Monday, June 12, 2023

# IGT SYMPOSIUM AGENDA

**McLaughlin Auditorium, EG-18a**
**Sunnybrook Health Sciences Centre**

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| 8:00 - 8:50 | **Registration & morning refreshments** |
| 8:50 - 9:00 | **Welcoming & opening remarks**<br>Speaker: Dr. Meaghan O'Reilly |
| 9:00 - 10:30 | **Session 1: Breakthroughs in image-guided therapy**<br>Moderator: Dr. Meaghan O'Reilly |
| 10:30 - 10:40 | **Discussion** |
| 10:40 - 11:00 | **Coffee break** |
| 11:00 - 12:30 | **Session: 2: Advances in applied clinical research**<br>Moderator: Dr. Ali Tavallaei |
| 12:30 - 12:40 | **Discussion** |
| 12:40 - 13:00 | **Lunch & networking** |
| 13:00 - 14:00 | **Poster exhibit** |
| 14:00 - 15:30 | **Session 3: Big data and artificial intelligence**<br>Moderator: Dr. Michael Hardisty |
| 15:30 - 15:40 | **Discussion** |
| 15:40 - 16:00 | **Awards & closing remarks**<br>Speaker: Dr. Meaghan O'Reilly |

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# IGT SYMPOSIUM
# SPEAKERS

## Session 1: Breakthroughs in image-guided therapy

9:00 - 9:30

**Neuroimaging markers and neuromodulation strategies of drug addiction**

Dr. Yihong Yang
Senior Investigator of NIH, USA
Chief of Neuroimaging Research Branch National Institute on Drug Abuse, NIH, USA

9:30 - 10:00

**IGT for cardiac arrhythmia management**

Dr. Graham Wright
Senior Scientist, Physical Sciences, Sunnybrook Research Institute, Canada Research Chair, Imaging for Cardiovascular Therapeutics, Tier 1

10:00 - 10:10

**Design of a radio-ultrasound-guided system for breast cancer surgery**

Sydney Wilson
PhD Student, Biomedical Engineering, Western University

10:10 - 10:20

**A novel forward-looking ultrasound catheter for image-guided cardiovascular interventions**

Alykhan Sewani
Graduate, Biomedical Engineering, Toronto Metropolitan University

10:20 - 10:30

**Ultrasound mediated nucleic acid delivery to the heart for the treatment of hypertrophy**

Dr. Brandon Helfield
Assistant Professor, Department of Biology and Department of Physics, Concordia University

## Session: 2: Advances in applied clinical research

11:00 - 11:30

**Histotripsy liver cancer treatment: the road from bench to bedside**

Dr. Zhen Xu
Professor, Biomedical Engineering, University of Michigan, VP of Ultrasonics, IEEE UFFC Fellow of AIMBE

11:30 - 12:00

**Sub-millimeter imaging platform empowered by flat optics for minimally invasive procedures**

Dr. Reza Khorasaninejad
CEO & Founder at LEADOPTIK

12:00 - 12:10

**Opportunistic screening of low bone mineral density from standard x-rays**

Dr. Catriona Syme
Head of Research & Quality, 16Bit

12:10 - 12:20

**BabelBrain: An open-source tool for GPU-accelerated treatment planning of neuromodulation procedures with focused ultrasound**

Dr. Samuel Pichardo
Associate Professor, Radiology and Clinical Neurosciences, Hotchkiss Brain Institute, Cumming School of Medicine, University of Calgary

12:20 - 12:30

**First in-human phase II trial: Intra-cavity imaging of 5-aminolevulinic acid induced fluorescence to detect subclinical breast cancer intraoperatively**

Dr. Ralph DaCosta
Senior Scientist,
Princesses Margaret Cancer Centre

## Session 3: Big data and artificial intelligence

14:00 - 14:30

**Photoacoustic image formation and surgical guidance with machine learning**

Dr. Muyinatu Bell
John C. Malone Associate Professor & PULSE Lab Director, Johns Hopkins University, Department of Electrical and Computer Engineering, Department of Computer Science

14:30 - 15:00

**Using AI to augment neuroradiology workflows**

Dr. April Khademi
Associate Professor, Biomedical, Electrical and Computer Engineering, TMU, Principal Investigator, Image Analysis in the Medicine Lab, Affiliated Scientist, St. Michael's Hospital & iBEST

15:00 - 15:10

**Real-time tumor segmentation for margin visualization in breast-conserving surgical navigation**

Chris Yeung
PhD Student, School of Computing, Queen's University

15:10 - 15:20

**Image guidance for cranial implant design: A cascading U-Net based system with pre-processing and learned implant filtering**

James Mainprize
Research Associate, Physical Sciences, Sunnybrook Research Institute,
Co-Founder, Calavera Surgical Design

15:20 - 15:30

**Clinical-inspired cytological whole slide image screening with just slide-level labels**

Dr. Xiaoxiao Li
Assistant Professor, Department of Electrical and Computer Engineering, UBC

Beidi Chen
MSc Student, Department of Electrical and Computer Engineering, UBC