

The Ottawa Hospital Research Institute Research Day

Program

Nov 19, 2020



OHRI Research Day Program Nov 19, 2020

Meeting links: <https://secure.ohri.ca/OHRIEvents/ResearchDay/>

- 8:15 AM** **Opening Remarks** (10 minutes)
Speakers: Paul Albert, Justin Presseau, Duncan Stewart, Cameron Love, Jocelyn Côté
- 8:29 AM** **Translational Models of Human Disease** (50 Minutes)
(Talks: 9 minutes plus 3 minutes for questions)
Moderator: *Marissa Lithopoulos*
- **Adam Pietrobon (William Stanford group)** *Loss of TSC1 or TSC2 drives lineage infidelity and hamartoma formation in a renal organoid model of angiomyolipoma*
 - **Haley Geertsma (Maxime Rousseaux group)** *Characterizing the novel Snca-NLS-Flag mouse model to study the neurotoxic effects of nuclear alpha-synuclein*
 - **Annemarie Dedek (Eve Tsai & Michael Hildebrand groups)** *A neuronal mechanism of spinal hyperexcitability is sexually dimorphic in rodent and human models of pathological pain*
 - **Rafael Soares Godoy (Duncan Stewart group)** *Single Cell Transcriptomic Analysis Provides a Roadmap for Microvascular Regeneration in a Model of Acute Lung Injury induced by Targeted Endothelial Cell Ablation*
- 9:23 AM** **Refreshment Break** (10 minutes)
- 9:33 AM** **Novel Approaches Targeting COVID-19 and Cancer** (50 Minutes)
(Talks: 9 minutes plus 3 minutes discussion)
Moderator: *Nikolas Martin*
- **Taha Azad (John Bell & Carolina Ilkow groups)** *Nanoluciferase complementation-based biosensor reveals the importance of N-linked glycosylation of SARS-CoV-2 Spike for viral entry*
 - **Ragunath Singaravelu (John Bell group)** *Development of heterologous prime-boost SARS-CoV-2 vaccination strategies*
 - **Nayaar Islam (Matthew McInnes group)** *'Living' systematic review on thoracic imaging for diagnosis of COVID-19: update 1*
 - **Abera Surendran (Carolina Ilkow group)** *Understanding the role of adipose tissue and fat cells in the tumour microenvironment and its impact on oncolytic virus therapy responses*
- 10:27 AM** **Refreshment Break** (5 minutes)
- 10:33 AM** **Dr. J. David Grimes Lecture** (35 minutes plus 10 minutes discussion)
Moderator: *Michael Schlossmacher*
Sponsored by MJS BioLynx
ACE2 – from cardiovascular research to the heart of a pandemic
Speaker: Josef Penninger
- 11:24 AM** **Refreshment Break** (10 minutes)
- 11:34 AM** **Golfer credits study for quick recovery after surgery** (10 minutes)
Sponsored by BioRad
Patient Speaker: Marie Lapointe
Moderator: *Emily Hladkowicz*
- 11:45 PM** **Update from OHRI Equity, Diversity and Inclusion Council** (5 minutes)
Speaker: EDI Council Chairs Kednapa Thavorn, Manish Sood

11:51 AM **Lunch Break** (30 minutes)

12:21 PM **Elevator Pitch Competition** (60 minutes)
6 projects: 3 minutes and 1 slide. Can they show their impact?
Sponsored by Macadamian Technologies

(Pitches: 3 minutes each)

With Keynote pitch by Andrew Seely

Moderator: Leah Labib

Judges: Katie Lafferty, Russ Jones, Yves Tremblay, Maxime Le, Sujatha Kumarswami, Lisa Robertson

- **Robert Frank (Matthew McInnes group)**
- **Maria Madana (Michael Rudnicki group)**
- **Milad Hamwi (Richard Aviv group)**
- **Chanèle Cyr-Depauw (Bernard Thébaud group)**
- **Sakib Kazi (Matthew McInnes group)**
- **Taylor Jamieson (Carolina Ilkow group)**

1:22 PM **Refreshment Break** (10 minutes)

1:32 PM **Keynote Lecture** (35 minutes plus 10 minutes discussion)
Sponsored by BD Biosciences

Moderator: Angela Crawley

Transforming healthcare for people who inject drugs in the midst of combined public health emergencies

Speaker: Julie Bruneau

2:24 PM **Refreshment Break** (10 minutes)

2:34 PM **From systematic reviews to cohort studies: showcasing clinical health research** (50 Min)

(Talks: 9 minutes, 3 minutes discussion)

Moderator: Victoria Hunniford

- **Bradley Quach (Peter Tanuseputro group)**
Places of care at the end of life among recent immigrants and long-standing residents: a population-based retrospective cohort study
- **Jacob Crawshaw (Justin Pousseau group)**
Identifying behaviour change techniques within randomized trials of interventions promoting organ donation registration
- **Kathryn Sullivan (Gonzalo Alvarez group)**
The role of primary care and the prevention of TB in the urban Canadian context: a seven year retrospective study of gaps in care and treatment barriers
- **Faizan Khan (Dean Fergusson group)**
Risk of Major Bleeding Among Patients Receiving Extended Oral Anticoagulant Therapy for First Unprovoked Venous Thromboembolism: A Systematic Review and Meta-Analysis

2:34 PM **Stem Cells in Tissue Generation** (50 Min)

(Talks: 9 minutes plus 3 minutes discussion)

Moderator: Nicholas Cober

- **Allison Tscherner (Jay Baltz group)**
Cumulus-oocyte interaction is required to maintain active suppression of glycine transport in the preovulatory mouse oocyte
- **Sujay Shah (Pierre Mattar group)**
The chromatin re-modeller Chd4 regulates neural progenitor multipotency
- **William Chen (Michael Rudnicki group)**
KDR modulates muscle stem cell self-renewal, and is required for efficient muscle regeneration
- **Alena Kalinina (Diane Lagace group)**
Beclin1 Maintains Adult Hippocampal Neurogenesis by Regulating Adult Neural Stem and Progenitor Cell Dynamics

3:24 PM Refreshment Break (10 min)

3:34 PM Immunomodulation Affects Therapeutic Response (50 Minutes)

(Talks: 9 minutes plus 3 minutes discussion)

Moderator: Robert Myette

- **Galaxia Rodriguez (Barbara Vanderhyden group)** *The delivery of IL-15 and IL-21 in an infected cell vaccine platform reshapes the immune response for the treatment of ovarian cancer*
- **Grace Fox (Manoj Lalu & Dean Fergusson group)** *Patient Engagement in Preclinical Laboratory Research: A Scoping Review*
- **Meshach Asare-Werehene (Benjamin Tsang group)** *Plasma gelsolin: a mediator of ovarian cancer chemoresistance and an inhibitor of CD8+ T-cell function*
- **Jood Madani (Angela Crawley group)** *CD8+ T cell hyperfunction facilitates cancer development in a murine model of liver fibrosis*

4:22 PM Dr. Ronald G. Worton Researcher in Training Award Winner

(10 minutes)

Moderator: Barbara Vanderhyden

Speaker: David Cook

4:34 PM Awards Ceremony (15 minutes)

Sponsored by 10x Genomics

Moderators: Duncan Stewart, Justin Presseau and Paul Albert

Event hashtag: #OHResDay.

Please respect unpublished data by not taking screenshots or recordings during the meeting.

View posters via the [OHRI Events system](#).
[Troubleshooting Tips for the Live Event](#)

Thank you to our supporters:



Keynotes

Dr. J. David Grimes Lecture



Dr. [Josef Martin Penninger](#) is the Director of the Life Sciences Institute (LSI) at the University of British Columbia. He is a world-renowned geneticist and the Canada 150 Research Chair in Functional Genetics. His major accomplishments include pioneering insights into the molecular basis of osteoporosis and breast cancer, demonstrating a critical role for ACE2 as the cellular receptor for the SARS Coronavirus infections, and linking ACE2 to lung failure in such infections. He has published extensively, with over 60 publications in *Cell*, *Nature*, and *Science*.

Keynote Lecture



Dr. [Julie Bruneau](#) holds the Canada Research Chair in Addiction Medicine at Université de Montréal. She is a professor in the Department of Family and Emergency Medicine and clinical scientist at the Centre Hospitalier de l'Université de Montréal (CHUM) research center. Her research contributes to a better understanding of factors impeding and facilitating harm reduction efforts to reduce HIV and HCV among persons who inject drugs. She is currently conducting a number of clinical trials to improve access, retention and quality care among people who use drugs.

Patient Guest Speaker



Marie Lapointe took part in a [pilot study](#) at The Ottawa Hospital aimed at testing whether a home-based exercise program could help older people better prepare for surgery. She was eligible for the trial because she had a health condition that made exercise difficult. Six weeks after having lung cancer surgery, Marie was back to golfing several times a week. Led by Dr. [Daniel Mclsaac](#), this pilot trial is one of the few of its kind in the world.

Worton Award Winner Presentation



[David Cook](#) received the [2020 Worton Researcher in Training Award](#) in recognition of his outstanding cancer research achievements and pioneering new techniques. During his masters Cook discovered computational biology, which uses data collected during experiments to build computer models of biological systems. He became the institutional expert on these techniques, and researchers from across the hospital sought him out as an instructor and collaborator. He also developed a new computational method for single cell RNA sequencing, which could run 960 samples for the cost of ten.

10x
GENOMICS

Biology at true resolution

Resolve biological complexities
with single cell and spatial solutions

Chromium Single Cell Solutions

- Single Cell Gene Expression
- Single Cell CRISPR Screening
- Single Cell Immune Profiling
- Single Cell Antigen Specificity
- Single Cell Multiomic Cytometry
- Single Cell ATAC
- Single Cell Multiome ATAC + Gene Expression
- Targeted Gene Expression

Visium Spatial Solutions

- Spatial Gene Expression
- Spatial Proteomics
- Targeted Gene Expression

BD FACSymphony™ S6 Cell Sorter

A cell sorter designed to power your scientific discoveries with 6-way sorting and up to 60 parameters.

[Learn More >](#)



Research Day is possible because of support from The Ottawa Hospital Foundation

Your participation in Foundation events, tours and stories allows us to advance the entire research enterprise at The Ottawa Hospital through initiatives such as:

- Core Resources like the Ottawa Methods Centre, StemCore, ICES and Proteomics
- Seminars and events such as OHRI Research Day
- Matching funds for grants and salary awards such as COVID-19 Emergency Response Fund Grants, QEII-GSST trainee awards and TOHAMO grants



The Ottawa Hospital
Foundation
GIVING TODAY.
CREATING TOMORROW.

L'Hôpital
d'Ottawa
Fondation

DONNER AUJOURD'HUI.
C'EST CRÉER DES LENDEMAINS.

MJS
BioLynx
INC.

Lynking Quality Products and Support to your Research

abc biopply
applied biomedical concepts

CoSeedis™ 3D Cell Culture System

- Easy Mass Production of Uniform and Homogenous Organoids for Predictive Disease Modelling

Sequence
BioTech, LLC

Innovative, Easy-to-use, 96-channel
Advanced Benchtop Pipettor



Daresbury Proteins

Authentic Mammalian Proteins
for High-end Applications



Fast, Safe & Reproducible Laboratory Thawing Stations

www.biolynx.ca • 1-888-593-5969 • tech@biolynx.ca

m_a_c_a_d_a_m_i_a_n

The technology partner to take
your research idea from napkin
sketch to market ready.

The technology partner behind
eCARE-PD, MYO-SHARE & RecoverNow
macadamian.com/healthconnect

Facilitating coronavirus research

BIO-RAD

WE'LL SOLVE IT.
TOGETHER.

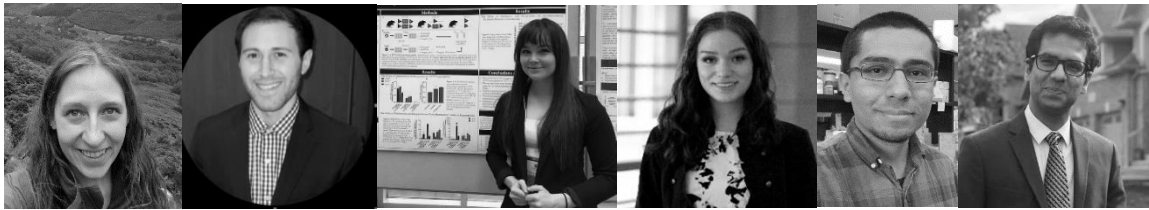
Assisting the global
COVID-19 response

#init4thecure



- COVID Research
- Vaccine Development
- Therapeutic Development

- Clinical Testing
- Wastewater Surveillance



See more of our trainees' photos on the next page

Research trainee salary awards

Abera Surendran	Daniel Serrano	Julie Ouellette	Nicola McCleary
Adam Pietrobon	David Cook	Julie Shaw	Nouf Alluqmani
Akram	David Datzkiw	Kaitlin Endres	Paul Gauthier
Abolbaghaei	David Landry	Keara Sutherland	Quinton Hake-
Akram	David Massicotte-	Kelsea McKay	Volling
Alwithenani	Azarniouch	Kristianne Galpin	Ragunath
Alex Lin	Donald Bastin	Lauren Barter	Singaravelu
Alexandra	Edward Sun	Loucia Chehade	Reza Ojaghi
Beaudry-Richard	Emily Brown	Magdalene Payne	Sakib Kazi
Alvin Tieu	Emily Hladkowicz	Mai Tu	Sarah Cummings
Ana Vera-Cruz	Emily O'Connor	Margarita Lui	Sarah Larrigan
Andrea Vervoort	Faizan Khan	Marie Esper	Sarah Tucker
Anjali Patel	Flore Lesage	Marisa Market	Shannon Fernando
Anna Jorivec	Galaxia Rodriguez	Marissa	Stephanie Farhat
Annemarie Dedek	Gayashan	Lithopoulos	Taha Azad
Anubhav Agarwal	Tennakoon	Mathieu Crupi	Taylor Jamieson
Anupam Sharma	Harsimrat Birdi	Melanie Grondin	Terry Suk
Aoife Reilly	Hayley Geertsma	MengQi Zhang	Wenshan Li
Ashley Hagerman	Ivana Mizikova	Michaela Lunn	Wesley Chan
Boaz Wong	Ivana Nad	Na Zeng	William Hadden
Caitlin Menzies	Jaahnavi Dave	Nathan Fergusson	Zack VanAllen
Chanele Cyr	John Saber	Nathaniel Noblett	Zaid Taha
Damian Chwastek	Jonathan Hodgins	Nayaar Islam	
Daniel Myran	Joseph Shaw	Nicholas Cober	



Research Day Committee and Volunteers

The Ottawa Hospital Research Institute would like to express its appreciation to members of the Research Day Committee for their dedication and hard work in organizing this event, and to the volunteers, whose assistance we could not do without.

Dr. Paul Albert (Co-chair)
Dr. Justin Presseau (Co-chair)
Dr. Jay Baltz

Laura Baker
Amelia Buchanan
Dr. Angela Crawley
Jaahnavi Dave
Jenn Ganton

Leah Labib
Dr. Ian Lorimer
Dr. Tim Ramsay
Dr. Luc Sabourin
Dr. Duncan Stewart

Jennifer Valentino
Mike Hendley
Nicol Lum
Melanie Genereaux
Mathieu Crupi