someone decided to give the gift of financial freedom so I could focus on my studies and do what I love,” Coates says. “I’ve really been able to make the most of my university experience.”

The scholarship also freed Coates to spend more time working on a groundbreaking honours project that really excites her. She is looking for novel therapeutic targets that can ultimately be used to treat breast cancer with Dalhousie microbiology and immunology professor Paola Marcato, the Canadian Breast Cancer Foundation-Atlantic Region Endowed Chair in Breast Cancer Research. Coates believes it could change the lives of millions, as well as hers.

“This project is providing me with experience that will help me continue my education in science or in pharmacy,” Coates says. “None of this would have been possible without the scholarship, and that support really means the world to me.”

> ***“NONE OF THIS WOULD HAVE BEEN POSSIBLE WITHOUT THE SCHOLARSHIP, AND THAT SUPPORT REALLY MEANS THE WORLD TO ME.***
>
> ***— LILY COATES***

3. Enhanced collaboration spaces — $1.6M

Our goal is to create cutting-edge spaces for discovery and collaboration. With a focus on mathematics, statistics and economics, these spaces will enable students to engage in collaborative and experiential learning, providing them with alternate perspectives, expertise and knowledge to apply to problem-solving.

4. Communicator in residence — $200K

Instilling a passion for science from a young age, inspiring members of our community to understand the importance of science and clearly and effectively communicating the impacts of research are increasingly important. The new communicator in residence will help students and faculty gain the skills and experience to effectively communicate through a variety of mediums, helping them celebrate their research findings and the value of scientific discoveries to a broad audience.

5. Support for equity-deserving students — $1M

Diversity and equity in science creates more innovative, sustainable and impactful solutions, and is the right thing to do. That's why we want to improve access to education for students from equity-deserving groups. We will expand our financial and wraparound supports to attract, retain and graduate diverse students. These supports include new and enhanced scholarships, bursaries and awards, as well as prep courses for entering students, tutoring and specialized academic advising.

6. Oceanography teaching lab — $1M

Our proximity to the ocean creates a wealth of opportunity for our students to learn about this important resource. To deepen ocean education for our students, we need to be able to bring the ocean to campus. Currently, there is no permanent lab space dedicated to Oceanography, which means students are learning in labs that are not adequately equipped for their work. We will renovate unused lab space to create a dedicated Oceanography teaching lab and offer students even more ways to engage in valuable learning experiences. The Oceanography teaching lab will also enable us to expand our Oceanography course offerings and ultimately increase enrolment in this exceptional program.

Engaging in High-Impact Research

The Faculty of Science has a robust and dynamic research environment across our nine unique departments. We are a world leader in environmental sustainability, advanced energy storage and ocean research. And our focus on understanding the impacts of society and human activity enhances our discoveries. Our commitment to research enables us to find solutions to complex global challenges, while simultaneously acting as the main method we use to train students. Our goal is to expand our research capacity to accelerate solutions and equip the next generation of leaders with the skills to create a better future.

1. Physical Sciences Centre — $75.8M

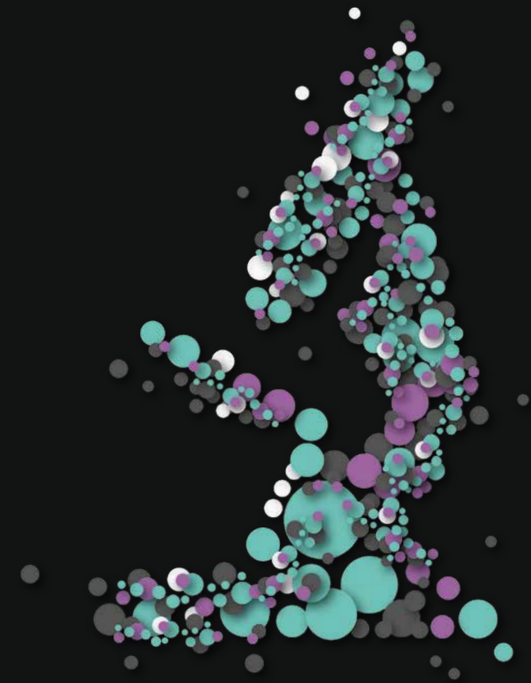
Our researchers are making groundbreaking discoveries in areas of advanced energy storage, clean materials and sustainable practices. To ensure our continued leadership in this field, we will construct a new Physical Science Centre. Equipped with state-of-the-art technology, this modern facility will be a hub for climate technology research at Dalhousie. It will accelerate sustainable solutions and enhance interdisciplinary collaboration with faculties such as Engineering and Agriculture. It will enable us to increase opportunities for post-doctoral studies in climate technology and increase our research capacity. It will create opportunities for students to have access to some of the most innovative thinking and approaches in the country, and graduate with the skills and abilities to be the next generation of climate leaders.

2. Commercialization support and climate technology adoption research — $15.6M

We will establish a Climate Technology Innovation Hub to increase support for the commercialization of climate technology developed at Dalhousie. Modeled on the Emera ideaHUB, it will provide researchers with access to spaces, equipment and programs to bring innovative technology to market and grow the green economy. To ensure a just and sustainable transition to net-zero operations, we will create a Low-Carbon Transition Unit. This research unit will focus on how integrating socio-technical dynamics into climate technology development can support an efficient transition to a low-carbon economy.

3. Advancing ocean research — $6M

The ocean is one of our greatest opportunities to address climate change, food insecurity and economic sustainability. Our expertise in sustainable ocean research is becoming more and more critical as Canada is experiencing the unprecedented effects of climate change, developing the arctic coastline and investing in the ocean economy. Through this campaign, we will attract investment to enable research that will transform climate action, discover new techniques to produce food from the ocean and develop innovative technology and practices to create a robust, equitable and just ocean economy. We will increase the range of funding options for post-doctoral studies to attract the best and brightest ocean researchers.



IT GIVES ME HOPE FOR THE FUTURE TO WATCH OUR DALHOUSIE STUDENTS MAKE BIG IMPACTS.

— SHANNON STERLING

Where expertise meets climate solutions

Shannon Sterling is an Associate Professor with the Department of Earth and Environmental Sciences. She is also the Founder and Chief Scientific and Strategic officer of CarbonRun. Her company has created a technology to increase the alkalinity of rivers to draw harmful carbon from the atmosphere and restore rivers damaged by pollution.

“Dalhousie is becoming a global leader in the new and growing field of climate mitigation and carbon dioxide removal technologies. The innovative solutions we’re developing are helping to address the climate crisis while providing a rare and valuable opportunity to train our students to become the next generation of climate leaders. It gives me hope for the future to watch our Dalhousie students make big impacts in our fight against climate change.”

Lifting Our Communities

The Faculty of Science is helping to lift the intellectual, cultural and economic vitality of our local, provincial and national communities. Our students, faculty and alumni actively work in collaboration with community partners, sharing their passion and knowledge to help make an impact wherever they live and work. Through this campaign, we will leverage our talent and expertise to help create new opportunities to serve our communities.

1. Dalhousie Centre for Psychological Health — $4.7M

Building on the success of Dalhousie's community outreach clinics, we will establish the Dalhousie Centre for Psychological Health. Access to mental health care is a challenge for many Nova Scotians, and members equity-deserving groups and rural communities face even more barriers. The clinic will improve access to mental health care, with a focus on addressing the unique needs of equity-deserving groups and rural communities. We will provide additional supports to attract and retain students from equity-deserving groups to create a more representative field of practice.

2. Beaty Centre for Marine Biodiversity — $4.2M

The Beaty Centre for Marine Biodiversity will be the premier interactive ocean science research and discovery centre in the region. It will feature a large aquarium and interactive and educational displays that highlight our ocean-related research, species at risk and the effects of climate change. The Centre will provide experiential learning opportunities for students and serve as an attraction that both entertains and educates visitors of all ages.

3. Outreach coordinator — $445K

The new outreach coordinator will expand our community outreach activities. The role will focus on developing new youth programming and creating more opportunities to engage young learners with exciting research and learning opportunities at Dalhousie. The coordinator will also oversee existing programs, including those dedicated to youth from equity-deserving groups, to create a comprehensive and integrated approach to outreach. These efforts will result in exciting learning opportunities that address gaps in science education and highlight the path to higher education.

I AM PLEASED TO SUPPORT DALHOUSIE'S EFFORTS TO SHARE ITS EXTENSIVE MARINE SCIENCE EXPERTISE THROUGH THE CREATION OF THIS CENTRE

— ROSS BEATY

Where support meets ocean sustainability

Entrepreneur Ross Beaty is passionate about marine biodiversity. He is sharing that passion with a transformational gift to establish the Beaty Centre for Marine Biodiversity at Dalhousie. This cutting-edge, interactive ocean research and discovery centre will engage and educate students and the community on marine ecosystems challenges and conservation.

"The ocean is under threat. But we can do something about it. I am pleased to support Dalhousie's efforts to share its extensive marine science expertise with communities through the creation of this centre. I believe it will be a catalyst for increasing public awareness about the importance of marine biodiversity and informing efforts to protect it."

Creating a better future together

The campaign will enable the Faculty of Science to create an exceptional student experience that equips the next generation of science leaders with the skills, experience and knowledge to make ground-breaking discoveries and build a better future for all.

Together, we will provide an enhanced student experience, rich in hands-on learning opportunities, and enable the continued pursuit of excellence. We will continue to expedite research that has far-reaching impacts on our daily lives. And we will make a meaningful impact on our communities. With your gift, we can create innovative solutions that will make a difference in the world.

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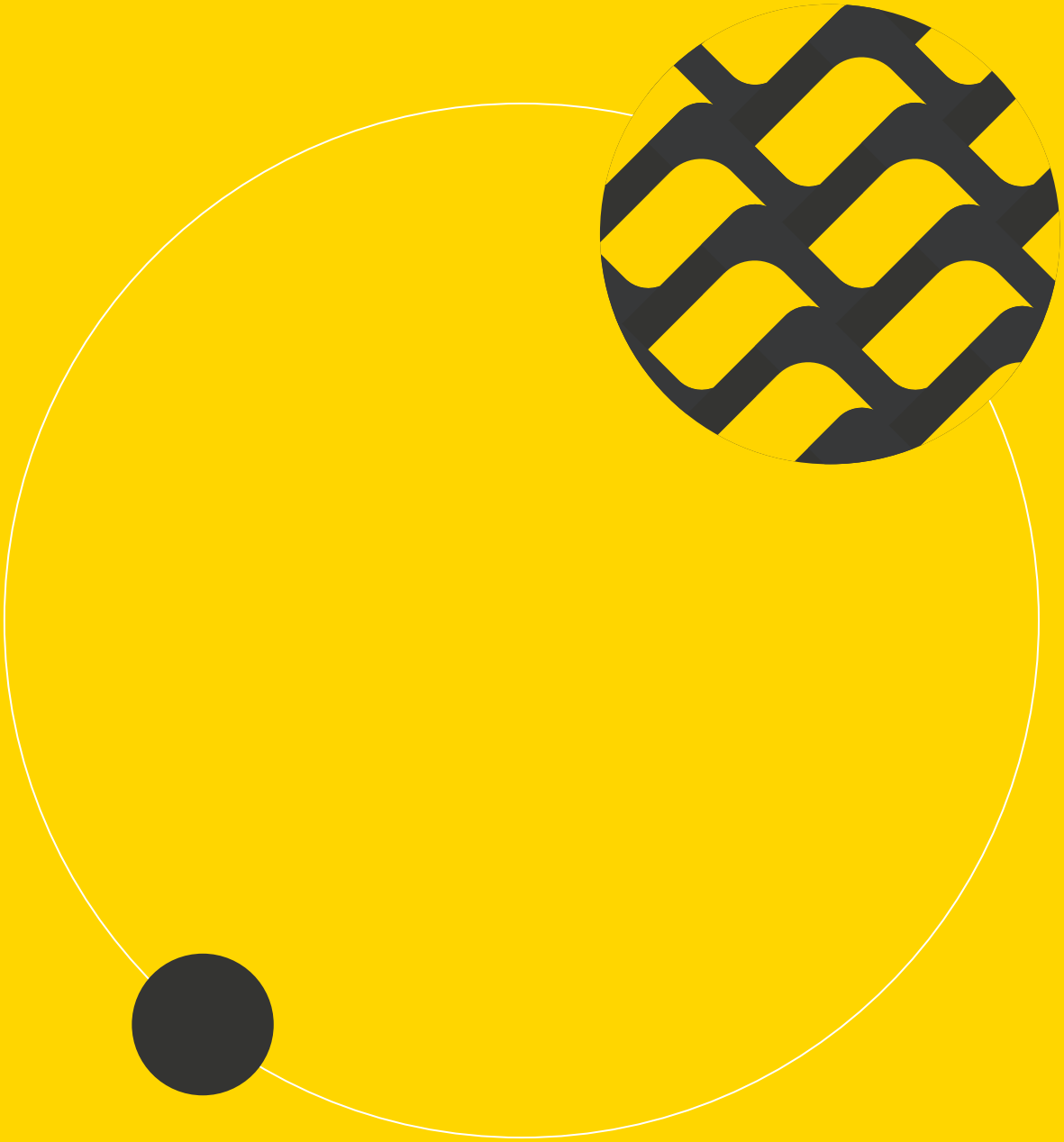

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