



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

2023

A YEAR IN REVIEW

UNIVERSITY OF OTTAWA HEART INSTITUTE

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MESSAGE FROM DR. PETER LIU

What an extraordinary year 2023 has been! Our research teams have once again demonstrated their commitment to both scientific excellence and translational impact. As a result, they are putting the Heart Institute at the leading edge of the world's innovation front. With peer-reviewed funding coming from ever-wider ranging and competitive sources - from the Ontario Centre of Innovation to Mitacs and NSERC Innovation grants - our capacity to turn brilliant ideas into better patient care and products continues to flourish. Our establishment as a hub of the CIHR Pan-Canadian Women's Health Coalition recognizes our leadership in reducing disparities in cardiovascular outcomes. Our trainees are leading the way in attracting prestigious awards that recognize their amazing talent, and our investigators owned the podium in the Faculty of Medicine's Awards for Excellence.

Over the last several years, we've attracted considerable funding and attention to our efforts to build research capacity, networks, and partnerships to tackle a critical problem identified by our patients: breaking down the traditional silos between brain and heart research and care. These two are in fact deeply interconnected, in ways we are just beginning to explore in depth. Our patients also urged us to identify the causes, and institute earlier diagnosis and treatments for these conditions for them and their loved ones. In 2023, our foundational work came to fruition in the creation of the Brain-Heart Interconnectome, the largest single grant awarded in University of Ottawa's history. This unprecedented \$109M initiative is co-led by UOHI and the uOttawa Brain and Mind Research Institute, in partnership with affiliated research institutes, McGill University, the University of Saskatchewan and more than 45 other academic, industry and governmental and non-governmental partners worldwide. With our unique emerging global data portal, we are revolutionizing how brain-heart conditions are understood, managed, and prevented, solidifying further the Institute's status as a world leader in cardiovascular research.



Our patients inspire us to innovate, and together, we can prevent and treat heart disease more effectively.

Peter Liu, MD

Chief Scientific Officer and VP Research
University of Ottawa Heart Institute

INVESTIGATOR OF THE YEAR

*This annual award recognizes
outstanding research achievements
by a UOHI investigator.*



INVESTIGATOR OF THE YEAR



Peter Liu, MD

Chief Scientific Officer and
Vice President of Research
Director, Cardiac Function Laboratory
UOHI


Professor
Department of Medicine, uOttawa



A tireless champion of collaborative cardiovascular research, Dr. Peter Liu has led the Institute to forge new frontiers. He changed our understanding of the epidemiology of heart failure, led pioneering work in viral myocarditis and revealed essential regulators of immune-metabolic coordination. His integrative vision drove the creation of the Brain-Heart Interconnectome, an extraordinary regional, national, and international collaboration that is changing the trajectory of how these conditions are understood, managed, and prevented.

TRAINEE OF THE YEAR

This annual award recognizes exceptional achievements by a cardiovascular research trainee in the Ottawa region.

A close-up photograph of a laboratory setting. A pipette with a white tip is positioned over a multi-well microplate. The pipette is dispensing a small amount of clear liquid into one of the wells. The microplate has several other wells, some of which are covered with blue caps. The background is slightly blurred, showing more of the lab equipment. The overall lighting is soft and focused on the pipette and the well it is filling.

TRAINEE OF THE YEAR

Fellow – Basic Science



Marcelo Muñoz, PhD

Postdoctoral Fellow, UOHI



Dr. Muñoz is recognized for his outstanding leadership in regenerative medicine and our trainee communities. An exceptional mentor and role model, he Chairs both the Faculty of Medicine's Postdoctoral Association and UOHI's Work-In-Progress Trainee Rounds. Manager of the peptide synthesis facility, his research has garnered prestigious publications and awards as well as patents and partnerships.

TRAINEE OF THE YEAR

Fellow -
Clinical/Bio-behavioural
Science



Karen Bouchard, PhD

Postdoctoral Fellow, UOHI



Dr. Bouchard holds an impressive record of laudable awards and accomplishments that recognize the pioneering nature of her work as UOHI's first SSHRC-funded scientist. Leading research in the psychosocial determinants of health among patients with cardiovascular diseases and their family members, she is already highly sought as a co-investigator bringing expertise in mixed methods, qualitative research and patient engagement strategies.

TRAINEE OF THE YEAR

PhD Candidate – Late Stage



Sabrina Robichaud

PhD Candidate, UOHI



Ms. Robichaud's research in atherosclerosis and lipid metabolism has attracted wide-ranging accolades. Her awards give especial recognition to her outstanding scientific productivity. She is also highly involved in knowledge translation and community outreach, and has been instrumental in organizing several scientific meetings across the region.

TRAINEE OF THE YEAR

PhD Candidate – Early Stage



Nadya Morrow

PhD Candidate, UOHI



Ms. Morrow has demonstrated exceptional productivity at an early career stage in her research focused on the postprandial regulation of chylomicron secretion. She's also made significant contributions to the trainee community at the local, regional, and national levels, including organizing a national training group through the Canadian Society of Atherosclerosis, Thrombosis and Vascular Biology/ Canadian Lipoprotein Conference.

GLOBAL ACHIEVEMENT AWARD

This annual award recognizes a UOHI researcher who has exerted significant global leadership in their sphere of work.

GLOBAL ACHIEVEMENT AWARD



Marc Ruel, MD

Chief, Division of Cardiac Surgery
UOHI

Professor, Department of Medicine
uOttawa



Recognized by the Society of Thoracic Surgeons as a 'Giant of Cardiothoracic Surgery,' Dr. Marc Ruel has been a global force in making cardiac surgery more patient-centered, less invasive, and more evidence-based, to improve the outcomes that matter most to patients. From revolutionary research in multivessel minimally-invasive coronary artery bypass surgery, to putting the Division of Cardiac Surgery on the world's map, he is a relentless innovator and deeply-respected leader.

GLOBAL ACHIEVEMENT AWARD



Rob Beanlands, MD

Deputy Director General
Director, National Cardiac PET Centre
UOHI

Professor, Department of Medicine
uOttawa



Dr. Beanlands has re-shaped the landscape of both imaging research, and clinical decision-making in ischemic heart disease care and prevention. From single-handedly building the Canadian National PET Centre to setting a new standard for how we design research in the field with his first-of-its-kind multicenter randomized controlled trial of a cardiac imaging-guided therapy, he has left an indelible mark on Canada and beyond.

EQUITY, DIVERSITY & INCLUSION IN RESEARCH AWARDS

This award recognizes outstanding contributions to research excellence and a thriving research environment by students and fellows who lead the way in establishing more rigorous methods.



EQUITY, DIVERSITY & INCLUSION IN RESEARCH AWARDS

in Clinical/Health
Services Research
Advancement
TRAINEE



Dan Yedu Quansah, PhD

CIHR Health System Impact Fellow
Canadian Women's Heart Health Centre
UOHI



Dr. Quansah is recognized for his passion and research addressing the intersections of sex, gender, ethnicity, and other social determinants of cardiovascular health. He co-produces and co-authors research with women with lived experience, focusing on sex-specific risk factors such as gestational hypertensive disorders, in order to develop novel interventions that improve CVD outcomes in underserved and high-risk populations of women.

EQUITY, DIVERSITY & INCLUSION IN RESEARCH AWARDS

in Basic Research
Advancement
TRAINEE



Acting on unexpected findings, Ms. Termeh Aslani turned problems into opportunities, making insightful contributions about the impact of sex differences that led to two first-authored studies and opened new directions for the team's research. Through carefully designed experiments, she illuminated significant differences in ketone body metabolism, and in off-target gene recombination.

EQUITY, DIVERSITY & INCLUSION IN RESEARCH AWARDS STAFF



Sayna Bahraini, PhD

Clinical Research Nurse Manager
UOHI



As manager of the CIHR-funded COVID-Wide Impact project Dr. Bahraini is devising community-driven strategies to enhance health outcomes. She established a Community Representative Committee to shape the project's research objectives, methods, and materials; engaged a diverse range of community leaders, and integrated a multilingual approach into the study design.

EQUITY, DIVERSITY & INCLUSION IN RESEARCH AWARDS INVESTIGATOR



Kerri-Anne Mullen, PhD

Scientist
Director, Canadian Women's Heart Health Centre
and Prevention and Wellness Centre
UOHI



Dr. Mullen is recognized for her unwavering commitment to advancing research in women's health, with a specific focus on supporting underserved populations. As an exemplary builder of collaborations, she has drawn unprecedented research funding to the Institute and the Women's Heart Health Alliance for innovative research and capacity building that directly address health disparities and amplify the voices of diverse persons with lived experience.

**DR. ROBERT ROBERTS
AWARDS FOR RESEARCH
EXCELLENCE**

This annual award recognizes peer reviewed publications led by UOHI investigators that have a high impact within cardiovascular science and medicine.



DR. ROBERT ROBERTS AWARD FOR RESEARCH EXCELLENCE



The high impact study in Nature Chemistry reports a cost-efficient and effective method for isotopic labelling of small molecules, suitable for use in drug development, medical imaging, and for understanding biochemical processes.



Benjamin Rotstein, PhD

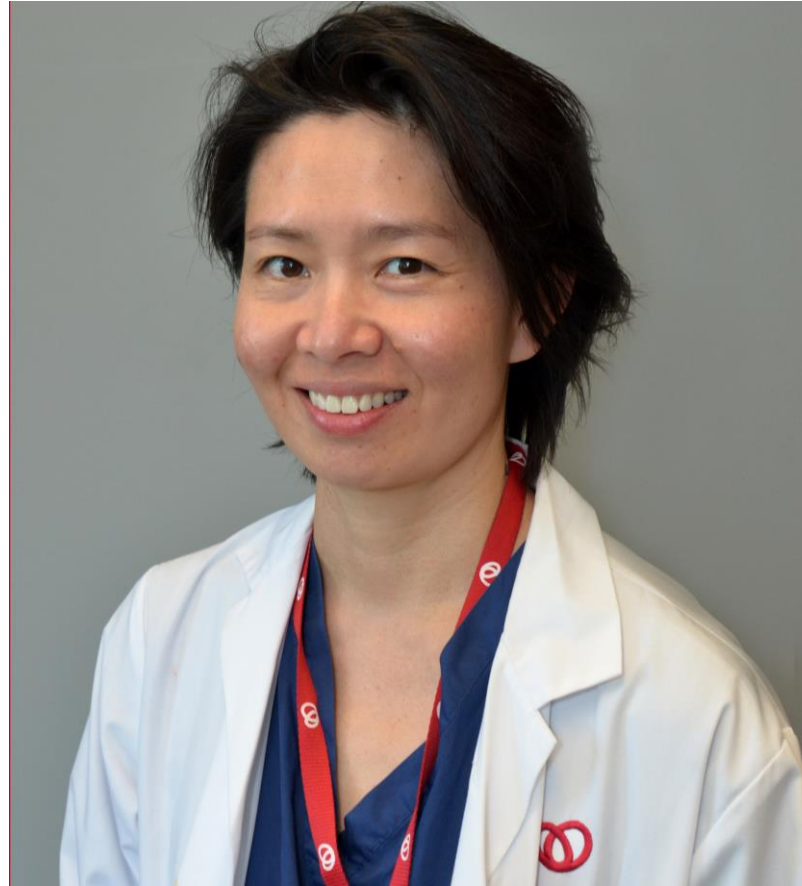
Scientist & Director
Molecular Imaging Probes and Radiochemistry
Laboratory, UOHI

Associate Professor
Department of Biochemistry, Microbiology &
Immunology, uOttawa

DR. ROBERT ROBERTS AWARD FOR RESEARCH EXCELLENCE



Aiming to improve outcomes of heart transplantation, the team described in Circulation: Heart Failure that fibrotic plaque on optical coherence tomography, and index of microcirculatory resistance early post-transplant, predict early cardiac allograft vasculopathy progression.



Sharon Chih, MD

Medical Director
Heart Transplant and Mechanical Circulatory
Support Program, UOHI

Associate Professor
Faculty of Medicine, uOttawa

DR. ROBERT ROBERTS AWARD FOR RESEARCH EXCELLENCE



The JACC: Cardiovascular Imaging systematic review and meta-analysis identified critical factors that underlie the variable progression rates of aortic valve stenosis (AVS), showing that increasing hemodynamic and anatomic baseline severity is associated with faster AS progression.



**David Messika-Zeitoun, MD,
PhD**

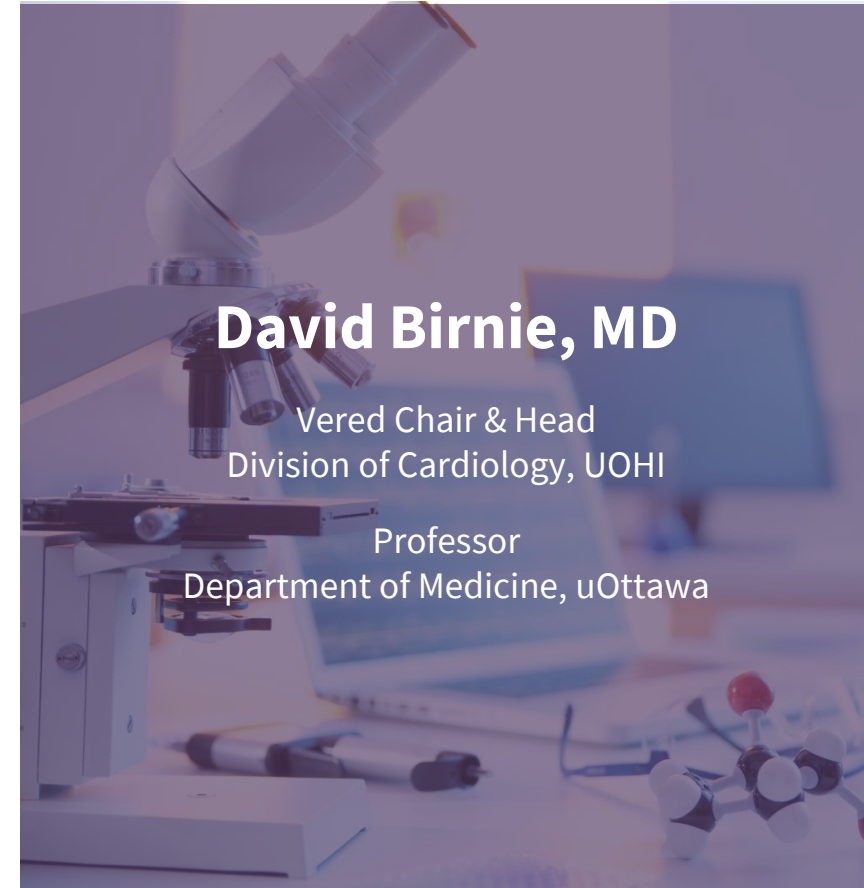
Director
Centre for Valvular Heart Disease, UOHI

Professor
Department of Medicine, uOttawa

DR. ROBERT ROBERTS AWARD FOR RESEARCH EXCELLENCE



Reported in The Lancet, the team found that adaptive cardiac resynchro-nisation therapy (CRT) did not significantly reduce all-cause death or intervention for heart failure decompensation as compared to conventional CRT in patients with intact atrioventricular conduction and left bundle branch block.



David Birnie, MD

Vered Chair & Head
Division of Cardiology, UOHI

Professor
Department of Medicine, uOttawa

DR. FRANS LEENEN
TRAINEE AWARDS
FOR PUBLICATION
EXCELLENCE

This annual award recognizes UOHI trainees' significant contributions to high impact, peer reviewed publications.

DR. FRANS LEENEN TRAINEE AWARD FOR PUBLICATION EXCELLENCE



In notably creative work, Drs. Muñoz, Cimenci, et al. developed a sprayable nanotherapeutic using surface-engineered multiarmed peptide grafted nanogold for on-the-spot coating of an infarcted myocardial surface. Reported in ACS Nano, the nanotherapeutic is highly effective and simple to apply.



Marcelo Muñoz, PhD

Postdoctoral Fellow, UOHI



Cagla Cimenci

Postdoctoral Fellow, UOHI

DR. FRANS LEENEN TRAINEE AWARD FOR PUBLICATION EXCELLENCE



In a study that stands out for its high level of clinical applicability, Dr. Boczar et al. reported in the Canadian Journal of Cardiology that greater aortic stiffness reflects worse aortic health. The estimated aortic pulse wave velocity (e-PWV) can be estimated simply, quickly, and free of cost.



Kevin Boczar, MD

Clinical Research Fellow, UOHI

*Dr. Boczar is now a staff Cardiologist at UOHI



If you want to know more about research at the Heart Institute



ottawaheart.ca/researchers



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