Queen's Health Sciences | School of Medicine

Queen's UNIVERSITY

DEPARTMENT OF

Medicine 2021

Translational Institute of Medicine (TIME)

Kiera Liblik (TMED MSc Student)

Recipient of the R. Samuel McLaughlin Award 2021

Recently Kiera received the 1989 Ecole Polytechnique Commemorative award for her work looking at mental health in women following heart attacks.

Research Lab: Cardiovascular Imaging Network at Queen's - cinqlab.com

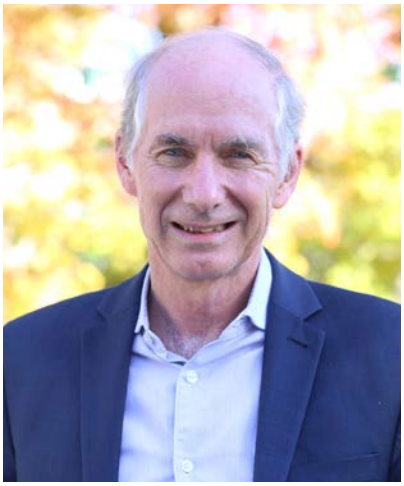
TABLE OF CONTENTS

MESSAGE FROM THE DIRECTOR

"As we transition out of the COVID-19 pandemic, TIME looks forward to growing and continuing to be a research leader at the University"

The Translational Institute of Medicine (TIME) continues to prosper as one of the leading research institutes in the University. Despite the restrictions of the COVID-19 pandemic in 2021, TIME scientists and their students were highly productive, with over $16M in research funding and 793 publications. TIME was identified as one of six research superclusters in the new Queen's Health Sciences (QHS) strategic plan. Its membership now exceeds 250 basic and clinician-scientists, making it one of the largest research groups in QHS. The web-based TIME network, which connects these scientists and their research infrastructure, has been highly successful and was recently adopted University-wide to create the Research Discovery Network (RDN). The TIME TMED graduate program continues to attract the highest quality students who bring incredible energy, creativity and enthusiasm to our research programs. Under the leadership of Dr. Paula James and Dr. Mark Ormiston, TMED was incredibly proud to graduate its first cohort of students.

As we transition out of the COVID-19 pandemic, TIME looks forward to growing and continuing to be a research leader in the University. TIME scientists are leading a large CFI infrastructure grant application that has the capacity to significantly expand its state-of-the-art research platforms and thereby continue to play a vital role in keeping the University on the cutting edge of science. We will offer over 150K in incubator grants in the coming year to encourage transdisciplinary research collaborations across the University that exploit the research infrastructure. TIME has set key milestones for its strategic plan developed in 2020 and will report on its progress for 2021. TIME will continue to celebrate the excellence in research through the TIME Showcase, found at the TIME Website and highlight the terrific work of its membership.

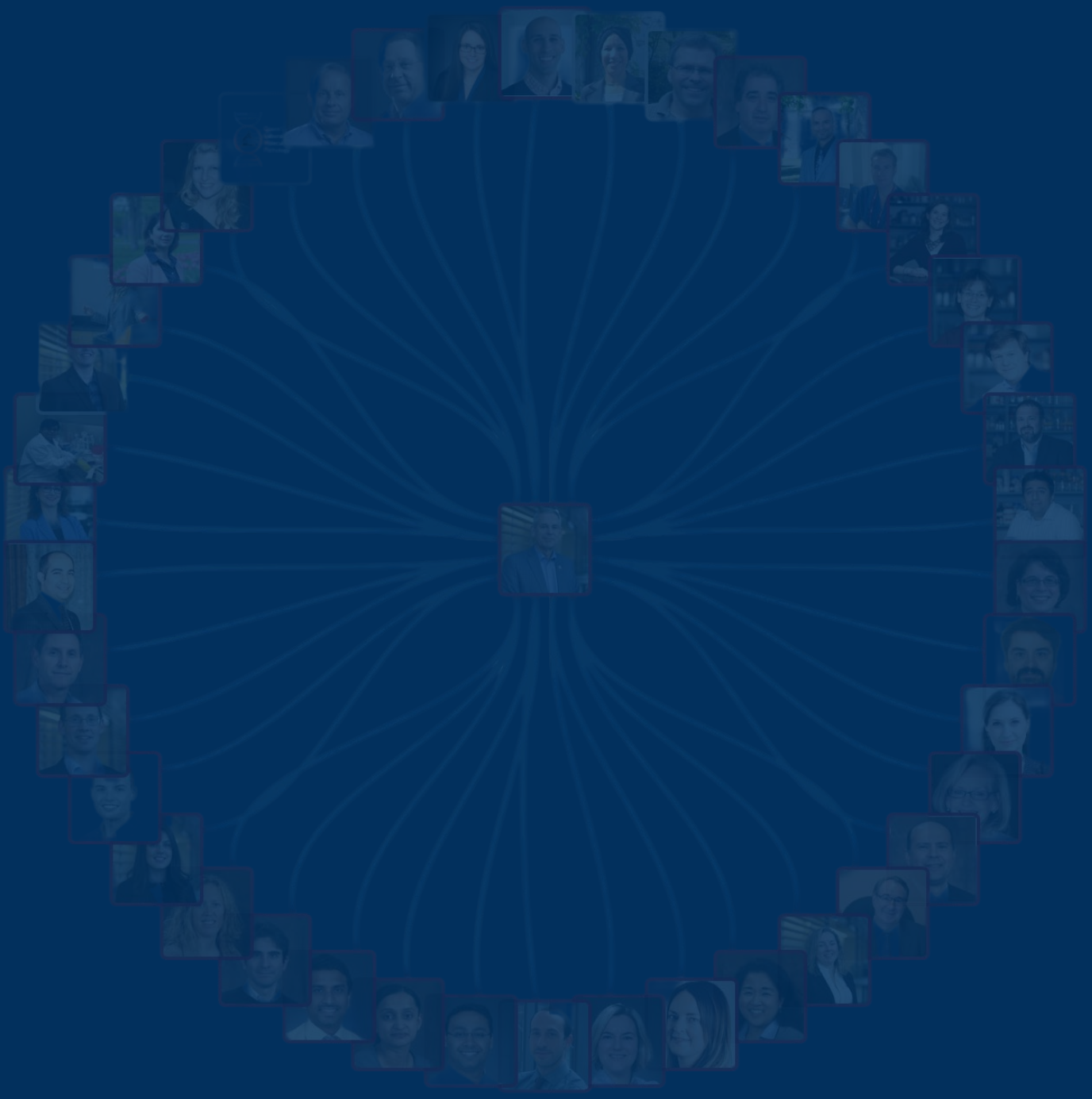


Dr. Stephen Vanner
Director —Translational Institute of Medicine - TIME

In closing, as we head into an exciting new year of discovery and innovation I want to acknowledge the excellent work of the TIME Management Team and the Executive Committee, under the guidance of Dr. Salwa Nihal, and the Department of Medicine for its continued financial support.

Dr. Stephen Vanner
Director - TIME

TIME
TRANSLATIONAL INSTITUTE OF MEDICINE



MESSAGE FROM THE DEPARTMENT HEAD

2021 was a challenging year in which we faced at least 2 more waves of COVID-19. In fact, by the time 2022 arrived we were up to 6 waves of this nasty virus. Despite the challenges of training graduate students and performing translational research during a global pandemic TIME faculty, students and staff did just that! There is much of which I am proud.

First, a huge thank-you to Dr. Paula James and Dr. Mark Ormiston, who direct our TMED graduate program, and their dedicated team of faculty leaders which now includes 48 mentors and supervisors. Thanks also to Ms. Julie Heagle for her expert administrative support of the program. A fond Farewell to our education guru, newly minted PhD, Dr. Wei Yan. Wei elevated the academic rigor in the design and implementation of TMED. Our TMED program enrolled a new class bringing us to 22 MSc students and 10 PhD students. Equally important, we ensured these bright young minds could do their research. By deeming research an essential service, the Department of Medicine was able to get its graduate students and faculty back to in person classroom learning and in the lab doing science well before most programs at Queen's or elsewhere in Canada. Thanks to Dr. Steve Smith for supporting the early return to in person research. Our TMED students are not only bright scientists, they are also socially active, raising funds throughout the pandemic for those less fortunate and looking after one another

Second, I am proud of our TIME virtual network, which connects us to research platforms, informs us of research opportunities and links us to each other. It was such a success that Queen's University adopted this UniWeb platform for research across the institution. Our network was customized in collaboration with UniWeb and as a result of our sweat equity, we made this virtual community our own. This, invaluable collaborative tool would not have reached the state of functional excellence it has without the hard work and creativity of Dr. Charlie Hindmarch, TIME's Scientific Operations Director, and the financial and personal investments of the DOM and its faculty. Over 200 faculty members now use the network.

Overall, I am so proud that TIME exists in the DOM. It is a grass roots creation which is now an official University Institute and also recognized as one of the six strategic priorities by Queen's Health Sciences. I am excited to see what we discover and who we train in 2022.

Third, a big thank you to the faulty of the Department of Medicine. I received a $500,000 gift from the W. J Henderson Foundation to support TIME and the Queen's Cardiopulmonary Unit (QCPU). The faculty matched this gift, resulting in a million-dollar donation to our research enterprise. We also held a thank you celebration for the W. J Henderson Foundation who are generous supports of health research. I want to especially thank Dr. David Pattenden, who has always believed in the mission of the DOM and TIME.

Finally, a huge thank you to Dr. Stephen Vanner who co-created TIME and serves as its inaugural Scientific Director. Through his vision and drive TIME has continued to innovate with Incubator Grants (that have yielded a 3-4-fold return on investment in stimulating external finding), an annual TIME Medical Grand Rounds lectureship and much more. Dr. Vanner is ably assisted by Dr. Salwa Nihal who administers TIME with dedication and publicizes the successes of our faculty and trainees.

Tick Tock, TIME Keeps on moving into the future!

Dr. Stephen Archer
Head Department of Medicine, Queen's University
Scientific Director of Queen's CardioPulmonary Unit (QCPU)

"Despite the challenges of training graduate students and performing translational research during a global pandemic TIME faculty, students and staff did just that! There is much of which I am proud."

" Queen's Health Sciences has both a depth and breadth of excellence across a multitude of disciplines. Add to this a tightly knit community of researchers and close proximity to academic health sciences centres and you have the breeding grounds for incredible discoveries.

TIME, the Translational Institute of Medicine, was established to leverage these strengths. TIME is bringing together researchers from across the faculty and from across the University to discover how they can work together, share resources, and translate knowledge from the bench to the bedside, to the community. In short, TIME is one of Queen's best drivers in finding solutions to the world's most pressing health needs.

Dr. Jane Philpott MD, CCFP, MPH, PC
Dean, Faculty of Health Sciences, Queen's University

In 2021, Queen's Health Sciences launched its new strategic plan, Radical Collaboration. There is a deep need to move away from siloed sciences to a thriving culture of team-based research. In the years to come, TIME will be one of the important players in bringing this vision to reality. We are incredibly fortunate to have institutes like TIME leading the way to collaborative, interdisciplinary research that will lead to better care for patients."

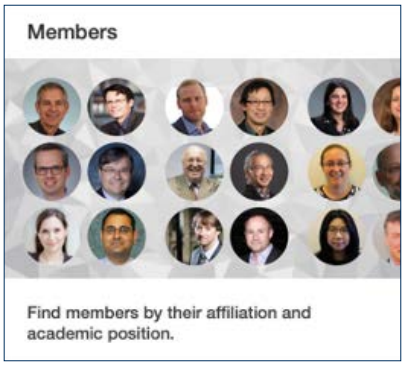
DR. JANE PHILPOTT MD, CCFP, MPH, PC,
Dean, Faculty of Health Sciences, Queen's University

In 2017, TIME established its online network, a comprehensive map of the people, expertise and infrastructure at Queen's University. TIME built the network to ensure that we were able to capture the breadth of translational research at Queen's and present it into user-defined and self-organizing networks that form based on the terms that faculty use to tag their research interests, equipment, and publications. This bold initiative provided the TIME community with more than an identity. It also raises our profile, both to prospective students who've reported using the network to identify supervisors and to industry partners who've found infrastructure and expertise using our Network. Our strategic plan, published last year, develop the TIME network as the vehicle for our community to establish Queen's as a national centre for translational research.

The TIME network proved so successful that the Queen's Vice-Principal Research office approached TIME with a view to rolling this out to the wider Queen's community. Our management team has been instrumental in guiding and advising the VPR on how best to implement this Research Discovery Network to maximize success. In 2022, the VPR will roll out this network across Queen's community. This is important for TIME because it allows genuine, multidisciplinary networks and *de novo* collaborations to be forged.

Translational Institute of Medicine Research Network

Explore the research community at the Translational Institute of Medicine



Sanchit Kaushal
Second-year student in the Bachelor of Health Sciences program at Queen's University

"The TIME Network was integral in helping me obtain a summer research position last summer. Figuring out what field of research was most interesting to me seemed hard enough, yet the task of reaching out to professors and inquiring about potential research opportunities was what felt most daunting. Thankfully, while navigating the Queen's faculty directory, I came across the TIME network that had professors at Queen's organized by research interest tags, departments, research groups in which they operate, and their most recent publications. Using the platform, I narrowed my list of PIs and contacted them via emails listed on their profiles. This plan of action turned out to be highly successful, as I acquired a summer position in the global health lab of Dr. Karen Yeates which has been one of the most rewarding experiences during my time here at Queen's University! I had the privilege of co-authoring two manuscripts published in the African Journal of Reproductive Health, focused on community and health care provider perspectives regarding pre-eclampsia and eclampsia, as well as access to maternal and reproductive health services among women in rural Tanzania. My current project focuses on barriers and enablers to uptake cervical cancer screening services in this region, and I look forward to publishing my findings very soon!"

SANCHIT KAUSHAL,
Second-year student in the Bachelor of Health Sciences program at Queen's University

BY THE NUMBERS

TIME Research Platform; TIME Network
Members across different faculties and departments at Queen's University

OVER

250

Members from Faculty of Health Sciences

14

Departments

3

Faculties

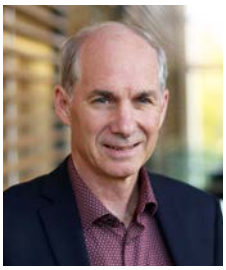
13

Research Groups on the TIME Network

TIME Team

Program Involvement Legend

- TIME Team
- TIME Management Committee
- TIME Executive Committee



Dr. Stephen Vanner
TIME Director

Dr. Stephen Archer
Head, Department of Medicine (DOM)

Dr. Paula James
Translational Medicine Graduate Program Director

Dr. Charlie Hindmarch
Scientific Operations Director for TIME

Dr. Salwa Nihal
TIME Manager

Dr. Jennifer Flemming
DOM Divisional Research Representative

Dr. Mark Ormiston
Translational Medicine Graduate Program Co-Director

Ms. Brooke Ring
QCPU Manager

Dr. David Taylor
DOM Educational Lead

Dr. Mala Joneja
Equity and Diversity

Ms. Krista Knight
DOM Special Projects and Communications Officer

Ms. Carly Hudson
DOM Finance Officer

Mr. Matthew James
TMED Student

***Alyssa Burrows,** MSc Candidate-TMED Graduate Program*
***Study:** "Identifying the Impacts of the COVID-19 Pandemic on People With and Without Allergic Diseases"*

Training & Education

SECTION II

A MESSAGE FROM THE TMED GRADUATE PROGRAM DIRECTORS

Dr. Paula James
Graduate Program Director

Dr. Mark Ormiston
Graduate Program Co-Director

The TMED Program leaders remain very proud of our students, who have continued to succeed despite the ongoing challenges of the COVID-19 pandemic. Highlights for the year include the successful defense of five MSc students, in addition to two students who were promoted from the MSc to the PhD Program through the Mini-Master's route. Our students received multiple awards for their research including two CGS-M (Canadian Graduate Scholarships – Master's) as well as seven highly competitive cross-faculty internal university awards. Two of our students (Jummy Oladipo, MSc candidate and Dr. Caitlyn Vlasschaert, PhD candidate), who had the highest-ranking presentations during the TMED 801 Seminar, were chosen to present their research to the Department of Medicine during Medical Grand Rounds in 2022.

The TMED Student Society continues to provide fun and supportive activities for the group and launched a formal peer-mentoring program in 2021 that has proven highly beneficial for our new students. The Society has also pursued multiple fundraising activities in the community, including a highly successful Holiday Donation Drive for Almost Home. Our program staff, Julie Heagle and Dr. Wei Yan continued to navigate the ever-changing public health requirements to ensure we can deliver graduate education at the highest level.

We are confident that our students will continue to generate new and exciting knowledge, with ongoing translation to improve health outcomes.

Dr. Paula James,
Graduate Program Director

Dr. Mark Ormiston,
Graduate Program Co-Director

BY THE NUMBERS

22

Number of MSc Students

10

Number of PhD Students

6

Graduate Student 6 Master of Science Graduates

TMED Graduate Profile

As I progress through my medical training, I continue to have a growing appreciation for the importance of translational research. The TMED program at Queen's provides students the opportunity to explore their interests through projects that bridge many pillars of the translational research approach. While my MSc research focused on clinical decision-making tools, I also enjoyed learning about the exciting projects my fellow peers were involved in – from topics targeting basic science questions to determining health policy improvements. The observerships and clinical experience offered by the program allowed me to familiarize myself with the clinical environment, giving me greater confidence when speaking with patients in my medical school training. I am fortunate to have been able to learn from a diverse set of scientific experts and am grateful for the many skills that I gained during my time in the TMED program.

Thalia Hua, MSc'21, MD'25(Candidate)
University of Toronto

"The TMED program is a supportive environment that has allowed me to learn and grow as a young researcher. The opportunity to learn from both professionals and patients in the clinical environment has helped me keep my research focused and translationally relevant. I would like to thank Dr. Mark Ormiston for his endless support and guidance throughout my project, and my lab members for their time and assistance on surgeries, and other aspects of my project."

— Jordan Harry, MSc '22

GRADUATES

SPRING 2021 CONVOCATION CEREMONY

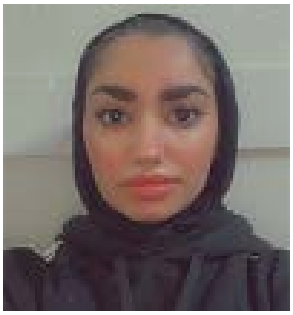
George Phillip, MSc'21

Supervisor:
Dr. Jennifer Flemming

Bethany Monteith, MSc'21

Supervisors:
Dr. Annette Hay and Dr. Joe Pater

FALL 2021 CONVOCATION CEREMONY



Reem Alzafiri, MSc'21

Supervisors:
Dr. Amer Johri and Dr. Charlie Hindmarch

Thalia Hua, MSc'21

Supervisor:
Dr. Damian Redfearn

Madison Mackinnon, MSc'21

Supervisor:
Dr. Diane Lougheed

Katie Monteith, MSc'21

Supervisor:
Dr. Don Maurice

SUCCESSFUL PROMOTIONS FROM MSC TO PHD PROGRAM

Marty VandenBroek

Supervisor:
Dr. Mark Ormiston

Rachel Bentley

Supervisors:
Dr. Stephen Archer and Dr. Charlie Hindmarch

SUCCESSFUL MSC DEFENSE IN DECEMBER

Austin Read

Supervisor:
Dr. Stephen Archer
(Convocation Spring 2022)

EXTERNAL & INTERNAL AWARDS AND SCHOLARSHIPS

Canadian Graduate Scholarship – Master's
Kassandra Coyle
Supervisor: Dr. Mark Ormiston

Canadian Graduate Scholarship – Master's
Charmi Shah
Supervisor: Dr. Don Maurice

Dr. Robert J. Wilson Fellowship
Edwin Ocran
Supervisor: Dr. Paula James

Franklin Bracken Fellowship
Marty VandenBroek
Supervisor: Dr. Mark Ormiston

Graduate Entrance Tuition Award
Lubnaa Hossenbaccus
Supervisor: Dr. Anne K. Ellis

Margaret Andersen Graduate Scholarship
Quentin Tsang
Supervisors: Dr. Stephen Vanner, Dr. David Reed and Dr. Prameet Sheth

Ontario Graduate Scholarship
Matthew James
Supervisors: Dr. Denis O'Donnell and Dr. Alberto Neder

Queen Elizabeth II Graduate Scholarship in Science and Technology
Sophia Linton
Supervisor: Dr. Anne K. Ellis

R. Samuel McLaughlin Award
Kiera Liblik
Supervisor: Dr. Amer Johri

Robert Sutherland Fellowship
Emmanuel Fagbola
Supervisor: Dr. Mark Ormiston

Teyonkwayenawá:kon Graduate Scholarship
Nolan Breault
Supervisor: Dr. Stephen Archer

Teyonkwayenawá:kon Graduate Scholarship
Kyla Tozer
Supervisor: Dr. Prameet Sheth

Rachel Bentley
Supervisors:
Dr. Stephen Archer and
Dr. Charlie Hindmarch

RACHEL BENTLEY

- **Bentley RET**, Hindmarch CCT, Dunham-Snary KJ, Snetsinger B, Mewburn JD, Thébaud A, Lima PDA, Thébaud B, Archer SL. The molecular mechanisms of oxygen-sensing in human ductus arteriosus smooth muscle cells: A comprehensive transcriptome profile reveals a central role for mitochondria. Genomics. 2021 Sep 1;113(5):3128-40.
- **Bentley RET**, Read AD, Archer SL, Dunham-Snary KJ. Mitochondrial iron–sulfur clusters: Structure, function, and an emerging role in vascular biology. Redox Biology. 2021 Nov 1;47:102164.
- Wu D, Dasgupta A, Read AD, **Bentley RET**, Motamed M, Chen KH, Al-Qazazi R, Mewburn JD, Dunham-Snary KJ, Alizadeh E, Tian L, Archer SL. Oxygen sensing, mitochondrial biology and experimental therapeutics for pulmonary hypertension and cancer. Free Radical Biology and Medicine. 2021 Jan 12.
- Hindmarch CCT, Tian L, Xiong PY, Potus F, **Bentley RET**, Al-qazazi R, Prins KW, Archer SL. Integration of Proteomic and Transcriptomic Signatures in the Failing Right Ventricle of Rats With Monocrotaline Induced Pulmonary Arterial Hypertension. Circulation. 2021 Nov 16;144(Suppl_1):A13792.
- Dunham-Snary KJ, Surewaard BG, Mewburn JD, **Bentley RET**, Martin AY, Jones O, Al-Qazazi R, Lima PAD, Kubes P, Archer SL. Mitochondria in human neutrophils mediate killing of Staphylococcus aureus. Redox Biology. 2021 Dec 24:102225.
- **Bentley RET**, Hindmarch CCT, Dunham-Snary KJ, Snetsinger B, Mewburn JD, Thébaud A, Lima PDA, Thébaud B, Archer SL. The comprehensive transcriptome of human ductus arteriosus smooth muscle cells (hDASMC). Data in Brief. 2021 Dec 20:107736.

Alyssa Burrows
Supervisor:
Dr. Anne K. Ellis

ALYSSA BURROWS

- Linton, S.; **Burrows, A. G.**; Hossenbaccus, L.; Ellis, A. K. Future of Allergic Rhinitis Management. Annals of allergy, asthma, & immunology 2021, 127 (2), 183–190. https://doi.org/10.1016/j.anai.2021.04.029.
- **Burrows, A. G.**; Ellis, A. K. Psychological Impacts of COVID-19 on People with Asthma, Allergic Rhinitis and Food Allergy. Annals of allergy, asthma, & immunology 2021. https://doi.org/10.1016/j.anai.2021.12.013.

Above: Alyssa Burrows

Publications (cont.)

Melinda Chelva
Supervisor:
Dr. Karen Yeates

MELINDA CHELVA

- Yeates, K.; Chard, S.; Eberle, A.; Lucchese, A.; **Chelva, M.**; Mtema, Z.; Marandu, P. D.; Smith, G.; Erwin, E.; Nswilla, A.; Tillya, R. P. Dr. Godfrey Mbaruku: A Tribute and Review of the Life of a Maternal Health Crusader in Tanzania. African journal of reproductive health 2021, 25 (3s), 22–29. https://ajrh.info/index.php/ajrh/article/view/2798/pdf.
- Yeates, K.; Chard, S.; Eberle, A.; Lucchese, A.; **Chelva, M.**; Kaushal, S.; Mtema, Z.; Marandu, P. D.; Smith, G.; Erwin, E.; Nswilla, A.; Tillya, R. P. "They Say She Is Bewitched": A Qualitative Study of Community and Health Provider Perspectives Regarding Pre-Eclampsia and Eclampsia in Rural Tanzania. African journal of reproductive health 2021, 25 (3s), 92–104. https://ajrh.info/index.php/ajrh/article/view/2805/pdf.
- Yeates, K.; Chard, S.; Eberle, A.; Lucchese, A.; West, N.; **Chelva, M.**; Marandu, P. D.; Smith, G.; Kaushal, S.; Mtema, Z.; Erwin, E.; Nswilla, A.; Tillya, R. P. "She Needs Permission": A Qualitative Study to Examine Barriers and Enablers to Accessing Maternal and Reproductive Health Services Among Women and Their Communities in Rural Tanzania. African journal of reproductive health 2021, 25 (3s), 121–134. https://ajrh.info/index.php/ajrh/article/view/2807/pdf.

Jordan Harry
Supervisor:
Dr. Mark Ormiston

JORDAN HARRY

- **Harry, J. A.**; Ormiston, M. L. Novel Pathways for Targeting Tumor Angiogenesis in Metastatic Breast Cancer. Frontiers in oncology 2021, 11, 772305–772305. https://doi.org/10.3389/fonc.2021.772305.

"I love that TMED has helped me expand on both my research and clinical skills. I look forward to continuing to grow as a researcher hopefully in clinic some day. I couldn't have done it without my amazing lab-mates Mackenzie, Megan, Edwin and Robbie or my amazing supervisor Dr. Paula James!"

— Michaela Spence, MSc '22

Lubnaa Hossenbaccus
Supervisor:
Dr. Anne K. Ellis

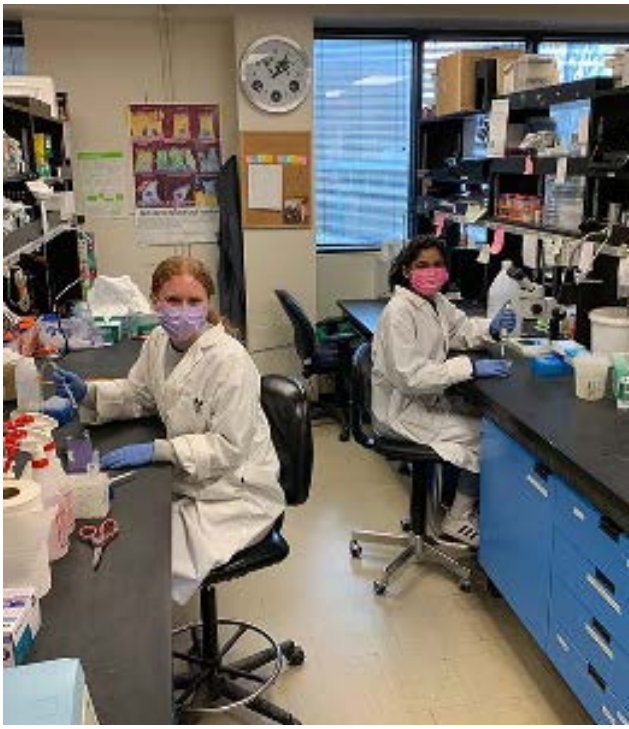
LUBNAA HOSSENBACCUS

- **Hossenbaccus, L.**, Linton, S., Thiele, J., Steacy, L., Walker, T., Malone, C., & Ellis, A. K. (2021). Clinical validation of controlled exposure to house dust mite in the environmental exposure unit (EEU). Allergy, asthma, and clinical immunology : official journal of the Canadian Society of Allergy and Clinical Immunology, 17(1), 34. https://doi.org/10.1186/s13223-021-00536-3
- Ramchandani, R., **Hossenbaccus, L.**, & Ellis, A. K. (2021). Immunoregulatory T cell epitope peptides for the treatment of allergic disease. Immunotherapy, 13(15), 1283–1291. https://doi.org/10.2217/imt-2021-0133
- **Hossenbaccus, L.**; Thibeault, L.; Grabell, J.; Braund, H.; Hopman, W.; James, P. Evaluating the Effectiveness of Let's Talk Period's High School Educational Outreach Program: A Pilot Study. Haemophilia : the official journal of the World Federation of Hemophilia 2021, 27 (3), 470–478. https://doi.org/10.1111/hae.14277
- **Hossenbaccus, L.**; Ellis, A. K. The Use of Nasal Allergen Vs Allergen Exposure Chambers to Evaluate Allergen Immunotherapy. Expert review of clinical immunology 2021, 17 (5), 461–470. https://doi.org/10.1080/1744666X.2021.1905523.
- Linton, S.; Burrows, A. G.; **Hossenbaccus, L.**; Ellis, A. K. Future of Allergic Rhinitis Management. Annals of allergy, asthma, & immunology 2021, 127 (2), 183–190. https://doi.org/10.1016/j.anai.2021.04.029.
- Ramchandani, R.; Linton, S.; **Hossenbaccus, L.**; Ellis, A. K. Comparing the Nasal Allergen Challenge and Environmental Exposure Unit Models of Allergic Rhinitis. Annals of allergy, asthma, & immunology 2021, 127 (2), 163–164. https://doi.org/10.1016/j.anai.2021.04.012.
- **Hossenbaccus, L.**; Linton, S.; Ramchandani, R.; Gallant, M. J.; Ellis, A. K. Insights into Allergic Risk Factors from Birth Cohort Studies. Annals of allergy, asthma, & immunology 2021, 127 (3), 312–317. https://doi.org/10.1016/j.anai.2021.04.025.

Thalia Hua
Supervisor:
Dr. Damian Redfearn

THALIA HUA

- **Hua, T.**; Vlahos, A.; Shariat, M. H.; Payne, D.; Redfearn, D. Predicting Adverse Cardiovascular Outcomes in Post-coronary Artery Bypass Grafting Patients Using Novel ECG Frequency Analysis of the QRS Complex. Annals of noninvasive electrocardiology 2021, 26 (4), e12822–n/a. https://doi.org/10.1111/anec.12822.



Katie Monteith and Charmi Shah in Dr. Donald Maurice's lab.

Publications (cont.)

Matthew James
Supervisors:
Dr. Denis O'Donnell and
Dr. Alberto Neder

MATTHEW JAMES

- **James MD**, Phillips DB, Elbehairy AF, Milne KM, Vincent SG, Domnik NJ, de Torres JP, Neder JA & O'Donnell DE. (2021). Mechanisms of Exertional Dyspnea in Patients with Mild COPD and a Low Resting DLCO. COPD: Journal of Chronic Obstructive Pulmonary Disease 18, 501-510.

Kiera Liblik
Supervisor:
Dr. Amer Johri

KIERA LIBLIK

- Held, C., **Liblik, K.**, Mulvagh, S. L., Hindmarch, C., Alavi, N., & Johri, A. M. (2021). Emotional distress in women after acute myocardial infarction - still a long way to walk. Trends in cardiovascular medicine, S1050-1738(21)00091-8. https://doi.org/10.1016/j.tcm.2021.08.007
- **Liblik, K.**, Mulvagh, S. L., Hindmarch, C., Alavi, N., & Johri, A. M. (2021). Depression and anxiety following acute myocardial infarction in women. Trends in cardiovascular medicine, S1050-1738(21)00082-7. https://doi.org/10.1016/j.tcm.2021.07.005
- Colledanchise, K. N., Mantella, L. E., Hétu, M. F., **Liblik, K.**, Abunassar, J. G., & Johri, A. M. (2021). Femoral plaque burden by ultrasound is a better indicator of significant coronary artery disease over ankle-brachial index. The international journal of cardiovascular imaging, 37(10), 2965–2973. https://doi.org/10.1007/s10554-021-02334-9
- Mantella, L. E., **Liblik, K.**, & Johri, A. M. (2021). Vascular imaging of atherosclerosis: Strengths and weaknesses. Atherosclerosis, 319, 42–50. https://doi.org/10.1016/j.atherosclerosis.2020.12.021
- **Liblik, K.**, Hu, R., Foldes-Busque, G., & Johri, A. 2021. The FRIDA Pilot Study (Female Risk Factors for Post-Infarction Depression and Anxiety). Canadian Journal of Cardiology, 37(10), S17. https://doi.org/10.1016/j.cjca.2021.07.045

"Thank you to all the wonderful TMED TAs for a great year. Thank you to the TMED Student Society for organizing so many events and initiatives. Thank you Dr. Yeates for being such a wonderful and supportive supervisor!"

— Trinity Vey, MSc '23

Sophia Linton
Supervisor:
Dr. Anne K. Ellis

SOPHIA LINTON

- Hossenbaccus L, **Linton S**, Thiele J, et al. Biologic Responses to House Dust Mite Exposure in the Environmental Exposure Unit. Front Allergy. 2022;0:104. https://doi.org/10.3389/FALGY.2021.807208
- Golemiec B, Mullin MLL, **Linton S**, et al. Expediting specialist referral for patients with suspected lung cancer through standardization of radiologist reporting. https://doi.org/101080/24745332202119550392021
- Padayachee Y, Flicker S, **Linton S**, et al. Review: The Nose as a Route for Therapy. Part 2 Immunotherapy. Front Allergy. 2021;2. doi: https://doi.org/10.3389/falgy.2021.668781
- Hossenbaccus L, **Linton S**, Ramchandani R, Gallant MJ, Ellis AK. Insights into allergic risk factors from birth cohort studies. Ann Allergy, Asthma Immunol. 2021. https://doi.org/10.1016/j.anai.2021.04.012
- **Linton S**, Burrows AG, Hossenbaccus L, Ellis AK. Future of Allergic Rhinitis Management. Ann Allergy, Asthma Immunol. May 2021. doi: https://doi.org/10.1016/j.anai.2021.04.029
- Stone CJL, Johnson AP, Robinson D, Katyukha, A, Egan, R, **Linton. S** et al. Health Resource and Cost Savings Achieved in a Multidisciplinary Lung Cancer Clinic. Curr Oncol 2021, Vol 28, Pages 1681-1695. 2021;28(3):1681-1695. doi: https://doi.org/10.3390/curroncol28030157
- Ramchandani R, **Linton S**, Hossenbaccus L, Ellis AK. Comparing the nasal allergen challenge and environmental exposure unit models of allergic rhinitis. Ann Allergy, Asthma Immunol. 2021;127(2):163-164. doi: https://doi.org/10.1016/j.anai.2021.04.012
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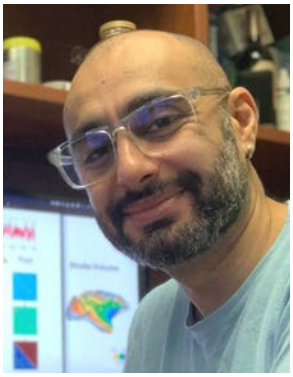

Joseph Nashed
Supervisor:
Dr. D J Cook

JOSEPH NASHED

- Areshenkoff, C. N.; **Nashed, J. Y.**; Hutchison, R. M.; Hutchison, M.; Levy, R.; Cook, D. J.; Menon, R. S.; Everling, S.; Gallivan, J. P. Muting, Not Fragmentation, of Functional Brain Networks Under General Anesthesia. NeuroImage (Orlando, Fla.) 2021, 231, 117830–117830. https://doi.org/10.1007/s12975-020-00859-0.
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Publications (cont.)

Michaela Spence
Supervisor:
Dr. Paula James

MICHAELA SPENCE

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Quentin Tsang
Supervisors:
Dr. David Reed, Dr. Stephen Vanner and Dr. Prameet Sheth

QUENTIN TSANG

- Jiménez-Vargas N. N., Yu Y., **Tsang Q.**, Guzman-Rodriguez M., Degro C., Stein C., Lomax A. E., Reed D. E., Bunnett N. W., & Vanner S. (2021) A novel pH sensitive opioid analgesic that selectively inhibits colonic inflammatory pain. Gastroenterology, 160(6), S-132, https://doi.org/10.1016/S0016-5085(21)01069-6.
- Lopez C., Jaramillo Polanco J., Yu Y., **Tsang Q. K.**, Vanner S., & Reed D. E. (2021). Food antigen-stress interactions leads to increase pain signaling in ileum and colon via STAT6 in IBS model. Journal of Canadian Association of Gastroenterology , 5 (Supp_ 1) , 11-12 , https://doi.org/10.1093/jcag/gwab002.009.
- Jiménez-Vargas N. N., Yu Y., Jensen D. D., Bok D. D., Wisdom M., Latorre R., Lopez C., Jaramillo-Polanco J. O., Degro C., Guzman-Rodriguez M., **Tsang Q.**, Snow Z., Schmidt B. L., Reed D. E., Lomax A. E., Margolis K. G., Stein C., Bunnett N. W., & Vanner S. J. (2021). Agonist that activates the μ-opioid receptor in acidified microenvironments inhibits colitis pain without side effects. Gut, Epub ahead of print, DOI: https://doi.org/10.1136/gutjnl-2021-324070. PMID: 33785555.

Dilakshan Srikanthan
Supervisors:
Dr. John Rudan and Dr. Parvin Mousavi

DILAKSHAN SRIKANTHAN

- **Srikanthan, D.**, Taccone, M., Ommeren, R.V., Ishida, J., Krumholtz, S., Rutka, J.T. Diffuse intrinsic pontine glioma: current insights and future directions. Chinese Journal of Neurosurgery.
- Zador, Z., Patel, P., **Srikanthan, D.**, Balas, M., Landry, A., Saira, A., Spears, J., Hawkins, C.H., Rutka, J.T., Fate-restricted cell population predicted to constitute malignant features in diffuse midline glioma. 2021 American Association of Neurological Surgeons Annual Scientific Meeting, Journal of Neurosurgery.
- **Srikanthan, D.**, Sama, M.A.*, Nestor, A., Cant, J.S. Global-local processing of ensembles reveals single item perception is driven by an interaction between two summary statistics. Attention, Perception and Psychophysics.

TMED Graduate Program Faculty

We would like to thank all faculty members and guest lecturers who have participated in the training of the next generation of translational scientists. The success of our highly qualified graduates is the product of the diligence and commitment of our faculty.

Program Involvement Legend

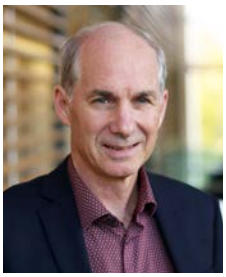
- Graduate Program Director / Co-Director
- Graduate Program Committee
- Course Chair
- Supervisor
- TMED 800 Lecturer
- TMED 801 Speaker
- TMED 802 Speaker
- Observerships
- TMED Research Project

Paula James

Mark Ormiston

Stephen Archer

Anne Ellis



Stephen Vanner

Gord Boyd

Annette Hay

Sarah Moran

Rachel Holden

Don Maurice

Charlie Hindmarch

Amer Johri

Alan Lomax

Diane Lougheed

Alberto Neder

TMED Graduate Program Faculty (cont.)

Prameet Sheth

Jacob Rullo

Karen Yeates

Jennifer Flemming

David Reed

Yuka Asai

Che Colpitts

Gavin Winston

DJ Cook

David Berman

Matt Lanktree

Denis O'Donnell

Parvin Mousavi

Joe Pater

Lynne Postovit

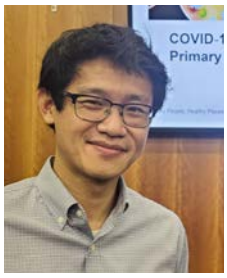
Michael Rauh

Damian Redfearn

John Rudan

Amber Simpson

Tara Baetz



Hugh Guan

David Lillicrap

Michael Beyak

Jeannie Callum

David Conen

David Holland

Monica Mullin

John Ryan

Sam Silver

Thomas Swan

Jessica Trier

Michael Yacob

Moogeh Baharnoori

Marie Clements-Baker

Thomas Herzinger

Lawrence Hookey

Henry Kafka

Janet Lui

Paul Malik

David Taylor

TMED STUDENT SOCIETY

Top Row (left to right): ***Alyssa Burrows*** *(EDI/SGPS Representative),* ***Jordan Harry*** *(Secretary),* ***Marty VandenBroek*** *(PhD Student Representative/GPC Representative),* ***James King*** *(MSc Student Representative/GPC Representative)*
Bottom Row (right to left): ***Kiera Liblik*** *(Treasurer),* ***Kassandra Coyle*** *(Vice President),* ***Melinda Chelva*** *(President)*

"I love the supportive environment of TMED! Whether it be administration, our course chairs and TA's, our supervisors or fellow classmates, it really feels like everyone is in your corner and wants you to succeed. Thank you to all the physicians and researchers who have taken time out of their demanding schedules to enrich our learning. We have truly learned what life is like as a Clinician Scientist and the immense importance of translational research."

— Bethany Wilken, MSc '23

A Message from Melinda Chelva

MSc'22 Candidate

TMED Student Society President

The TMED Student Society is comprised of a group of dedicated and enthusiastic students who strive to foster a strong sense of community within the TMED Graduate program. I have highlighted just some of the many events and activities that the Society organized during the academic year.

In September, we participated in Orientation Day, where we welcomed first-year students into the program by hosting a Meet & Greet Lunch at City Park.

As the year progressed, we worked to organize several socials and team-building activities. This included a pumpkin carving contest, virtual Paint Night, Trivia Night, and an intramural dodgeball team.

We also assembled and distributed a variety of care-packages to students to promote wellness and to celebrate Valentine's Day and Black History Month.

In addition, we organized our first-ever Journal Club series to provide students with a platform to share their research with peers and to encourage scientific discussion.

In the holiday season, we organized a Christmas Cooking Decorating Contest and initiated a donation drive in support of the Almost Home, a local non-profit that provides accommodations for families with children receiving care at hospitals in the Kingston area.

During the TMED program admissions season, we hosted a TMED Q&A Night to share our experiences as current students and answered questions from over 20 prospective students. We also assisted in attending virtual graduate school events offered by the Faculty of Health Sciences and Queen's School of Graduate Studies, to share our positive experiences about the TMED program.

In February, we organized a Finance Workshop, where we invited Dr. Ahmad Bakhshai, an Adjunct Professor of Finance from the Smith School of Business to discuss financial literacy for graduate students.

Furthermore, our Mentorship program was launched in July and has allowed first year students to be paired with upper year mentors in the program, with the goal to allow mentors to share insight and help first-year students navigate academic and non-academic life as a graduate student. This was achieved in the form of one-to-one meetings, help sessions for course assignments, and practice sessions for seminar presentations.

In April, we will host our first ever EDII in Health Care & MedEd Mini Conference, where student researchers at Queen's and other universities will be discussing EDII-related research.

Last but not least, we are excited to also host our Annual TMED Banquet in May, which will be held in person and will recognize and celebrate all the achievements and hard work of recent graduates and current students in the program.

As President of this very dedicated Student Society, I am proud of our many accomplishments and successes over the past year in building a strong and vibrant TMED community.

2021 TMED STUDENT SOCIETY EVENTS

FEBRUARY 8, 2021

Valentine's Day Care Package

FEBRUARY 11, 2021

Faculty vs. Student Trivia Night

MARCH 15, 2021 – APRIL 1, 2021

Kingston Youth Shelter

The TMED Student Society collected $300 in gift cards and 40+ bags filled with a variety of clothing, shoes, school supplies, hygiene supplies, non-perishable foods, and other items.

APRIL 29, 2021

Virtual TMED Annual Banquet

SEPTEMBER 2, 2021

Orientation and Meet & Greet Lunch for Incoming Class

SEPTEMBER 27, 2021

TMED Dodgeball Intramural Team's First Game

OCTOBER 29, 2021

Pumpkin Carving at City Park

NOVEMBER 25, 2021

Graduate Program Virtual Open House, held by the Faculty of Health Sciences

DECEMBER 3, 2021 – DECEMBER 16, 2021

Holiday Donation Drive, in support of Almost Home Kingston

DECEMBER 9, 2021

Virtual Paint Night

Equity Diversity and Inclusion in the TMED Program

Charmi Shah

MSc'22 Candidate

Alyssa Burrows

MSc'23 Candidate

As EDI representatives for the TMED Student Society we focused on bringing to light any inequalities in the academic setting by creating an open dialogue and promoting productive actions to eliminate these issues. With the support of Dr. Wei Yan and the program leadership, we created the TMED Student Experience Survey tailored to understanding possible EDI issues. This survey was created to identify any potential issues students may be experiencing in the program and in their research to improve the overall student learning experience. This survey included questions that covered a broad range of topics which allowed a deeper understanding of which issues require further attention. Our plan was to implement similar surveys routinely to understand student experiences and to detect any changes in attitudes towards EDI.

We were able to debrief the results of the survey with program leadership and discuss the necessity to appoint a point-of-contact for students to reach out to with their EDI concerns. Over the year, we brought awareness to reaching out to Dr. Paula James as the first point of department contact and the EDI Rep on Council as the student-level contact.

We realized that EDI topics can be sensitive to discuss, yet very important to address comfortably, especially in clinical and academic settings. Therefore, we planned to implement an EDI aspect to the TMED 802: Research Success Skills course. As a graduate course that is designed to provide students with essential skills required to be a successful researcher, EDI training seemed to fit within the realm of knowledge that should be studied. Dr. Mala Joneja was invited as a lecturer to present on March 15, 2022. This facilitated discussion was focused on the importance of Inclusion in Academic Medicine. The TMED students submitted questions and topic requests to Dr. Joneja in advance of the session which formed the basis for the conversations. These meaningful conversations on equity, diversity and inclusion in Medicine, included shared past experiences, and highlighted the importance of an ongoing commitment to fostering these discussions.

The TMED Student Society focused on a number of EDI events and activities during the academic year including a social media campaign during Black history month to highlight Black excellence in Canadian Medicine and Biomedical research, and plans for social media campaigns to feature Asian heritage month (May), Pride month (June), and Truth and Reconciliation (September). Plans are well underway for the inaugural, Equity Diversity, Inclusion and Indigeneity in Healthcare and Medical Education mini conference during the spring of 2022. This mini conference will spotlight graduate and medical student research within the EDII space and will invite student researchers at Queen's and other universities that will discuss EDII-related research.

Research

SECTION III

Oliver Jones (Histologist, Transmission Electron Microscopist) at QCPU

Research Funding

TIME is prioritizing Research Excellence in its decision making over the next 5 years. Since its conception, TIME has offered incubator grants to ensure that our members have access to seed money to generate pilot data that will facilitate future significant bids. Through our Speed Dating sessions, TIME has also ensured that members have the opportunity to cross-cut between disciplines to achieve genuinely novel funding bids. Lastly, TIME has participated in the FHS CIHR review process to ensure that applications from the Faculty to CIHR have the best chance of success; this is starting to bear fruit.
TIME communicates with members through our webpage, via email and through our Twitter account **@QueensuTIME**

$16 OVER M

External Research funding received in the year 2021 by all TIME members in the Department of Medicine, DBMS & Pathology (It includes funding received from Government CFI, Tri-council, Clinical Trials, Associations/ Societies & Foundations)

$220,000

Internal DOM Award Competitions

DOM Research Awards

The Department of Medicine held its annual grant competitions for the DOM Research Awards and John Alexander Stewart (JAS) Fellowship. A total of $ 220,000 was awarded to support research opportunities within the Department. $160,000 was awarded across the three categories for the 2021 DOM Research Awards competition.

RECIPIENTS OF THE DOM RESEARCH AWARDS 2021

Category: CIHR Pillars

Dr. Andres Enriquez

Project title: Catheter Ablation of Intramural Septal Ventricular Substrate Using Intracoronary Guidewires.

Dr. Kimberly Dunham-Snary

Project title: Platelet bioenergetics as a circulating biomarker of cardiometabolic disease.

Dr. Moogeh Baharnoori

Project title: Assessment of Cognitive-Motor Interference (CMI) in Individuals with Multiple Sclerosis (lwMS) using Kinarm robot.

Dr. Alberto Neder

Project title: Structural Determinants of Excess Exertional Ventilation in Dyspneic Patients with Mild COPD.

Dr. Don Thiwanka Wijeratne

Project title: Remote Outreach Secure Text Messaging on Discharge to Prevent Readmissions of patients with Chronic Obstructive Pulmonary Disease, A M-COPD pilot study.

Dr. Karen Yeates

Project title: Listening to our Elders: Using concept mapping and digital storytelling to understand and integrate resilience and wellness into community and health system-based approaches for the prevention and treatment of diabetes in remote Indigenous communities.

Category: Clinical Innovation

Dr. Sophie Crinion

Project title: The NOVENA Clinic Project.

Category: Quality Improvement

Dr. Siddhartha Srivastava

Project title: Timely data for targeted quality improvement interventions: Reducing unnecessary repeat laboratory testing for General Internal Medicine inpatients using a visual analytics dashboard – a mixed method study.

The John Alexander Fellowship Award

Two candidates received the JAS Fellowship Award in the year 2021.

Dr. Claudius Degro

Claudius Degro, MD (supervised by Dr. Stephen Vanner) joined the Gastrointestinal Diseases Research Unit lab in 2020 and won a JAS award for his project entitled "Long-term effects of a pH-sensitive opioid agonist on colon motility, tolerance induction and on-target side effects". Abdominal pain is a major symptom of inflammatory bowel disease (IBD) that requires an adequate and sustained analgesic therapy. Opioids are the most potent analgesics, but their prevalent and long-term use are limited by serious side effects. While it has been shown that a single dose of a novel pH-sensitive opioid, called NFEPP, provides effective analgesia without opioid-typical side effects in an animal model for IBD, the effects of repeated dosing are still unknown. The aim of this study is to investigate the long-term effects resulting from repeated NFEPP administrations to evaluate its potential as a new painkiller in IBD and other chronic remitting inflammatory diseases.

Dr. Caitlyn Vlasschaert

Dr. Caitlyn Vlasschaert (supervised by Dr. Michael Rauh and Dr. Matthew Lanktree) was awarded a JAS Fellowship to study clonal hematopoiesis (CHIP) in anti-neutrophil cytoplasmic autoantibody (ANCA)-associated vasculitis in collaboration with Dr. Sarah Moran (University College, Cork) and Dr. Mark Little (Trinity College Dublin). CHIP is a common disorder of white blood cell clonality that leads to multisystem morbidity and mortality through dysregulated inflammation. It is more common in individuals with autoimmune conditions and is present in 30% of individuals with ANCA-associated vasculitis, but its clinical implications have not been studied in detail in this setting. This project will examine the clinical associations of CHIP in 700 individuals with ANCA-associated vasculitis – such as whether kidney disease is more severe or whether thrombotic events occur more frequently. Understanding the implications of CHIP is important as targeted treatments are in development.

SEAMO Innovation Fund Winners 2021

In the year 2021, SEAMO Innovation Fund awards were received by the following TIME members. These unique projects aim to transform healthcare delivery in Ontario in several domains.
It provides short-term seed funding to support innovative projects and enable academic physicians to develop programs sufficiently to qualify for additional support and to evaluate novel strategies to transform health care delivery in Ontario.

Dr. Genevieve Digby

Molecular triage of suspected lung cancer lesions through microRNA-based liquid biopsy.

Dr. Rachel Holden

Osteoporosis in post- menopausal females: an early response marker to identify fast bone losers and treatment response.

Dr. Karen Yeates

Listening to our Elders: using concept mapping and digital storytelling to understand and integrate resilience and wellness into community and health-based system approaches for the prevention and treatment of diabetes in remote Indigenous communities.

Dr. Alberto Serafini Neder

Combining functional imaging and clinical physiology to enhance diagnosis and treatment of dyspneic patients in the initial stages of chronic obstructive pulmonary disease.

Dr. Daniel Mulder

Lymphocyte subsets identify critical markers of disease activity in inflammatory bowel disease patients.

Dr. Prameet Sheth

Characterization of a novel therapeutic for the treatment of *Clostridioides difficile* infection.

SEAMO Endowed Education & Scholarship Fund 2021

Following members were awarded funding through SEAMO's **2021 Endowed Scholarship and Education Fund** competition to use in their respective fields of research.

Dr. Ramana Appireddy

Exploring the integration and assessment of the CanMEDS roles during virtual care encounters.

Dr. Mala Joneja

Lessons from the Faculty of Health Sciences Dean's Action Table on Equity, Diversity, and Inclusion: implications for transforming the clinical learning environment in health professions education.

Dr. Marie Leung

Exploring professional identity formation in clerkship medical students during the COVID-19 global health emergency.


Division of Dermatology

Tri-Council Research Grants

During the year 2021 academic year, TIME members were awarded several external grants. We especially want to congratulate CIHR funding successes from the following PIs and their teams.

SUCCESS OF TIME MEMBERS IN THE CIHR SPRING 2021 GRANT COMPETITIONS

Dr. Mark Ormiston

(Department of Medicine/ DBMS) received a CIHR Project Grant valued at $787,950 for 5 years for his project entitled, "Targeting bone morphogenetic protein-9 as an angioproliferative switch in pulmonary arterial hypertension."

(CIHR Project Grant Details - Ormiston)

Dr. Louise M. Winn

(Biomedical & Molecular Sciences) received a CIHR Project Grant valued at $803,250 for 5 years for her project entitled, "Mechanisms of in utero-initiated benzene toxicity."

(CIHR Project Grant Details - Winn)

Dr. Andrew Craig

(Cancer Biology & Genetics/Biomedical & Molecular Sciences) received a CIHR Spring Project grant valued at $911,116 for 5 years. The project is entitled, "Translating synthetic lethality with common driver events into targeted therapies for high fatality cancers."

(CIHR Project Grant Details - Craig)

Dr. Fernanda De Felice

(Biomedical and Molecular Sciences) received a Spring 2021 Project grant valued at $1,101,600, 5 years. The project is entitled, "Investigating the role of exercise-linked irisin in Alzheimer's disease".

(CIHR Project Grant Details - De Felice)

Dr. Qingling Duan

(Biomedical and Molecular Sciences) is the Principal Investigator on a project entitled, "Early Determinants of Lung Function and Asthma" that was awarded $906,526 for 5 years.

(CIHR Project Grant Details - Duan)

Dr. Amer Johri

(Department of Medicine) and his team received a CIHR Priority Announcement Grant valued at $150,000 for 1 year for his project entitled, "Accelerated Remote Consultation Tele-POCUS In Cardiopulmonary Assessment (ARCTICA)."

(CIHR Project Grant Details - Johri)

Dr. Karen Yeates

(Department of Medicine) and her team received a CIHR Emerging COVID-19 Research Gaps and Priorities Grant valued at $279, 263 for her project entitled, "An exploration of the drivers of COVID-19 vaccine hesitancy to identify and develop community-informed approaches to improving understanding and trust in public health measures among Indigenous peoples in remote and rural communities in Ontario, Canada."

(CIHR Project Grant Details - Yeates)

Dr. Jeannie Callum

(Department of Pathology and Molecular Medicine at Queen's University) and her team received a CIHR Spring Project grant valued at $1,021,276 for 3 years. The project is entitled, "Prospective, multicentre, randomized, parallel-control, superiority study comparing administration of clotting factor concentrates with a standard massive hemorrhage protocol in severely bleeding trauma patients".

(CIHR Project Grant Details - Callum)

Dr. Amer Johri (Professor, Queen's University, Department of Medicine, Cardiology) *founder POCUS Journal* POCUSJournal.com *Director,* CINQLab.com

POCUS virtual workshop for ARCTICA project.

Tri-Council Research Grants (cont.)

SUCCESS OF TIME MEMBERS IN THE CIHR FALL 2021 GRANT COMPETITIONS

The funding amount of the following grants will be projected in the 2022 Annual Report

Dr. Mark Ormiston

(Biomedical & Molecular Sciences/DOM) received a CIHR Fall Project Grant valued at $750,275 for 5 years for his project entitled, "Examining the role for natural killer cell TGFb signaling in pulmonary vascular development and the pathogenesis of pulmonary hypertension.

(CIHR Project Grant Details - Ormiston)

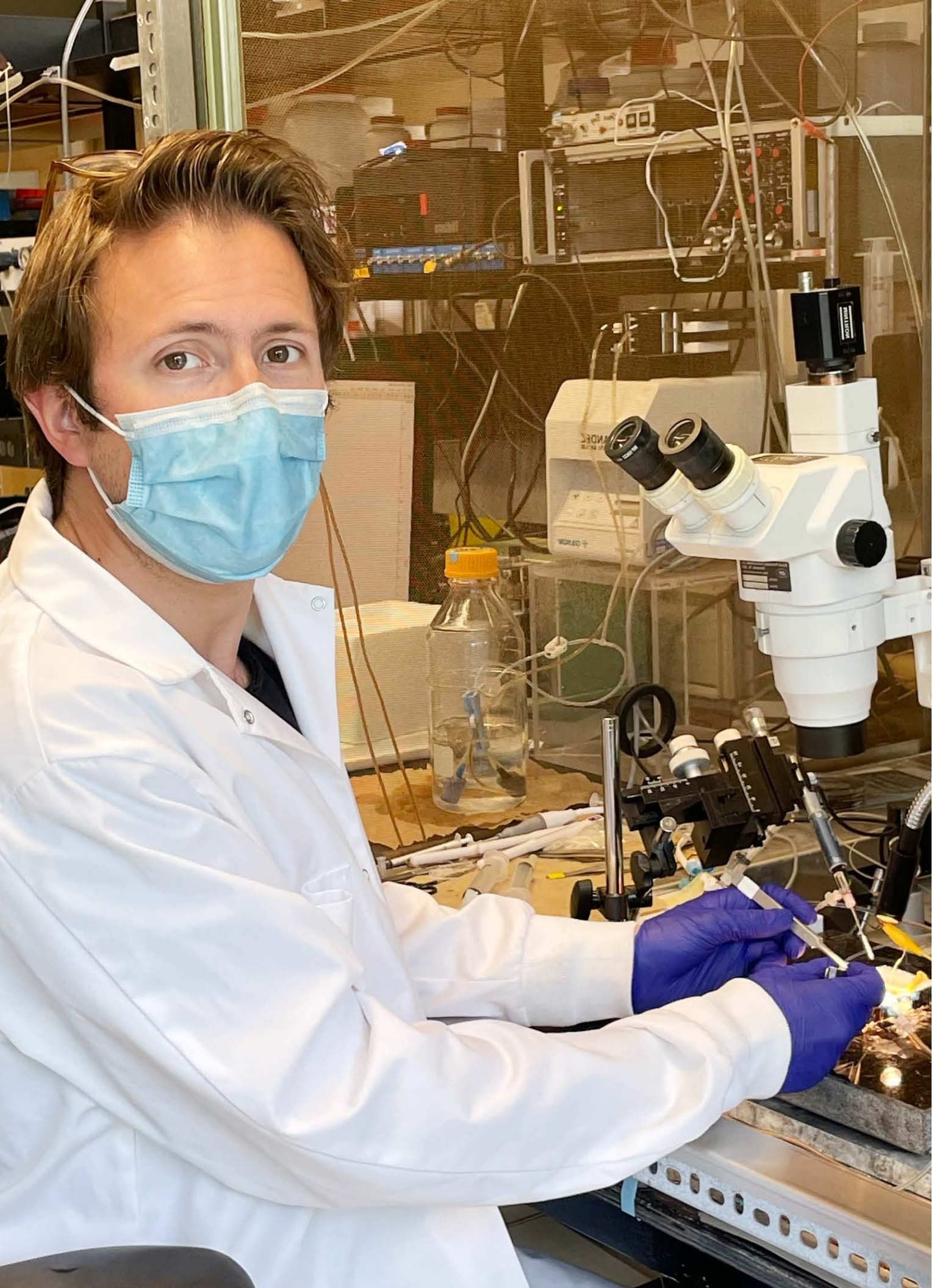
Dr. David Reed

(Department of Medicine) received a CIHR Fall Project Grant valued at $918,000 for 5 years for his project entitled, "Novel microbial driven histamine pathways underlying chronic abdominal pain".

(CIHR Project Grant Details -Reed)

Photo Credit: Matthew Manor

Metabolomics researchers Dr. Martin Kaufmann (left) and Dr. Sean Bennet demonstrate new mass spectrometry capability in the GIDRU lab, W.J. Henderson Centre for Patient-Oriented Research



Claudius Degro - Postdocotoral fellow - GIDRU (Vanner/Reed lab), Study:A novel pH-sensitive opioid to treat visceral pain in inflammatory bowel disease

Tri-Council Research Grants (cont.)

SUCCESS OF TIME MEMBERS IN THE NSERC-NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA 2021 GRANTS COMPETITION

Congratulations to Dr. Alan Lomax and Dr. David Reed for their recent successes in the 2021 NSERC Research Grant Competition!

Dr. Alan Lomax

Awarded $180k ($36k/year for 5 years) for his project entitled, "Analysis of the vagal afferent innervation of the mouse colon".

Dr. David Reed

Awarded $140k ($28k/year for 5 years) for his project entitled, "Inhibition of visceral sensation by cannabinoids in the gastrointestinal tract."

Announcement from the NSERC official website.

Research Awards - Associations, Foundations & Agencies

Dr. Gavin Winston recently received funding from the PSI Foundation for his Clinical Research on Neuroimaging biomarkers of cognitive dysfunction in people with epilepsy. The funding amount of $249,500 over 3 years will be used to support this research by performing an assessment with a robotic technology called Kinarm thus reducing wait times and cost.

PSI Foundation Funded Research Website.

BY THE NUMBERS

Publications by all TIME members and associate members in the year 2020

Disclaimer: Information is based only on the numbers from the updated profiles on the TIME Network

793

Journal Articles

550

Department of Medicine publications

208

Department of Biomedical & Molecular Sciences papers

35

Department of Pathology Publications

TIME SHOWCASE: Celebrating Excellence In Research

RESEARCH IN PRESS

Phylogenomics reveals viral sources, transmission, and potential superinfection in early-stage COVID-19 patients in Ontario, Canada

Calvin P. Sjaarda, Nazneen Rustom, Gerald A. Evans, David Huang, Santiago Perez-Patrigeon, Melissa L. Hudson, Henry Wong, Zhengxin Sun, T. Hugh Guan, Muhammad Ayub, Claudio N. Soares, Robert I. Colautti & Prameet M. Sheth

READ FULL ARTICLE HERE

Prameet M. Sheth
Division of Microbiology
Department of Biomedical & Molecular Sciences

Robert Colautti
Department of Biology
Queen's University

Calvin Sjaarda
Department of Psychiatry
Center for Neuroscience Studies (CNS)

Publications Showcased on the TIME website in 2021

JANUARY-2021

Dr. David Maslove

Pairo-Castineira, E., Clohisey, S., Klaric, L. et al. Genetic mechanisms of critical illness in COVID-19. Nature 591, 92–98 (2021). https://doi.org/10.1038/s41586-020-03065-y

FEBRUARY-2021

Dr. David Reed

Aguilera-Lizarraga, J., Florens, M. V., Viola, M. F., Jain, P., Decraecker, L., Appeltans, I., . . . Boeckxstaens, G. E. (2021). Local immune response to food antigens drives meal-induced abdominal pain. Nature, 590(7844), 151-156. doi:10.1038/s41586-020-03118-2

MARCH-2021

Dr. Prameet Sheth

Sjaarda, C. P., Rustom, N., Evans, G. A., Huang, D., Perez-Patrigeon, S., Hudson, M. L., . . . Sheth, P. M. (2021). Phylogenomics reveals viral sources, transmission, and potential superinfection in early-stage COVID-19 patients in Ontario, Canada. Scientific Reports, 11(1). doi:10.1038/s41598-021-83355-1

APRIL-2021

Dr. Gavin Winston

Kanber, B., Vos, S. B., Tisi, J., Wood, T. C., Barker, G. J., Rodionov, R., . . . Winston, G. P. (2021). Detection of covert lesions in focal epilepsy using computational analysis of multimodal magnetic resonance imaging data. Epilepsia,62(3), 807-816. doi:10.1111/epi.16836

MAY-2021

GI Diseases Research Unit (GIDRU)

Jiménez-Vargas, N. N., Yu, Y., Jensen, D. D., Bok, D. D., Wisdom, M., Latorre, R., . . . Vanner, S. J. (2021). Agonist that activates the μ-opioid receptor in acidified microenvironments inhibits colitis pain without side effects. Gut. doi:10.1136/gutjnl-2021-324070

JUNE-2021

Dr. Samuel Silver

Silver, S., Adhikari, N., Bell, C., Chan, C., Harel, Z., Kitchlu, A., . . . Wald, R. (2021). Nephrologist Follow-Up versus Usual Care after an Acute Kidney Injury Hospitalization (FUSION). Clinical Journal of the American Society of Nephrology. doi:10.2215/cjn.17331120

JULY-2021

Dr. Diane Lougheed

Ologhlen, S. B., Levesque, L., Fisher, T., Dewit, Y., Whitehead, M., To, T., & Lougheed, M. D. (2020). Health Services Utilization Is Increased in Poor Perceivers of Bronchoconstriction and Hyperinflation in Asthma. The Journal of Allergy and Clinical Immunology: In Practice, 8(8). doi:10.1016/j.jaip.2020.03.045

AUGUST-2021

Dr. Alberto Neder

Marillier, M., Bernard, A., Verges, S., Moran-Mendoza, O., Odonnell, D. E., & Neder, J. A. (2021). Oxygen supplementation during exercise improves leg muscle fatigue in chronic fibrotic interstitial lung disease. Thorax, 76(7), 672-680. doi:10.1136/thoraxjnl-2020-215135

SEPTEMBER-2021

Dr. Amer Johri

Johri, A.M., Mantella, L.E., Jamthikar, A.D. et al. Role of artificial intelligence in cardiovascular risk prediction and outcomes: comparison of machine-learning and conventional statistical approaches for the analysis of carotid ultrasound features and intra-plaque neovascularization. Int J Cardiovasc Imaging (2021). https://doi.org/10.1007/s10554-021-02294-0

OCTOBER-2021

Dr. Sarah Moran

Moran, S., Scott, J., Clarkson, M., Conlon, N., Dunne, J., Griffin, M., . . . Little, M. (2021). The Clinical Application of Urine Soluble CD163 in ANCA-Associated Vasculitis. Journal of the American Society of Nephrology. doi:10.1681/asn.2021030382

NOVEMBER-2021

Dr. Jennifer Flemming

Flemming, J. A., Djerboua, M., Groome, P. A., Booth, C. M., & Terrault, N. A. (2021). NAFLD and Alcohol-Associated Liver Disease Will Be Responsible for Almost All New Diagnoses of Cirrhosis in Canada by 2040. Hepatology. doi:10.1002/hep.32032

DECEMBER-2021

Dr. Don Thiwanka Wijeratne

Wijeratne, D.T., Okrainec, K., Gomes, T. et al. Language proficiency and warfarin-related adverse events in older immigrants and Canadian residents: a population-based cohort study. Drugs Ther Perspect 37, 590–598 (2021). https://doi.org/10.1007/s40267-021-00877-4

Left to right Dr. Jennifer Flemming, Sarah Garvey & Dr. Anne K. Ellis in the Resident Research Fair 2021

Events

SECTION IV

TIME SPEAKER AT THE MEDICAL GRAND ROUNDS

Dr. Steven Abman was invited to give a talk as the TIME Speaker in the Medical Grand Rounds on May 20th, 2021. The topic of his presentation was 'Nitric Oxide and the Developing Lung: Linking Biology with Clinical Outcomes.'

Dr. Abman is Professor of Pediatrics and Director of the Pediatric Heart Lung Center (PHLC) at the University of Colorado Denver Anschutz School of Medicine and Children's Hospital Colorado. He obtained his undergraduate degree at Carleton College, attended Northwestern University Medical School, and completed his internship and residency in the Department of Pediatrics at the University of Colorado. After serving as Chief Resident, he completed a3-year fellowship in Pediatric Pulmonary and Critical Care Medicine, joined the faculty of the University of Colorado in1986, and was promoted to Professor in the tenure track in 1996.

Throughout his career, Dr. Abman has maintained strong translational research and clinical interests in neonatal lung injury, lung vascular development, pulmonary hypertension, chronic lung disease in the newborn (bronchopulmonary dysplasia, BPD), persistent pulmonary hypertension of the newborn (PPHN), and related areas. With outstanding collaborators in the PHLC and others, his lab explored many original basic and clinical studies on the physiology, pathobiology and treatment of pulmonary vascular disease in the newborn, which included early studies on nitric oxide (NO) biology and therapy in diverse experimental models and human preterm and term newborns. His lab continues to explore basic mechanisms through which early disruption of angiogenesis and "angiocrine signaling" during lung development impairs alveolarization and contributes to long-lasting abnormalities of lung structure, especially after preterm birth.

2021 RESEARCH STAFF APPRECIATION EVENT

Every year the Department of Medicine & TIME host the Research Staff Appreciation Event to acknowledge the hard work and dedication of the research staff in the Department of Medicine. Despite COVID-19, DOM/TIME had a successful research year, which would not have been possible without the diligence and consistent hard work of our research team during these unprecedented times.

Dr. Stephen Archer with the GIDRU Research team
From right to left: *Kaede Takami, Claudius Degro, Sean Bennet, Stephen Archer, Nestor Jimenez-Vargas, Mabel Guzman-Rodriguez, Cintya Lopez Lopez, Josue Jaramillo Polanco*

Left to Right: *Stephen Archer, Jeff Mewburn , Asish Das Gupta*

Left to Right: *Julie Grabell, Salwa Nihal, Corinne Babiolakis, Mackenzie Bowman, Julie Heagle*

Left to Right: *Kuang-Hueih Chen, Jeff Mewburn, Ashley Martin and Asish Das Gupta, Danchen Wu*

Left to Right: *Salwa Nihal, Ruaa Al-Qazazi, Stephen Archer, Brooke Ring, Kimberly Dunham-Snary, Charlie Hindmarch*

Left to Right: *Sandra Vincent & Devin Phillips*

Left to Right: *Krista Knight & Salwa Nihal*

FROM THE PROGRAM DIRECTOR:

" The Resident Research Fair introduces Core Internal Medicine residents to the high-quality research that takes place at Queen's. The day is organized in a way that gives residents the freedom to network and learn about areas of research and opportunities that are most relevant to their future careers. Everyone leaves this day with new ideas, new connections, and a better understanding of how to embark on successful research during residency. The Resident Research Fair is a catalyst for successful resident research."

Stephen Gauthier MD

Program Director,
Core Internal Medicine Program

Right to Left:
PGY-1 resident Dr. Angela Brijmohan & Dr. Tanveer Towheed

Medical Resident Speaker, Dr. Caitlyn Viasschaert giving a talk.

Right to Left:
Stephen Archer giving away a gift basket as a token of thanks to the guest speaker, Dr. Annette Hay

Left to Right:
Dr. Sonja Molin representing the Division of Dermatology & Dr. Andrew Nguyen

Left to Right:
Sarah Garvey representing the Division of Allergy & Immunology & Dr. Anne K. Ellis

Statement of Equity, Diversity and Inclusion

At the Translational Institute of Medicine (TIME), we commit to providing a welcoming and accommodating environment. We recognize that equity and diversity are sources of strength that promote a culture of excellence, innovation and inclusion that thrive on the contributions of all our members. We work in a university fully committed to the principles and programs for equity and diversity. The core of our mandate is to continuously educate and improve the environment through mutual respect and understanding in all programs while focusing on research and patient care. In alignment with Queen's University, we strive to:

- Maintain an environment of fairness, mutual respect, and inclusiveness where all may work, learn, and share their perspectives free of discrimination.
- Recruit and retain learners, faculty and staff who reflect the diversity of Canadian communities.
- Ensure our programs prepare our trainees to meet the needs of and improve the lives of a diverse group of patients.

TIME Strategic Plan

In 2020 we published our 5-year Strategic Plan, and in consultation with our EDII lead, we ensured that the following priority was embedded together with an appropriate metric of success.

Ensure that TIME is an inclusive, equitable and diverse organization

1. Ensure that our management team, executive team, and board of directors reflect the diversity of Canada.
2. Ensure that all TIME members have access to Equity, Diversity, and Inclusion (EDI) training.
3. Support TIME members regardless of their sex, gender, ethnicity, religion, or background.

Metrics of success:

- Increase the number of TIME members with EDI training.

TIME Lead for EDIIA

Dr. Mala Joneja, Associate Professor and the Division Chair for the Division of Rheumatology Department of Medicine, is the EDIIA Lead and a member of the TIME Executive Committee.

The role description of TIMEs' EDIIA Lead/Coordinator: The TIME EDIIA lead should work with the TIME Management Committee to coordinate, develop, implement, and monitor Human Rights, Equity and Accessibility Initiatives within the Institute and ensure that operations are resolved through an equity lens. They must act as an advisor regarding Human Rights, Equity and Accessibility Initiatives to the TIME Director and the Management Committee. As a change champion, the EDIIA lead must drive the Institute towards a culture of inclusion and belong through the creative use of relevant tools, such as the Diversity and Equity Assessment and Planning (DEAP) Tool and strategies. The lead should offer equity considerations that create best practices for recruiting, selecting, supporting, and retaining diversified staff. They should coordinate training delivery, which includes leading teams and teaching others to develop and deliver Human Rights, Equity and Accessibility training. Lastly, they should provide information, resources and advice to TIME faculty and staff and the community to support the implementation of equity and accessibility initiatives policies included in the TIME Strategic Plan.

TIME has already recruited Dr. Mala Joneja as our EDIIA lead and she will work within the role description stated above. Dr. Joneja is a member of the Ontario Hospital Association Anti-Racism Task Force. Dr. Joneja serves as a chair or member of the following committees: School of Medicine Diversity Panel (chair), the Department of Medicine's Women in Medicine Committee (member & past chair), the Faculty of Health Sciences Indigenous Health Education Working Group (member), Commission on Black Medical Students (member & past chair), and the Kingston Health Sciences Centre Physician Wellness Advisory Committee (member), Translational Institute of Medicine (Executive Committee Member and Equity & Diversity Lead). Dr. Joneja serves as the inaugural Chair of the Dept. of Medicine's Women in Medicine program, launched in 2017. Mala led this group for three years. She successfully created excellent programs, honoured female physicians, and brought together the diverse female faculty within and beyond our department. She was a co-recipient of the Queen's University Human Rights Initiative Award in 2020 for this important work.

Dr. Joneja, EDIIA Lead for TIME, meets with the TMED students annually to discuss inclusion in academic medicine.

Future Considerations

The mission of TIME is to capture the breadth of translational research at Queen's, foster both research and teaching excellence, and ensure that translational scientists have access to state-of-the-art infrastructure, seed grants and grant support. Our Strategic Plan has given this mission clear objectives and articulated those milestones that we can use in pursuit of our goal to be recognized as a Tier I Institute at Queen's University. While the 2021 TIME Annual report demonstrates that we are meeting the high standards we've set for ourselves, we are mindful of future challenges. The TIME team and the executive committee that directs it are committed to advancing the mission and are already discussing ways in which TIME can better serve our faculty, students, and patients. Sustainability is a key piece in this onward direction; we are mindful that TIME will need to grow beyond its current financial model if we are to continue the training of translational researchers, continue to offer incubator funding, and evergreen existing infrastructure. Our leadership is already well engaged in this task and has secured extramural and philanthropic funding that will bring new opportunities for our members.

We are excited about the future of TIME and are ready to work hard to meet the goals laid out in our strategic plan. We think that TIME is a flagship Institute at Queen's University and can demonstrate our leadership at both the faculty and university levels. We are proud to represent basic scientists, clinician-scientists and students across the University.

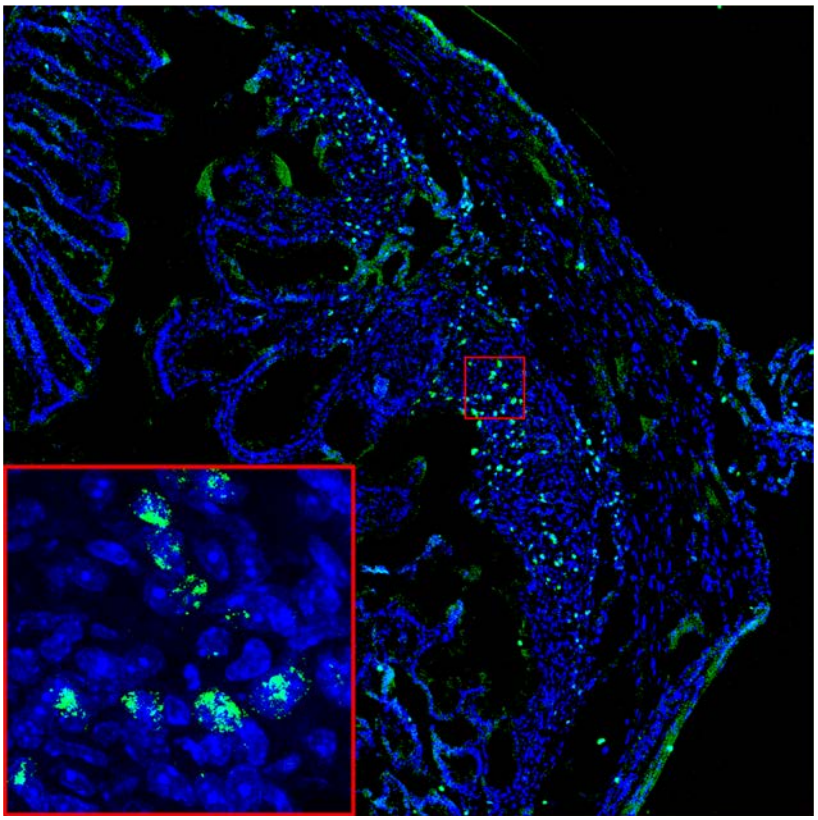


Photo credits: Vanner Lab & QCPU

The image is cross section of the inflamed colon of a mouse treated with a pH low insertion peptide (pHLIP) that inserts into biological membranes only at low pH visualizing acidic microenvironments on a cellular level. Cell nuclei are stained with DAPI (blue) and pHLIP is labeled with FITC (green). Note the spatially restricted labeling of pHLIP within the colon wall and its insertion into cell membranes (inset).


NextSeq 550

For more information please visit: TIME Website.

To view the TIME Stategic Plan visit: Time Strategic Plan 2020-2025

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