ANNUAL REPORT
DALHOUSIE RESEARCH & INNOVATION

Fiscal Year 2023-24

DALHOUSIE UNIVERSITY

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Cover: **Dr. Yunfei Jiang** of the Faculty of Agriculture aims to improve field crop production and resilience to climate change.

Our Strategic Research Clusters

A message from Dr. Alice Aiken, Vice President Research and Innovation

Inclusive impact

This year, Dalhousie continued to build its reputation as a trailblazer in the science required to fight climate change. We announced the Canadian Battery Innovation Centre, a first-in-Canada research facility currently in development that will allow scientists and industry partners to rapidly envision, produce and test new batteries.

Our researchers also seized on the promise of green hydrogen to develop solutions for its production, utilization and socio-economic impacts, with an eye towards growing an industry around this clean fuel in Atlantic Canada. We also took a global lead in carbon dioxide removal science, with researchers studying how oceans and rivers can help us draw gigatons of carbon out of the atmosphere.

It is research and innovation like this that placed Dal 65th in the Times Higher Education's annual Impact Rankings, and 159th in Nature's inaugural global ranking of institutions pursuing climate change and conservation research.

While climate was a standout, we continue to make significant progress across all areas of our research and innovation enterprise. Over the past five years, the amount of research funds Dal administers has grown by 53 per cent to $258 million in fiscal 2023-24, an important metric indicating our researchers' success in initiating programs and projects valued for their impact by government and other funders.

In November, we refreshed our strategic direction under the name Inclusive Impact to help build momentum in the research enterprise over the next five years. Among other outcomes, we added a new Strategic Research Cluster focused on AI and Digital Innovation to our existing five, reflecting the rapid growth of our research in the area and its impact across every field of study.

A theme that came through loud and clear in our consultations for the refreshed strategic direction is the need to demonstrate impact. Our researchers are making a difference in the lives of Nova Scotians and more broadly in Canada and around the world. It is something to be proud of, and going forward we aim to be bolder in the way we tell our story. We also heard that our community is committed to inclusive research excellence, and we are dedicated to exploring how we can bring this to life in our engagements inside and outside of the university.

I invite you to share in our achievements through this annual report, which highlights successes across each of our Strategic Research Clusters.

Alice

Professor Alice B. Aiken, PhD
Vice President, Research and Innovation

Sustainable Ocean

Leading the world in ocean research, Dalhousie scholars advance marine science through research breakthroughs, innovative technology, and global partnerships.

14 LIFE BELOW WATER

Times Higher Education Impact Rankings 2024

14 globally
2 in Canada

Global Ranking of Academic Subjects 2023

Oceanography

Top 20 globally
First in Canada

Remote underwater video camera on the edge of an eelgrass meadow. Photo Nicolas Winkler

Seagrass salvation

Seagrasses like eelgrass support fisheries, protect coastlines and store carbon but are threatened by development and climate change. Biologist **Dr. Derek Tittensor**, funded by a $2.2-million Department of Fisheries and Oceans grant, is partnering with Indigenous communities on a four-year community-based eelgrass restoration project in Nova Scotia.

"Ultimately, I hope that we can restore a substantial area of Nova Scotian eelgrass meadows for the long-term, learning from and working alongside our Indigenous partner organisations, and strengthening local community connections to these amazing ecosystems"

Dr. Derek Tittensor
Faculty of Science

The Honourable Sean Fraser helped make the announcement.

Swell of support

Dalhousie kicked off a new era of ocean and climate research at the official launch of **Transforming Climate Action**, a $397-million research program led by Dalhousie's Ocean Frontier Institute that aims to make Canada a global leader in climate science, innovation, and solutions.

Exploring the ocean as a carbon sink

Oceanographer **Dr. Katja Fennel** received nearly $15 million in support from the nonprofit Carbon to Sea Initiative to lead a research consortium focused on the enhancement of the ocean's ability to absorb CO_2 from the atmosphere.

Sustaining ocean environments

A $2-million Canada Foundation for Innovation grant to the Dalhousie-hosted **Ocean Tracking Network** will support global aquatic research, data management and partnership focused on the conservation and management of aquatic animals.

Recognition

Yoshida Award

Dr. Anya Waite, chief executive officer and scientific director of the Ocean Frontier Institute, was selected by the Oceanographic Society of Japan as the 2024 recipient of the Yoshida Award. It was granted in recognition of her outstanding contributions to the study of how deep ocean water circulates to the surface, including physical, chemical, and biological phenomena and their effects on climate and ecosystems.

"The award highlights the global significance of ocean upwelling research and I look forward to continuing this important work."

Dr. Anya Waite
Chief executive officer and scientific director, Ocean Frontier Institute

Healthy People, Communities & Populations

Addressing the fundamental underpinnings of health and wellbeing to create better outcomes for all.

3 GOOD HEALTH AND WELL-BEING

Times Higher Education Impact Rankings 2024

73 globally
3 in Canada

Fluorescent image of Anaeramoeba, studied in the work of Dr. John Archibald, showing the central cell nucleus and symbiotic bacteria.

Revealing symbiotic secrets

Molecular biologist **Dr. John Archibald** and an international research team received $2.34 million from the Gordon and Betty Moore Foundation to develop genetic tools to advance the understanding of microbial symbiosis and host-virus interactions.

"Symbiosis is a central tenet of biology. New lab tools will help researchers elucidate the language of symbiosis at the molecular level — and reveal how microbes adapt to new environments."

Dr. John Archibald
Faculty of Medicine

Stopping heart failure

The Canada Foundation for Innovation provided $2.9 million, matched by $2.3 million from Research Nova Scotia, to support research led by **Drs. Thomas Pulinilkunnil** and **Susan Howlett** of the Faculty of Medicine focused on a newly diagnosed multi-organ syndrome that causes half of all heart failures.

Prioritizing Black health

Dr. OmiSoore Dryden of the Faculty of Medicine received funding from CIHR to advance research focused on standardizing anti-racism pedagogy in health-care education, with the goal to engage decision-makers, trainees, patients, and community advocates in addressing systemic anti-Black racism and improving Black health outcomes in Canada.

Global approach to poxvirus outbreaks

Infectious disease expert **Dr. David Kelvin** launched an $850,000 research project with funds from Research Nova Scotia and CIHR to identify hotspots for poxviruses in Africa and Canada.

"With the emergence of mpox viral outbreaks and epidemics, it's necessary for us to understand the sociological and scientific factors that play a role in the encroachment of human populations on wildlife."

Dr. David Kelvin
Faculty of Medicine

Recognition

Canadian Medical Hall of Fame

Dr. Noni MacDonald
Faculty of Medicine

WXN Canada's Top 100 Most Powerful Women

Dr. Christine Chambers
Faculties of Science and Medicine

New Canada Research Chair (CRC)

Dr. Vahid Adibnia
Faculty of Dentistry

Tier 2 CRC in Functional Polymeric Biomaterials

Sustainable Food Systems

Actively pursuing advancements to improve food security and environmental sustainability.

15 LIFE ON LAND

Times Higher Education Impact Rankings 2024

44 globally
6 in Canada

2 ZERO HUNGER

Times Higher Education Impact Rankings 2024

30 globally
5 in Canada

Weed seeking drone ready to take flight.

Weeding out the problem

Dr. Travis Esau of the Faculty of Agriculture received $250,000 from New Brunswick Department of Agriculture, Aquaculture and Fisheries to study advanced drone technology for precise weed management in wild blueberry cultivation, potentially reducing herbicide use and costs.

A social approach to sustainability

Sociologist **Dr. Karen Foster** was selected to lead a $1.9-million initiative funded by Agriculture and Agri-Food Canada and SSHRC to develop a new national research network that supports an equitable transition to net-zero in Canadian agriculture.

"We need to look at what the challenges are of moving towards net zero in food systems."

Dr. Karen Foster
Faculty of Arts and Social Sciences

Decarbonizing Canada's food supply chain

Through a new $1.4-million research project funded by an NSERC Alliance Missions Grant, **Dr. Gordon Price** of the Faculty of Agriculture seeks to comprehensively assess greenhouse gas emissions from agricultural food waste in Canada and offer strategies tested with industry partners that help mitigate them.

The cost of healthier food

Dr. Catherine Mah, Dalhousie's Canada Research Chair in Promoting Healthy Populations in the Faculty of Health, received more than $650,000 from CIHR for a new study in partnership with Nova Scotia Health focused on understanding how lowering the cost of healthier foods influences buying habits and diet quality over time.

Recognition

Royal Society of Canada College of New Scholars, Artists and Scientists

Dr. Stefanie Colombo
Faculty of Agriculture

New Canada Research Chair (CRC)

Dr. Sonil Nanda
Faculty of Agriculture
Tier 2 CRC in Clean Agricultural Technology and Energy

Climate Tech and Clean Energy

Building, energizing, and fueling the possibilities of a more sustainable and green future.

6 CLEAN WATER AND SANITATION

Times Higher Education Impact Rankings 2024

58 globally
7 in Canada

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Times Higher Education Impact Rankings 2024

Top 200 globally
10 (tie) in Canada

7 AFFORDABLE AND CLEAN ENERGY

Times Higher Education Impact Rankings 2024

Top 200 globally
1 (tie) in Canada

QS: Sustainability Rankings 2024

Environmental Impact

107 globally
12 in Canada

A Dalhousie battery research lab where the boundaries of battery science are tested every day

Building the future of batteries

Dalhousie announced it will construct Canada's first university-based battery prototyping and production facility led by **Drs. Michael Metzger** and **Chongyin Yang**. Set for completion in 2025, the $20-million facility, received a $5-million grant from the Canada Foundation for Innovation, $350,000 from Emera Inc. and $200,000 from Tesla. Additional matching and promised funds ensure financing is in place to propel the project.

Watershed moment

A new $4.3 million NSERC Alliance-Mitacs Accelerate Grant will support a partnership between a Dalhousie research team led by **Dr. Graham Gagnon** and the Atlantic First Nations Water Authority (AFNWA) focused on the organization's mission to deliver world-class drinking water and treatment guided by Indigenous knowledge and values.

"Training students, with a focus on recruiting and training Indigenous students, will help build a strong foundation and set the AFNWA up for long-term success."

Chief Wilbert Marshall
Chair, AFNWA Board of Directors

Unlocking green hydrogen

A new lab led by **Dr. Michael Pegg** of the Faculty of Engineering has partnered with Nova Scotia-based energy provider Eastward Energy to explore applications of hydrogen that could assist Nova Scotia in its efforts to achieve net-zero greenhouse gas emissions by 2050.

"This lab represents one of the many ways Dalhousie is able to work with industry, with community and with government to advance the prosperity of our province."

Dr. Kim Brooks
President and Vice-Chancellor, Dalhousie University

Recognition

Olin Palladium Award

Dr. Jeff Dahn, a world-leading battery scientist, won the 2023 Olin Palladium Award, a prestigious international prize whose past recipients include Nobel Prize winners and nominees.

"As this is the highest honour from the Electrochemical Society, I am humbled to be included among these famous scientists."

Dr. Jeff Dahn
Faculty of Science

Canadian Academy of Engineering – Fellow

Dr. Graham Gagnon was recognized for his groundbreaking research, including his extensive work focused on drinking-water safety, particularly in distribution systems, and adaptation strategies to combat the impacts of climate change.

"Being recognized by my peers in the Academy is truly humbling and is recognition of the talented teams and partners that I have been fortunate to work with throughout my career."

Dr. Graham Gagnon
Faculty of Engineering

New Canada Research Chair (CRC)

Dr. Amina Stoddart
Faculty of Engineering

Tier 2 CRC Chair in Wastewater Treatment Technology and Surveillance

Culture and Society

Illuminating our understanding of society, the arts, systems, and cultures in our interconnected world.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Times Higher Education Impact Rankings 2024

Top 200 globally
10 (tie) in Canada

1 NO POVERTY

Times Higher Education Impact Rankings 2024

Top 200 globally
10 (tie) in Canada

10 REDUCED INEQUALITIES

Times Higher Education Impact Rankings 2024

Top 200 globally
7 (tie) in Canada

QS: Sustainability Rankings 2024

Social Impact
136 globally
14 in Canada

Times Higher Education World University Rankings 2024 by Subject

Law
Top 100

Copy of a plainchant that is the focus of Dr. Jennifer Bain's research

Powering medieval chant

A new data-driven research project led by Dalhousie musicologist **Dr. Jennifer Bain** and funded by a $2.5-million SSHRC Partnership Grant will create an online platform that links far-flung plainchant databases around the world, providing a vast electronic resource.

"Understanding our shared cultural histories and the ways in which our contemporary culture has been shaped by this religious history is important to understand who we are today. It's one more window, or lens we can use to understand the impact of colonialism."

Dr. Jennifer Bain
Faculty of Arts and Social Sciences

Responding to disaster

With hurricane Fiona a recent memory, social work researcher **Dr. Haorui Wu** is building a platform with nearly $400,000 in support from SSHRC to enhance disaster response by connecting scholars and emergency responders, providing rapid insights into disaster impacts, and aiding recovery, mitigation, and future preparedness efforts.

Correcting the record

Dr. Stacy Allison-Cassin of the Faculty of Management is co-leading research funded by a $1.8-million grant from the Mellon Foundation focused on removing antiquated, racist or harmful language related to First Nations, Inuit, and Métis peoples from information management systems of libraries, archives, museums, and data-systems worldwide.

Recognition

Molson Prize

Acclaimed bioethicist **Dr. Françoise Baylis** won the Canada Council for the Arts' Molson Prize, received by two people annually for significant contributions to the country's intellectual and cultural heritage.

"I hope it sends the message that there can be legitimate links between academia, advocacy and activism because that is how I understand my work."

Dr. Françoise Baylis
Faculty of Arts and Social Science

Dorothy Killam Fellowship

Legal scholar **Dr. Elaine Craig** was one of eight Canadian researchers to receive the Dorothy Killam Fellowship, joining just 10 Dalhousie researchers to have received the award since 1969.

"My goal is to make a difference for people going through the process of reporting sexual violations in Nova Scotia, and indirectly in other provinces in Canada."

Dr. Elaine Craig
Schulich School of Law

Royal Society of Canada Fellow

Dr. Krista Kesselring
Faculty of Arts and Social Science

Fulbright Canada Research Chair in Social Sciences

Dr. Brian Noble
Faculty of Arts and Social Science

AI and Digital Innovation

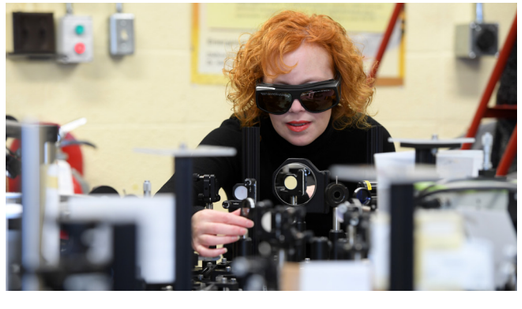
Dalhousie researchers are contributing to and applying the leading edge of data science to find solutions to pressing local and global challenges.

Digital farming

Dr. Suresh Neethirajan received support from Net Zero Atlantic and Mitacs as well as from the Department of Agriculture, Aquaculture and Fisheries as part of a Sustainable Canadian Agricultural Partnership to develop an AI-driven system that helps dairy operators curtail emissions by gathering and scrutinizing data on farm conditions and livestock.

"AI advances farming by optimizing resource use, improving livestock health and welfare, aiding disease risk assessment, supporting sustainable production systems, and addressing food security, environmental protection, and climate change impacts."

Dr. Suresh Raja Neethirajan
Faculty of Computer Science, Faculty of Agriculture



Quantum computing

The Dalhousie Ultrafast Quantum Control Group, led by **Dr. Kimberley Hall** of the Faculty of Science is working with the National Research Council of Canada to develop solid state quantum emitters needed for use in the quantum technologies ushering in a computing revolution.

A digital lift

Dr. Rita Orji received a nearly $300,000 Mitacs Accelerate grant to research the development of smart elevators. Using cloud data to predict failures and monitor performance, her work will allow elevators to be managed from offsite in real-time to improve ride quality and prevent problems.

Advancing health AI

Dr. Frank Rudzicz is leading the development of a medical language model with $120,000 in Mitacs Elevate funding to improve medical information retrieval and workflow efficiencies in primary care.

"This research has the potential to transform healthcare delivery by improving documentation accuracy, enhancing workflow efficiency, and ultimately leading to better patient outcomes and experiences."

Dr. Frank Rudzicz
Faculty of Computer Science

Deep learning on the deep blue

Funded by a $420K grant from the Department of Fisheries and Oceans, **Dr. Ronald Pelot** is pursuing a project to enhance marine vessel tracking using ship data and machine learning to improve maritime safety, environmental monitoring, and regulatory compliance.

"AI has emerged as a pivotal tool in revolutionizing the shipping sector, given the escalating volume, diversity, and complexity of data across all operational domains, necessitating sophisticated analytics to enhance effectiveness."

Dr. Ronald Pelot
Faculty of Engineering

Impactful outreach

Dal PhD student Joseph Bedard making his winning pitch at Falling Walls in Berlin.

For the second year, Dalhousie's Office of the Vice President Research and Innovation hosted **Falling Walls Lab – Atlantic Canada**. One of nearly 100 regional pitch competitions around the globe, the event gathers young scholars and professionals to share revolutionary ideas to improve the world.

Out of thin air

Coming in second at the Falling Walls Lab – Atlantic Canada competition, then Dalhousie PhD student Joseph Bedard went on to the global finals in Berlin, Germany, where his pitch demonstrating how plastics can be created from nitrogen pulled from the air, took first place.

"Winning at this competition has given my research a kind of visibility that is unparalleled to anything I've experienced before."

Dr. Joseph Bedard
Faculty of Science

Falling Walls Engage

Dr. Boris Worm of the Faculty of Science who leads the Ocean Frontier Institute's Ocean School program, was recognized among the top 10 globally in the Falling Walls Engage competition. He presented on Ocean School's free online experiences for primary and high school students that bring ocean education to life through technology and storytelling.

Building Bonds with Industry

Dalhousie's **Office of Commercialization and Industry Engagement (OCIE)** is industry's gateway to partnership with Dalhousie's talented researchers and students. With a mandate to support the university's researchers and economic development in the region and beyond, OCIE provides strategic access to intellectual property and expertise for the creation of startups and to support the R&D needs of organizations. A commercialization and industry engagement leader in Atlantic Canada, OCIE is a key driver in mobilizing innovation and strengthening economic development.

2023–2024

464
Companies engaged

39
PATENTS FILED

9
PATENTS ISSUED

6
TECHNOLOGY LICENSES

2556 months
Time spent by students in MITACS-supported industry research placements

Dangers of digital exhaust

Internet-enabled devices listen to our every word and keystroke, but the data they collect and where it goes is not well understood. Dalhousie computer scientist Dr. Nur Zincir-Heywood is getting a handle on the risks in a corporate partnership with engineering firm Calian facilitated by OCIE.

"We found that data that was to be exchanged only between parties in the United States and UK was being sent to places like Belarus, China, Korea and Russia. We need to know why this is happening and how this can be detected, prevented, and mitigated."

Dr. Nur Zincir-Heywood
Faculty of Computer Science

The Dal Innovates Network

dalinnovates

Dal Innovates is Dalhousie University's entrepreneurship and innovation ecosystem and is the lead provider of the Collide and Lab2Market programs. Dalhousie offers an expansive network of programs geared to meet participants wherever they are in their venture creation journey. Built on a foundation of partnership, the Dal Innovates ecosystem extends beyond the university connecting entrepreneurs and innovators to a wider world of programs and opportunities in Atlantic Canada and around the globe.

A pipeline of programs

Focused on empowering the Dalhousie community and beyond to build and contribute to successful ventures, our programs equip undergrads, graduate students, postdocs, and faculty for every step along the venture creation journey. From establishing a market need, to building a prototype, to sourcing investment, to securing a patent, our ecosystem is there to support.

explore | grow | venture

DalBox — Explore innovation across disciplines

Lab2Market | COLLIDE — Idea validation to company formation

Emera ideaHUB — Developing and building innovative products

Seed-stage program for massively scalable, science and technology based companies

CREATIVE DESTRUCTION LAB

mindframe connect — Where entrepreneurs and mentors come to elevate their performance

Explore and Grow

Dal Innovates' Lab2Market and Collide programs guide participants from their initial idea all the way up to launching a venture. They cultivate their passion for venture creation, build an entrepreneurial skillset, and connect with the network they need to turn their ideas into successful businesses.

Lab2Market

Make science your business

Lab2Market's Discover, Validate and Launch programs help STEM-focused graduate students and postdocs explore entrepreneurship, build business plans, and launch ventures

COLLIDE

Entrepreneurship for everyone

For undergraduate, graduate, and certificate students from across faculties, and faculty members interested in building entrepreneurship and innovation skills, mindsets, and attitudes.

Lab2Market Discover | COLLIDE Discover

Explore the opportunities and challenges in entrepreneurship as an alternative career path.

Lab2Market Validate | COLLIDE Validate

Critically test and evaluate your idea in the entrepreneurial landscape.

Lab2Market Launch | COLLIDE Launch

Develop your business model and build a network.

	Participants Supported	Ventures Supported	Jobs Created	Dollars Raised
2023-2024	283	29	44	$19M
Since 2020	896	83	95	

"We were beyond excited to be in Lab2Market Launch. We believe that the training, connections, and experience that we gained in this program helped HerBiome Skincare Inc. grow and be a successful, sustainable venture,"

Julie Anne Dayrit
Lab2Market participant

DalBox

Playing with ideas

Dalhousie is home to five faculty-based Dalboxes that are open to post-secondary students across Nova Scotia. Providing a space to test and try new ideas, this is where entrepreneurial curiosity gets its start and flourishes as it is applied to real world problems with likeminded peers.

2023-24

Cultiv3

Focused on the agricultural space

1400 Participants supported
58 Events

pulse health innovation network

Advancing health innovation

3622 Participants supported
42 Events

SURGE Science Unleashed

Design thinking for STEM students

2922 Participants supported
22 Events

IDEA MAKERSPACE

Prototyping and product development

2827 Participants supported
25 Events

SHIFTKEY LABS

Computer science focused

2920 Participants supported
102 Events

mindframe connect

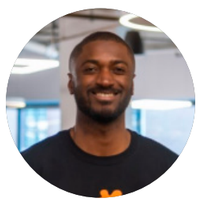
Elevating entrepreneurial performance

MindFrame Connect, based at Dalhousie, is a national program focused on upskilling mentors, mentees, and entrepreneurs from Canada and beyond by providing access to expert training, resources, and tools designed to improve performance.

3363 PARTICIPANTS SUPPORTED 2023-24

75 WORKSHOPS OFFERED 2023-24

7162 PARTICIPANTS SUPPORTED SINCE 2021



"Mindframe Connect's approach to mentorship is practical and actionable, which allowed participants to feel empowered to implement these principles in their own work."

Alfred Burgesson
CEO & Founder of Tribe Network

Emera ideaHUB

Unique in Atlantic Canada and one of only a few early-stage deep tech incubators in Canada, the Emera ideaHUB welcomes diverse founders to access the resources, expertise and connections they need to innovate.

ideaDESIGN

A 4-day Design Sprint to learn the basics of design thinking, rapid prototyping and entrepreneurship.

ideaBUILD

A rigorous 10-month program to take a physical product idea from design to operational prototype.

ideaBRIDGE

A two-year competitive residency with tailored support to prepare for manufacturing and scale.

2023-24		Since 2018	
32 VENTURES SUPPORTED	**$37.5M** FINANCING SECURED	**148** VENTURES SUPPORTED	**$88.5M** FINANCING SECURED BY CURRENT AND RECENT VENTURE ALUMNI
250 JOBS REPORTED BY HUB VENTURES		**571** JOBS REPORTED BY HUB VENTURES	

CREATIVE DESTRUCTION LAB ATLANTIC

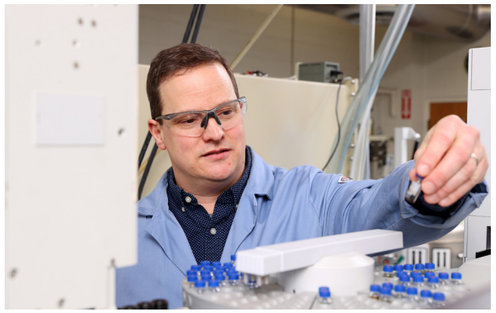
Build something massive

Hosted at Dalhousie, Creative Destruction Lab - Atlantic delivers an objectives-based program for massively scalable, seed-stage, science- and technology-based companies. In 2023-24 the program ticked over $1.4 billion in equity value creation since the time it was established. CDL-Atlantic's Ocean Stream is expanding its global reach, establishing partnerships with ocean-focused institutions and organizations around the world.

2023-24	Since 2017
38 VENTURES SUPPORTED	**236** VENTURES SUPPORTED
$78M FUNDING SECURED	**$328M** FUNDING SECURED
$240M EQUITY VALUE CREATION	**$1.47B** EQUITY VALUE CREATION

Awards and Honours

Governor General's Innovation Award



Dalhousie chemist **Dr. Mark Stradiotto** was recognized as a trailblazer shaping Canada's future and inspiring the next generation of innovators for his work advancing the science of catalysis.

"We were really at the forefront of this in a lot of ways. We discovered how to change the rules. But it started off very esoteric and very curiosity driven."

Dr. Mark Stradiotto
Faculty of Science

Discovery Awards

- **Hall of Fame** – Dr. Ron O'Dor, Faculty of Science
- **Professional of Distinction** – Dr. Erin Johnson, Faculty of Science
- **Science Champion** – Dr. Pemberton Cyrus, Faculty of Engineering
- **Emerging Professional** – Dr. Noreen Kamal, Faculty of Engineering
- **Innovation** – ABK Biomedical led by Dr. Robert Abraham, Faculty of Medicine, and Drs. Daniel Boyd and Sharon Kehoe, Faculty of Dentistry
- **Research Nova Scotia Public Impact Award** – Dr. Steven Beyea, Faculty of Medicine

Royal Society

Dr. Ford Doolittle was elected to join the ranks of the UK's Royal Society, the world's most esteemed organization devoted to the development and use of science for the benefit of humanity.

"I'm of course deeply honored to be named a Fellow of the Royal Society, to add FRS after my name, and to serve in this institution, which has as its motto, translated from Latin, 'Take nobody's word for it'."

Dr. Ford Doolittle
Faculty of Medicine

Dalhousie honours

Distinguished Research Professors

Dr. Marsha Campbell-Yeo
Faculty of Health

Dr. Graham Dellaire
Faculty of Medicine

Arthur B. McDonald Chair of Research Excellence

Dr. Vasantha Rupasinghe
Faculty of Agriculture

President's Research Excellence Award – Impact

Dr. Raluca Bejan
Faculty of Health

Dr. Tony Walker
Faculty of Science

President's Research Excellence Award – Emerging Investigator

- Dr. Michael Halpin, Faculty of Arts and Social Sciences
- Dr. Brandon Heung, Faculty of Agriculture
- Dr. Finlay Maguire, Faculty of Computer Science
- Dr. Caitlin McArthur, Faculty of Health
- Dr. Amina Stoddart, Faculty of Engineering
- Dr. Alana Westwood, Faculty of Science

Belong Research Fellowship Awards

The Belong Research Fellowships, funded by the Offices of the Provost & Vice-President Academic and the Vice-President Research & Innovation, support tenure-track faculty who are Indigenous and/or members of equity-deserving groups to pursue small research projects of 1-2 years' duration. The 2024 recipients are:

- Dr. Lizbeth Escobedo Bravo, Faculty of Computer Science
- Dr. Sian Kou-Giesbrecht, Faculty of Science
- Dr. Thabani Nyoni, Faculty of Health
- Dr. Chiranjeev Sanyal, Faculty of Health

Global Research Seed Fund

The Global Research Seed Fund, funded by the Offices of the Vice President Research & Innovation and Government & Global Relations, supports the development of international research initiatives between Dalhousie researchers and their global partners. The 2023 recipients are:

- Dr. Ahmad Al-Mallahi, Faculty of Agriculture
- Dr. Megan Bailey, Faculty of Science
- Dr. Alexander Baker, Faculty of Science
- Dr. Timothy Bardouille, Faculty of Science
- Dr. Jeffrey Biggar, Faculty of Architecture and Planning
- Dr. Muhammad Ahsan Habib, Faculty of Architecture and Planning
- Dr. Shuna Ho, Faculty of Management
- Dr. Niki Kiepek, Faculty of Health
- Dr. Heidi Lauckner, Faculty of Health
- Dr. Nissim Mannathukkaren, Faculty of Arts and Social Sciences
- Dr. Stephane Mechoulan, Faculty of Management
- Dr. Sonil Nanda, Faculty of Agriculture
- Dr. Suresh Neethirajan, Faculty of Agriculture
- Dr. Gurpreet Singh Selopal, Faculty of Agriculture
- Dr. Zeeshan Sheikh, Faculty of Dentistry
- Dr. Claudio Slamovits, Faculty of Medicine
- Prof. Michelle Williams, Faculty of Law
- Dr. Melanie Zurba, Faculty of Science

Mawkwil~mn~j - Let's Look for it Together

Mawkwil~mn~j provides support to Indigenous communities and Dalhousie researchers seeking to build and grow relationships with each other. Applications can be initiated by Indigenous Nations, organizations, and communities or by Dalhousie researchers. The 2023 projects are:

- **Angeline Denny-Sylliboy**, Eskasoni Mental Health Services, with **Dr. Heidi Weigand**, Faculty of Management
- **Charity Fleming**, Qualia Counselling Services, with **Drs. Alissa Pencer** and **Shannon Johnson**, Faculty of Science and **Dr. Debbie Emberly**, IWK
- **Dr. Carole-Anne Gillis**, Gespe'gewa'gi Institute of Natural Understanding, with **Dr. Fred Metallic**, Listuguj Mi'gmaq Government, and **Dr. Megan Bailey**, Faculty of Science
- **Dr. Sarah Fortune**, Faculty of Science, with the Pangnirtung Hunters and Trappers Organization
- **Dr. Andrew Medeiros**, Faculty of Science, with Wasoqopa'q (Acadia) First Nation Ecology Group
- **Drs. Sherry Pictou** and **Paulina Baum-Talmor**, Schulich School of Law, with the Confederacy of Mainland Mi'kmaq
- **Dr. Melanie Zurba**, Faculty of Science, with **Byron Beardy**, Four Arrows Regional Health Authority

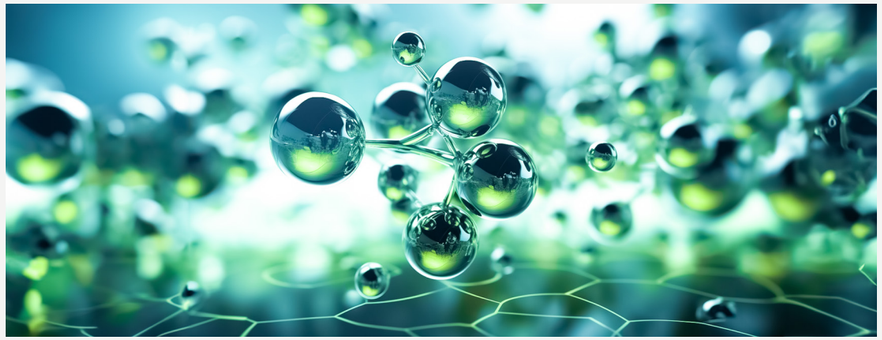
Centres and Institutes

Dalhousie's network of institutes and centres bring thought leaders together to maximize their impact in key areas of study.

Next Wave Funding

The OVPRI's Next Wave Fund provides support for centres and institutes to accelerate research and innovation initiatives. The 2023 recipients are:

- Beatrice Hunter Cancer Research Institute
- Brain Repair Centre
- Clean Technologies Research Institute
- Dallaire Institute for Children, Peace and Security
- Healthy Populations Institute
- Institute for Comparative Genomics
- Jean Monnet European Union Centre of Excellence
- MacEachen Institute for Public Policy and Governance
- Solutions for Kids in Pain



Green Hydrogen Research Cluster

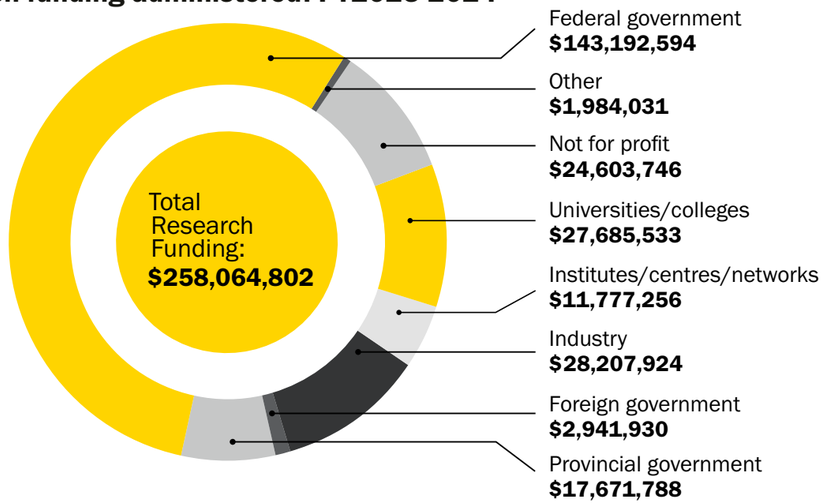
The Clean Technologies Research Institute received Next Wave Funding to help develop a Green Hydrogen Research Cluster. The initiative brings together researchers across faculties to align their work with the priorities of industry and government to develop Atlantic Canada's hydrogen economy.

Success in Numbers

Metric	Results Achieved				
	2019-20	2020-21	2021-22	2022-23	2023-24
Research Funds Administered (Dal with IWK and NS Health)	181.2M	194.1M	214.3M	210.7M	258.1M
Publications per $M research funding	21.9	21.7	21.4	21.3	22.0
Number of PhD students enrolled	710	758	791	857	859
	2017-19	**2018-20**	**2019-21**	**2020-22**	**2021-23**
% of Dal publications with international co-authors (3-year total)	48.4%	49.7%	50.2%	50.4%	50.2%*
Number of policy documents citing Dal publications (3-year total)	5230	5748	6082	5984	6325*

*Preliminary data

Research funding administered: FY2023-2024



Supporting our researchers

The **Office of Research Services** helps our faculty seek financial support for their research, undertake collaborative research with industry, government, and international organizations, and ensures excellence in research practices.

2023-24

1,962
APPLICATIONS SUBMITTED TO FUNDING AGENCIES

3,014
ACTIVE RESEARCH FILES AS OF MARCH 31, 2024

1,141
NEW ACCOUNTS APPROVED TO BE OPENED

545 REB, 204 UCLA
NEW PROJECTS SUBMITTED FOR ETHICS REVIEW

REB - Research Ethics Boards, UCLA - University Committee on Laboratory Animals

Dalhousie Research Advisory Council

The Dalhousie Research Advisory Committee (DRAC) provides advice to the Vice-President Research and Innovation on issues relating to the research enterprise at Dalhousie University.

Membership (as of March 2024)

Dr. Alice Aiken, Vice President, Research & Innovation (Chair)

Dr. Jennifer Bain, Associate Vice President, Research

Dr. Jamie Baxter, Associate Dean Research, Faculty of Law

Dr. Shaun Boe, Associate Dean Research, Faculty of Health

Dr. Chris Cutler, Associate Dean Research, Faculty of Agriculture

Dr. Eileen Denovan-Wright, Associate Dean Research, Faculty of Medicine

Dr. Mark Filiaggi, Associate Dean Research, Faculty of Dentistry

Dr. Karen Foster, Associate Dean Research, Faculty of Arts and Social Sciences

Stephen Hartlen, Assistant Vice President, Industry Relations

Laura Hynes-Jenkins, Director, Government Relations

Dr. Laurent Kreplak, Associate Dean Research, Science

Jeff Larsen, Assistant Vice President, Innovation & Entrepreneurship

Dr. Marty Leonard, Dean, Faculty of Graduate Studies

Dr. Frank MacMaster, Vice President Research & Innovation, IWK Health

Dr. Balakrishnan Prithiviraj, Assistant Vice President, Global Relations

Dr. Theresa Rajack-Talley, Vice-Provost, Equity & Inclusion

Dr. Marlies Rise, Assistant Vice President, Research Services

Dr. Mikiko Terashima, Associate Dean Research, Faculty of Architecture & Planning

Dr. Gail Tomblin Murphy, VP Research, Innovation & Discovery and Chief Nurse Executive, NSH

Michael Vandenburg, Dean of Libraries

Dr. Peter Vanberkel, Associate Dean Research, Faculty of Engineering

Trevor Weissent, Managing Director, Research & Innovation

Dr. Dominika Wranik, Associate Dean Research, Faculty of Management

Dr. Nur Zincir-Heywood, Associate Dean Research, Faculty of Computer Science