



UNIVERSITY OF OTTAWA  
HEART INSTITUTE

INSTITUT DE CARDIOLOGIE  
DE L'UNIVERSITÉ D'OTTAWA

36<sup>TH</sup>  
ANNUAL

OTTAWA CARDIOVASCULAR  
**RESEARCH DAY**



**MAY 13-14, 2024**

University of Ottawa Heart Institute  
Foustanelas Auditorium

The Ottawa Cardiovascular Research Day  
Planning Committee gratefully acknowledges the  
support of our event partners:

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# WELCOME

On behalf of the planning committee, it is with great pleasure that we welcome you to the 36th Ottawa Region Cardiovascular Research Day. This event is open to all cardiovascular research trainees in the Ottawa region and is designed to give trainees an opportunity to showcase their outstanding projects and network with investigators and peers.

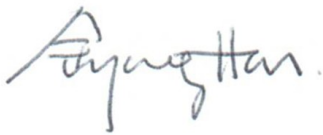
This year we have a two-day, in-person program to enable more opportunities for networking. We are excited to share the following program highlights:

- Keynote lecture by **James F. Martin, MD, PhD**
- Presentation of the Ottawa Region's Cardiovascular Trainee of The Year Awards
- Awards Presentation: Equity, Diversity & Inclusion (EDI) in Research
- The Innovation Award Competition this year will feature six finalists. The award recognizes innovative ideas and trainees' ability to effectively communicate to a lay audience. Attend to hear your colleagues pitch their work to a panel of innovation champions!
- Poster Swap – this session will feature pairs of trainees teamed up to present each other's research. The winning team will be decided by an audience vote!
- Networking Social Event

With 14 abstract talks and 46 posters, we are confident the Ottawa Region Cardiovascular Research Day is a great venue to network with colleagues and learn more about the work being done in the region. The event will conclude with an awards ceremony to recognize the best posters and oral presentations.

We would like to thank our speakers, presenters, judges, session chairs, and organizers for making this event possible. We would also like to extend our gratitude to all sponsors for their generous support: Bronze Level Sponsors: BioLynx Chromatographic specialties Inc., ThermoFisher, UOHI Trainee Committee; Silver Level Sponsors: Peter Liu, MD, The Polk Family Foundation, BIORAD; and Platinum Level Sponsor: UOHI Foundation.

Sincerely,



Kyoung-Han Kim, PhD  
Chair, Research Day Committee



Ian Paterson, MD  
Co-Chair, Research Day Committee

# PLANNING COMMITTEE

## **Kyoungh-Han Kim, PhD**

Chair, Research Day

Scientist, UOHI

Associate Professor, Faculty of Medicine  
University of Ottawa

## **Ian Paterson, MD**

Co-Chair, Research Day

Clinician Investigator, UOHI

Professor, Department of Medicine  
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## **Rebecca Moreno, HBSc**

Lead Organizer

Knowledge Translation Officer  
Research Services

## **Adim De, PhD**

Innovation Award Coordinator

Innovation Advisor, UOHI

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## **Teagan Haggerty**

MSc Candidate, UOHI

Work-in-Progress Rounds Coordinator  
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## **Rimshah Abid**

MSc Candidate, UOHI

Poster Swap Coordinator,  
Research Day

## **Isabela Roque Marçal**

PhD Candidate, UOHI

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EDI Officer, UOHI Trainee Committee

## **Termeh Aslani**

PhD Candidate, UOHI

Mentorship Session Coordinator,  
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Treasurer, UOHI Trainee Committee

## **Serena Pulente**

PhD Candidate, UOHI

Oral Session Moderator, Research Day  
Work-in-Progress Rounds Coordinator  
UOHI Trainee Committee

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# OTTAWA CARDIOVASCULAR RESEARCH DAY 2024



**DAY 1**

*Monday, May 13th, 8:00am-16:30pm*

	Opening Remarks
	<b>Kyoung-Han Kim, PhD</b> Chair, Research Day Committee, UOHI
8:00-8:25	Chief Scientific Officer Address <b>Peter Liu, MD</b> , CSO & VP Research, UOHI
	President Address <b>Rob Beanlands, MD</b> , President & CEO, UOHI
	Foustanellas Auditorium (H-2367)
8:30-10:35	<b>Poster Session 1</b> UOHI Track (H-2339)
10:35-11:35	<b>Poster Swap</b> Foustanellas Auditorium (H-2367)
11:35-11:55	<b>Equity, Diversity &amp; Inclusion (EDI) in Research Awards</b> Foustanellas Auditorium (H-2367)
11:55-12:10	<b>LUNCH</b>
12:10-13:10	<b>Ottawa Cardiovascular Research Trainee of the Year Awards</b> Foustanellas Auditorium (H-2367)
13:15-15:20	<b>Poster Session 2</b> UOHI Track (H-2339)
15:20-15:30	<b>Poster Tear Down</b>
15:30-16:30	<b>Mentoring Session with James F. Martin, MD, PhD</b> Executive Boardroom (H-2403)



DAY 2

Tuesday, May 14th, 7:45am-17:30pm

Opening Remarks

7:45-8:00

**Ian Paterson, MD**  
Co-Chair, Research Day Committee, UOHI

Foustanelas Auditorium (H-2367)

8:00-9:15

**Oral Presentation Session 1**  
Foustanelas Auditorium (H-2367)

**ORACLE Theme: Precision Medicine**

**O-1 Investigating the Release of Cardiac Troponin T within Small Extracellular Vesicles in the Clinical Context of Type 1 vs. Type 2 Myocardial Infarctions**

Leyton Basiren, MSc Candidate, UOHI  
Supervisor: Peter Liu, MD

**O-2 Remodeling of mitochondrial supercomplex-associated proteins in murine heart failure: implications for pyruvate and alpha-ketoglutarate metabolism**

Claire Fong-McMaster, PhD Candidate, University of Ottawa  
Supervisors: Mary-Ellen Harper, PhD and Erin Mulvihill, PhD

**O-3 IRF2BP2-deficient macrophages protect female mice from LPS-induced QTc prolongation.**

An Duong, PhD Candidate, UOHI  
Supervisor: Alexandre Stewart, PhD

**O-4 Evaluating left carotid artery pressure during circulatory arrest with unilateral antegrade cerebral perfusion**

Yuan Qiu, MD, Cardiac Surgery Resident, UOHI  
Supervisor: Munir Boodhwani, MD

**O-5 Transition and Transfer in Congenital Heart Disease Care: Health decline while on the wait list**

Joanne Joseph, MD, Cardiology Resident, UOHI  
Supervisor: Markus Schwerzmann, MD

9:15-9:30

**HEALTH BREAK**

9:30–10:30

**Oral Presentation Session 2**  
Foustanelas Auditorium (H-2367)

**ORACLE Themes: Big Data and Healthy, Diverse Populations**

**O-6 Characterization of an AI Tool to Identify Motion Compensation Candidates in SPECT Myocardial Perfusion Imaging**

Dylan Malenfant, PhD Candidate, UOHI  
Supervisor: Glenn Wells, PhD

**O-7 Patterns of e-cigarette use and interest in cessation among current users in Ontario: A cross-sectional study**

Javad Heshmati, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Hassan Mir, MD

**O-8 Exploring Shared Decision-Making: A Concept Analysis in the Context of Adult African, Caribbean, and Black Patients Seeking Diabetes Treatment in Primary Care**

Semhal Gessese, MSc Candidate, University of Ottawa  
Supervisor: Krystina Lewis, PhD

**O-9 Effectiveness of Cardioprevent® Postpartum program on cardiovascular disease risk scores and individual risk factor changes in women with prior hypertensive disorders of pregnancy**

Dan Quansah, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Kerri-Anne Mullen, PhD

10:30–12:00

**Innovation Award Finalists' Pitches**  
Foustanelas Auditorium (H-2367)

**I-1 Improving Patient Outcomes by Redefining the Transfer to Adult Congenital Heart Disease**

Joanne Joseph, MD, Cardiology Resident, UOHI  
Supervisor: Markus Schwerzmann, MD

**I-2 Rhythm Rescue: The Injectable Solution for Atrial Fibrillation**

Kamal Malhotra, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Darryl Davis, MD

**I-3 Discovery of a New therapeutic Target for the Most Common Genetic Risk of Heart Disease**

Fariborz Soheili, PhD Candidate, UOHI  
Supervisor: Alexandre Stewart, PhD

**I-4 Bioinspired Peptide Materials for Scarless Wound Healing**

Alex Ross, PhD Candidate, UOHI  
Supervisor: Emilio Alarcón, PhD

**I-5 Transforming Diabetes Care: A Culturally-tailored Toolkit for Clinicians and African, Caribbean, and Black Patients**

Semhal Gessese, MSc Candidate, University of Ottawa  
Supervisor: Krystina Lewis, PhD

**I-6 Enhancing the Diagnostic Power of Cardiac CT scans Through Left Ventricular Function Assessment**

Yoshito Kadoya, MD, PhD, Clinical Research Fellow, UOHI  
Supervisor: Benjamin Chow, MD



12:00–13:00

LUNCH

13:00–13:15

**Innovation Award Presentation**  
Foustanelas Auditorium (H-2367)

13:15–14:15

**Keynote Lecture**  
Foustanelas Auditorium (H-2367)

**James F. Martin, MD, PhD** ([bio](#))  
Vice Chairman/Professor, Molecular Physiology and Biophysics,  
Vivian L. Smith Chair in Regenerative Medicine,  
Baylor College of Medicine;  
Director, Cardiomyocyte Renewal Laboratory  
Texas Heart Institute

***Hippo Signaling in Heart Regeneration***

14:15–14:30

HEALTH BREAK

14:30–16:00

**Oral Presentation Session 3**  
Foustanelas Auditorium (H-2367)

**ORACLE Theme: Discovery to Translational Innovations**

**O-10 Investigating the Roles of MAVS in Post-MI Cardiac Metabolism and Remodeling**

Teagan Haggerty, MSc Candidate, UOHI  
Supervisor: Peter Liu, MD

**O-11 3D Bioprinting of Blood Vessels for Minimally Invasive Coronary Artery Bypass Graft**

Maxime Emmanuel Comtois-Bona, MSc Candidate, UOHI  
Supervisor: Emilio Alarcón, PhD

**O-12 Endothelial Cell Senescence in Pulmonary Arterial Hypertension: A Two-edge Sword?**

Elmira Safaie, PhD Candidate, Ottawa Hospital Research Institute  
Supervisor: Duncan Stewart, MD

**O-13 Investigating the roles of GLP-1R+, GLP-2R+, and GIPR+ cells within the gut in the fasting refeeding response**

Nadya Morrow, PhD Candidate, UOHI  
Supervisor: Erin Mulvihill, PhD

**O-14 Bisphosphonate therapy improves bone deficits but worsens arterial calcification in Mgp-null mice**

Fariborz Soheili, PhD Candidate, UOHI  
Supervisor: Alexandre Stewart, PhD

16:00–17:00

## Networking Social

### Awards Ceremony

17:00–17:30

Moderator: **Ian Paterson, MD**  
Co-Chair, Research Day Committee, UOHI

Foustanelas Auditorium (H2367)

#### ***Awards Include:***

- Dr. Yves Marcel Award for Best Basic Science Oral presentation
- Howard & Doris Polk Award for Best Clinical Science/Bio-behavioural & Population Health Oral Presentation
- Award for Best Basic Science Poster
- Award for Best Clinical Science/Bio-Behavioural & Population Health Poster
- Awards for Honourable Mention

17:30

**Closing Remarks**  
Kyoung-Han Kim, PhD  
Chair, Research Day Committee, UOHI



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# KEYNOTE SPEAKER



**James F. Martin, MD, PhD**  
Vice Chairman/Professor  
Molecular Physiology and Biophysics  
Baylor College of Medicine  
Houston, Texas

Vivian L. Smith Chair in Regenerative Medicine  
Baylor College of Medicine  
Houston, Texas

Director  
Cardiomyocyte Renewal Laboratory  
Texas Heart Institute  
Houston, Texas

## “HIPPO SIGNALING IN HEART REGENERATION”

Dr. Martin is an internationally recognized developmental and regenerative biologist who has made fundamental contributions to our understanding of development, disease, and regeneration. He has authored more than 135 peer-reviewed papers in top journals such as Nature, Science, Cell, Developmental Cell, Plos Genetics, Development, and PNAS.

Dr. Martin’s research is aimed at understanding how signaling pathways are related to development and tissue regeneration. The ultimate goal of his work is to obtain an in depth understanding of these pathways in order to develop ways to treat congenital diseases and regenerate heart muscle and other adult tissues.

Heart failure is a leading cause of death because heart muscle is non-regenerative. Dr. Martin has helped solve the problem of failed heart muscle regeneration by discovering the important pathways that inhibit heart muscle regeneration. He has shown that adult heart muscle can be molecularly manipulated to promote heart repair.

He and his team recently discovered that Hippo signaling is a critical repressor of adult heart regeneration. His lab has worked with single cell transcriptomics for the past three years and has developed the expertise to perform and analyze data. This recent groundbreaking work on the Hippo pathway in heart size regulation is a landmark study that led to the insight that the Hippo pathway is an inhibitor of adult heart muscle regeneration. Dr. Martin’s insights revealed new avenues for treatment of human heart failure.

Dr. Martin has also made fundamental insights into the role of the transcription factor Pitx2 in atrial fibrillation, the most common sustained arrhythmia in the human population. He made use of the mouse model to investigate Pitx2 in atrial homeostasis but also in left right asymmetric morphogenesis that is essential for human development. Dr. Martin’s studies investigating Pitx2 function in craniofacial development provided insight into the molecular basis of Rieger syndrome. He uncovered a pivotal function for Bmp signaling in endothelial-mesenchymal transition and cardiac valve development. Dr. Martin’s studies uncovered a novel role for canonical Wnt signaling in cardiac progenitor cell diversification. He found the first microRNA implicated in orofacial clefting. Dr. Martin’s studies are highly cited and also reported on by the lay media.

# OTTAWA REGION CARDIOVASCULAR TRAINEE OF THE YEAR AWARD



Congratulations to **Yena Oh, PhD Candidate**, who was selected as the Ottawa Region Cardiovascular Research Trainee of the Year! Ms. Oh is recognized for outstanding research leadership and the courageous pursuit of challenging research questions. Her novel research in bioinformatics and heart physiology (under the tutelage of Dr. Kyoung-Han Kim) has generated fundamental knowledge of the molecular and cellular heterogeneities of the postnatal cardiac conduction system.

Currently in the final year of her PhD program, Ms. Oh has already demonstrated all the qualities and effectiveness of an independent investigator. Her leadership is outstanding, both in setting new scientific directions, and as a mentor and teacher.

For example, in her thesis project Ms. Oh identifying transcriptomic heterogeneities in the CCS. She took on a particularly challenging study, involving a target cell population that is at most 0.1% – about 500 – of the neonatal heart's cells. She had to isolate and purify at least 15,000 to 30,000 conductive cardiomyocytes from different developmental stages of mouse hearts cells on the same date and subject those samples to single-cell RNA-sequencing (scRNA-seq). Ms. Oh independently developed all her experiments and bioinformatic analyses, utilizing a spatial transcriptomic technology which was bioinformatically integrated into her scRNA-seq data. Furthermore, she's verified these exciting findings using immunostaining and fluorescent in situ hybridization, and in vitro in cultured neonatal mouse atrial and ventricular myocytes, and was able to mimic regional heterogeneities of the Cardiac Conduction System in a dish.

Ms. Oh's exceptional research potential has been extensively recognized, from numerous prestigious post-doc offers to the Keystone Symposia-Heart Development and Disease: From Genes to Cures (2023), the AHA Basic Cardiovascular Science Scientific Session, Gary Lopaschuk Graduate Students Awards Competition at the International Society for Heart Research, North American Section and the Canadian Cardiovascular Congress (2021). Moreover, her abstract won the 'Paul Dudley White International Scholar Award' in both 2023 and 2022 at the BCVS as the highest-ranked abstract in Canada.

With such high-caliber scientific skills combined with tremendous perseverance and positive leadership, Ms. Oh inspires her team to greater heights, and exemplifies the next generation of research leaders.

# OTTAWA REGION CARDIOVASCULAR TRAINEE OF THE YEAR AWARD



Congratulations to **Pietro Di Santo, MD, Clinical Research Fellow, PhD Candidate**, who was selected as the Ottawa Region Cardiovascular Research Trainee of the Year! Dr. Di Santo is recognized for outstanding productivity and ingenuity in clinical trials, leadership in cardiac critical care and interventional cardiology.

An interventional cardiologist with an unwavering commitment to advancing cardiovascular medicine through novel research endeavors, Dr. Di Santo is completing both additional fellowship training in Critical Care Medicine, as well as his PhD (under the tutelage of Drs. George Wells and Benjamin Hibbert). He is currently leading multiple clinical trials, including the CAPITAL RAPTOR RCT examining arterial access site management in coronary angiography.

Dr. Di Santo has successfully obtained funding as a CIHR clinical trial co-investigator for CAPITAL DOREMI2, and the CCS-Bayer Vascular Award for CAPITAL RAPTOR. His leadership includes the Trial Steering Committees for 4 on-going RCTs, as well the Data Safety Monitoring Boards of two others. His accomplishments have been recognized through the 2022 Rick Hodder Day Scholarship Award and the 2021 Keon Award (awarded to UOHI's most outstanding cardiovascular trainee).

Dr. Di Santo has unmatched research productivity, with over 80 peer-reviewed publications including 15 as first author/co-first author, four of those in 2023 alone. He has high-impact publications in the New England Journal of Medicine, Journal of the American College of Cardiology, Circulation and CHEST. His paper examining renal function and injury in patients with cardiogenic shock treated with milrinone and dobutamine in JACC Advances was named one of the top 10 most-read articles in 2023. His colleagues laud him for constantly raising the team's bar for productivity and ingenuity - as well as for creating an environment uniquely strong in kindness, warmth, and affability.

This extraordinary combination of scientific skills and personal attributes has led Dr. Di Santo to become an unofficial research mentor to innumerable trainees, from medical students to senior fellows. He is the first person that colleagues come to with research queries, and an unparalleled resource for the entire research team. Dr. Di Santo is poised to become an international star, and UOHI is thrilled he will be joining us in July as a Clinician Scientist and the Principal Investigator of the CAPITAL Research Program.

# ABOUT THE UOHI EDI IN RESEARCH AWARD

UOHI's Equity, Diversity, and Inclusion (EDI) in Research Award aims to recognize outstanding contributions to research excellence and a thriving research environment, by a UOHI-based student or fellow.

We seek awardees who challenge the status quo, spark change and take action to reduce persistent systemic barriers, and who expand our research impact or team effectiveness as a result. Nominees are distinguished by their passion and commitment to better research design, and/or a better workplace, reducing barriers to access and inclusion of under-represented groups as research partners, participants, team members or peers.

## **Removing barriers to equity, diversity and inclusion (EDI) might look like:**

- Innovative research approaches that reduce disparate health outcomes or systemic bias in research design or methods
- An activity, practice, tool or partnership that removes barriers and increases access or participation of students and fellows from under-represented groups
- Innovative supervision, peer support or mentoring
- Creating a more open, supportive, effective research environment, leading to increased contributions from others
- Making a work environment more accessible (physical, technical, logistical, cultural)
- Catalyzing change to procedures, policies, or practices to make them fair or more inclusive
- Community service, such as creating supports, innovation, best practices sharing
- Innovative outreach to under-represented communities as research partners or participants

# UOHI EDI IN RESEARCH AWARDS



Congratulations to **Dan Yedu Quansah, PhD, CIHR Health System Impact Fellow**, with the Canadian Women's Heart Health Centre, as recipient of the 2024 UOHI EDI in Research Award - Clinical/Health Services Research! Dr. Quansah is recognized for his passion and research addressing the intersections of sex, gender, ethnicity, and other social determinants of cardiovascular health. Under the tutelage of Kerri-Anne Mullen, PhD, he is developing and implementing novel interventions to improve CVD outcomes in underserved and high-risk populations of women.

Dr. Quansah co-produces and co-authors research with women with lived experience, focusing on sex-specific risk factors such as gestational hypertensive disorders. He aims to improve awareness, screening, assessment, diagnosis, and treatment in groups of women who experience health disparities and are at higher risk of premature CVD, particularly South Asian, Black, and Indigenous women. His Rapid Review was featured in a special "Her Heart Matters" edition of the Canadian Journal of Cardiology Open, while a scoping review underway is examining the barriers and facilitators of CVD prevention services. This work is informed by both patient partners and qualitative interviews and focus groups, to assess knowledge of CVD and risk factors; access and barriers to care and support; and assess self-management. This work set the stage for the interactive components of a Think Tank event Dr. Quansah helped lead, enabling over 50 patient and stakeholder partners to collaboratively identify priorities and strategies to address them.



Congratulations to **Termeh Aslani, PhD Candidate**, recipient of the 2024 UOHI EDI in Research Award - Basic Science! She's made insightful contributions to incorporate the impact of sex into research led by Kyoung-Han Kim, PhD, leading to two first-authored studies and opening new directions for the team's research. In the first project, Ms. Aslani illuminated significant sex differences in ketone body metabolism, showing through a series of experiments that intermittent fasting had a greater impact on males compared to females. Further, females generate more ketone bodies upon fasting and are more dependent on these ketone bodies. And finally, these sex differences led to different responses in immune cells, such as macrophages and neutrophils.

In the second project, Ms. Aslani encountered project-stopping off-target gene recombination when using Mlc2v-Cre mice to knock out genes in the ventricle of the heart. Taking this challenge as an opportunity, Ms. Aslani carefully designed several experiments to examine the prevalence and sex dependency of this off-target effect. Notably, she found that 96% of female Mlc2v-Cre mice exhibited off-target recombination, compared to the male showing 16%. This finding is significant, suggesting that some gene deletion could occur maternally in oocytes, which might affect the interpretation of phenotype data. These projects show that Ms. Aslani is a scientific leader with exceptional ability to bring both innovative insights and EDI best practices to complex scientific inquiries.



# POSTER PRESENTATIONS: BASIC SCIENCE

**P-1 Balanced antagonism between *Irx3* and *Irx4* is Required for Cardiac Trabecular Compaction**

Rimshah Abid, MSc Candidate, UOHI  
Supervisor: Kyoung-Han Kim, PhD

**P-2 Human Extracellular Vesicles Prevent Inflammation in a Human Model of Postoperative Atrial Fibrillation**

Noreen Ahmed, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Darryl Davis, MD

**P-3 High-intensity Interval Training Program Reduces Methylglyoxal Accumulation and Promotes Cardiac Function in Female Mice after Myocardial Infarction**

Ines Amara, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Erik Suuronen, PhD

**P-4 *Mlc2v-Cre* Causes Germline Recombination in a Sex-biased Manner**

Termeh Aslani, PhD Candidate, UOHI  
Supervisor: Kyoung-Han Kim, PhD

**P-5 Surgical Inflammation Impairs Reverse Cholesterol Transport and Promotes Postoperative Necrotic Core Expansion**

Dominique Boucher, MD/PhD Candidate, UOHI  
Supervisor: Mireille Ouimet, PhD

**P-6 CT Map Alignment by Data Consistency: Let's Split Up and Look For Views**

Taylor Clark, MSc Candidate, UOHI  
Supervisor: Glenn Wells, PhD

**P-7 Deletion in the 3'utr of *Irf2bp2* Tied to Coronary Calcification Affects *Irf2bp2* Autoregulation**

An Duong, PhD Candidate, UOHI  
Supervisor: Alexandre Stewart, PhD

**P-8 Characterization of Residual Stress and Glycosaminoglycan Distribution in Thoracic Aortic Aneurysm**

Noor Ghadie, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Munir Boodhwani, MD

**P-9 Being a Target for Glycation by Methylglyoxal Contributes to Therapeutic Efficacy of Injectable Collagen Hydrogels Post-myocardial Infarction**

Xixi Guo, PhD Candidate, UOHI  
Supervisor: Erik Suuronen, PhD

**P-10 Evaluation of a Treatment Planning Tool for Non-Invasive Radioablation of Ventricular Tachycardia**

Connor Haberl, PhD Candidate, UOHI  
Supervisor: Rob deKemp, PhD

**P-11 Effect of *IGFBP7* on Cardiac/Renal Microvasculature in Diabetes Mellitus**

Yiqing Huang, MSc Candidate, UOHI  
Supervisor: Peter Liu, MD

**P-12 Methylglyoxal Accumulation in the Brain Post-myocardial Infarction**

Ramis Ileri, PhD Candidate, UOHI  
Supervisor: Erik Suuronen, PhD

**P-13 The Ketogenic Gene, *Hmgcs2*, in Thermogenic Adipocytes is Dispensable for Adipose Thermogenesis**

Reshani Jeyaratnam, BSc Candidate, UOHI  
Supervisor: Kyoung-Han Kim, PhD

**P-14 A Genetic Screen in Macrophage Foam Cells to Identify Novel Lipophagy Regulators**

Nathan Joyce, MSc Candidate, UOHI  
Supervisor: Mireille Ouimet, PhD

**P-15 Enhancing Lipophagy Promotes Macrophage Foam Cell Metabolism**

Thomas Laval, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Mireille Ouimet, PhD



**P-16 Ketogenic Diet Modulation of Lipoproteins and Atherosclerosis in Obese Male Mice, A Departure from Human Physiology**

Cassandra Locatelli, MSc Candidate, UOHI  
Supervisor: Erin Mulvihill, PhD

**P-17 Role of GABA type A Receptors in Ventricular Tachyarrhythmias after Myocardial Infarction**

Aizhu Lu, Research Associate, UOHI  
Supervisor: Wenbin Liang, MD, PhD

**P-18 Next Generation of Biomimetic Materials for Refractive Error Correction**

Aidan Macadam, PhD Candidate, UOHI  
Supervisor: Emilio Alarcón, PhD

**P-19 Combinatorial Effect of Biomaterials and Extracellular Vesicle Therapy for Heart Failure with Reduced Ejection Fraction: A Systematic Review of Preclinical Studies**

Kamal Malhotra, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Darryl Davis, MD

**P-20 Skeletal Muscle Energetics & Metabolic Reprogramming in Obesity: Impacts of Bariatric Surgery**

Dhanuddara Mohottalage, PhD Candidate, University of Ottawa  
Supervisor: Mary-Ellen Harper, PhD

**P-21 Progeria-based vascular model identifies networks associated with cardiovascular aging and disease**

Mzwanele Ngubo, PhD, Postdoctoral Fellow, OHRI  
Supervisor: William Stanford, PhD

**P-22 Irx5 is a Critical Regulator of Transmural Transcriptional Gradients in the Healthy and Diseased Heart**

Julie Pan, MSc Candidate, UOHI  
Supervisor: Kyoung-Han Kim, PhD

**P-23 Mechanisms of BMP9 and BMP10 Upregulation in Atrial Fibrillation**

Alex Pham, MSc Candidate, UOHI  
Supervisor: Peter Liu, MD

**P-24 Sex-Specific Perspectives on Metformin and PAI-1 Deficiency in Targeting Cardiac Fibrosis: Implications for Personalized Therapeutics**

Serena Pulente, PhD Candidate, UOHI  
Supervisors: Erin Mulvihill PhD & Kyoung-Han Kim, PhD

**P-25 Investigating Lipid Metabolism in Vascular Smooth Muscle Cell (VSMC)-derived Foam Cells**

Valérie Rochon, MSc Candidate, UOHI  
Supervisor: Mireille Ouimet, PhD

**P-26 Multipurpose Peptide-based Engineered Materials for Cornea, Skin, and Heart Repair**

Alex Ross, PhD Candidate, UOHI  
Supervisors: Emilio Alarcón, PhD & Erik Suuronen, PhD

**P-27 Exploring Mechanisms of Pulmonary Venous Occlusive Disease using Single-cell Transcriptomics**

Elham Salehisiavashani, PhD Candidate, OHRI  
Supervisor: Duncan Stewart, MD

**P-28 Pro-atherogenic Macrophages Induce the Upregulation of MLKL and Cell Death in Vascular Smooth Muscle Cells during Atherogenic Stimulation**

Rama Sarakbi, MSc Candidate, UOHI  
Supervisor: Katey Rayner, PhD

**P-29 9p21.3 Variants Drive Coronary Calcification by Suppressing Statherin Expression**

Fariborz Soheili, PhD Candidate, UOHI  
Supervisor: Alexandre Stewart, PhD

**P-30 The Ketogenic Gene, Hmgcs2, is a Novel Marker for Adipose Progenitor Cells**

Cole Stocker, BSc Candidate, UOHI  
Supervisor: Kyoung-Han Kim, PhD

**P-31 Wnt5a is Arrhythmogenic in Both Rodent Hearts and Human iPSC-derived Cardiomyocytes**

Jerry Wang, PhD Candidate, UOHI  
Supervisor: Wenbin Liang, MD, PhD & Rob Beanlands, MD

# POSTER PRESENTATIONS: CLINICAL SCIENCE

**P-32 Cardiopulmonary Exercise Testing Protocol Selection in Cardiovascular Rehabilitation Centres Across Canada**

Jennie Wong, MSc Candidate, UOHI  
Supervisor: Jennifer Reed, PhD

**P-33 Test-Retest Precision of Myocardial Perfusion and LV function in Single Photon Emission Computed Tomography (SPECT) Imaging**

Jamilah Alharbi, MD, Clinical Fellow (Imaging), UOHI  
Supervisor: Terrence Ruddy, MD

**P-34 Inter-observer Variability affects Treatment of Ascending Aortic Aneurysms: Real world evidence from a prospective multi-center study on thoracic aortic aneurysms**

Ayse Hafsa Es, Clinical Research Assistant, UOHI  
Supervisor: Munir Boodhwani, MD

**P-35 Vaping Cessation Interventions: A Systematic Review and Meta-Analysis**

Javad Heshmati, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Hassan Mir, MD

**P-36 Brain-Heart Community Care Model: Community Partnership to Optimize the Regional Care Delivery System for Brain and Heart Conditions**

Marjan Hosseini, PhD, Postdoctoral Fellow, Bruyère Research Institute  
Supervisor: Simone Dahrouge, PhD

**P-37 Sex-specific Analysis in Recovery from Post-stroke Aphasia with a Supplementary Treatment of Non-invasive Brain Stimulation: A retrospective data analysis of a multisite randomized controlled trial (NORTHSTAR)**

Donguk Jo, PhD, Postdoctoral Fellow, UOHI  
Supervisor: Jodi Edwards, PhD

**P-38 Covid-19 Anxiety and the Acceptance of Social Robots among Patients with Heart Failure**

Lilla Knight, Research Coordinator, UOHI  
Supervisor: Heather Tulloch, PhD

**P-39 Pericardiectomy for a Rare Case Pericardial Empyema Due Streptococcus Pneumoniae**

Jaimie Marie Langille, MD, Internal Medicine Resident, University of Ottawa  
Supervisor: Hassan Alfraidi, MD

**P-40 Incidence, Risk Factors and Healthcare Access for Atrial Fibrillation Among the Inuit in Nunavut**

Sumali Mehta, MSc Candidate, University of Ottawa  
Supervisors: Jodi Edwards, PhD and David Birnie, MD

**P-41 Cardiovascular Disease Risk and Factor Interventions in Women with Prior Gestational Hypertensive Disorders or Diabetes in North America: A rapid review**

Dan Yedu Quansah, PhD, Postdoctoral fellow, UOHI  
Supervisor: Kerri-Anne Mullen, PhD

**P-42 Sex-specific Inclusion of Patients with Cardiovascular Disease in Exercise Research in Canada: A rapid review**

Isabela R Marçal, PhD Candidate, UOHI  
Supervisor: Jennifer Reed, PhD

**P-43 Exploring Barriers to Cardiac Rehabilitation Utilization: Perspectives of Healthcare Providers - A qualitative study**

Shri Harini Ramesh, PhD Candidate, Carleton University  
Supervisor: Fateme Rajabiyazdi, PhD

**P-44 Examining Associations Between Sexual Satisfaction and Quality of Life among Partners of Patients with Cardiac Disease**

Elisa Stragapede, Clinical Research Assistant, UOHI  
Supervisor: Heather Tulloch, PhD

**P-45 Managing Psychological Distress in Women with Cardiac Disease: A scoping review**

Stephanie Susinski, Research Coordinator, UOHI  
Supervisor: Heather Tulloch, PhD

# NOTES

# SPECIAL THANKS

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James F. Taylor, MD, PhD, Baylor College of Medicine; Texas Heart Institute  
Rob Beanlands, MD, President & CEO; Peter Liu, MD, CSO & VP Research;  
Kyoung-Han Kim, PhD; Ian Paterson, MD

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