

AGENDA

January 31, 2011 - Focus: Biological Sciences and Imaging

7:45 REGISTRATION BEGINS

8:00 BREAKFAST

9:00-9:50 *Current State of the Art and Potential Roles of Imaging Biomarkers*
David J Hill, D. Phil, Scientific Director, Lawson Health Research Institute

9:50-10:40 *CT Perfusion Imaging in the Brain - the Utility of Blood Volume Measurements*
Ting Lee, Scientist, Robarts Research Institute, University of Western Ontario

10:40-11:00 BREAK

11:00-12:30 Session 1 Left Side of the Ballroom
Perfusion, Metabolic and Hypoxia Imaging
Chair: Graham Wright, Sunnybrook Health Sciences Centre

Using hyperpolarized Carbon-13 magnetic resonance spectroscopy to probe in-vivo metabolism in real time
Kundan Thind, Robarts Research Institute, University of Western Ontario

Comparison of 3D versus 2D 13N-ammonia PET myocardial perfusion imaging
Jennifer Renaud, Ottawa Heart Institute

Real-time and Non-Invasive Optical Imaging of Hypoxia in Solid Tumors In Vivo
Elizabeth Barker, Ontario cancer Institute, University Health Network

Slow CT or Fast CT for Attenuation Correction in Cardiac SPECT/CT
Eric Sabondjian, Lawson Health Research Institute

Measuring Cerebrovascular Reactivity in Cardiovascular Disease Patients
Udunna Anazodo, Lawson Health Research Institute

A high-resolution Bioluminescence Microscope for Metabolic Imaging of Cancer
Eduardo Moriyama, Ontario Cancer Institute, Princess Margaret Hospital

11:00-12:30 Session 2 Right Side of the Ballroom
Small Animal Imaging Models
Chair: Mark Henkelman, Hospital for Sick Children

Neuroimaging Abnormalities in Mouse Models of Autism
Jacob Ellegood, Mouse Imaging Centre of the Hospital for Sick Children

Aortic Regurgitation Dramatically Enhances Atherogenesis and Alters Plaque Distribution in Mice - A Study Using High Frequency Doppler Ultrasound
Yu-Qing Zhou, Mouse Imaging Centre of the Hospital for Sick Children

Creation of a Pulmonary Model to Aid in Small Animal Imaging
WB Counter, Dept. of Medical Physics, McMaster University

Optimization of a Retrospective Respiratory-gated Micro-computed Tomography Technique for Free-breathing Rats
Nancy L Ford, Department of Physics, Ryerson University

Lung Cancer Imaging Model
To be confirmed, University Health Network

Evaluation of 3D Reconstruction of a Mouse Tumour Histology Volume
Rushin Shojaii, Sunnybrook Health Sciences Centre

12:30-1:30 LUNCH

1:30-3:00 Session 3 Left Side of the Ballroom

Functional Imaging of the Brain

Chair: Ravi Menon, Robarts Research Institute

Morphometric changes in the mouse brain induced by deep brain stimulation: an MRI and DTI study
M. Mallar Chakravarty, Mouse Imaging Centre (MICE), The Hospital for Sick Children

High-resolution imaging of rodent cerebral hemodynamics using functional micro-ultrasound
Martijn van Raaij, Sunnybrook Health Sciences Centre

Neuroimaging in preterm infants and children
Margot Taylor, Hospital for Sick Children

What have we learned from BOLD MRI CVR
David J. Mikulis, University Health Network

Study of a Mouse Model of Neurodegenerative Disease Using MR Imaging and Micro-Computed Tomography
Lindsay Cahill, Mouse Imaging Centre (MICE), The Hospital for Sick Children

Whole brain quantification of arterial transit time and perfusion using multi-slice pseudocontinuous arterial spin labelling
Wayne Lee, The Hospital for Sick Children

1:30-3:00 Session 4 Right Side of the Ballroom

Cells Imaging and Regenerative Medicine

Chair: Graham Wright, Sunnybrook Health Sciences Centre

Reporter Probe methods for ¹³C MRI
Albert Chen, Sunnybrook Health Sciences Centre

Cell labelling with ¹⁸F - HFB
Jean Dasilva, Ottawa Heart Institute

Isoproterenol-induced hypertrophied cardiomyocytes to assess Rho kinase expression and apoptosis
Steven Moreau, National Cardiac PET Center, University of Ottawa Heart Institute

Comparison of the Myocardial Clearance of Endothelial Progenitor Cells injected Early vs Late into Reperfused or Chronically Occluded Myocardial Infarction
Kimberley Blackwood, Lawson Health Research Institute

MRI Tracking of Human Natural Killer Cells to Subcutaneous Prostate Tumours in Nude Mice
Christiane Mallett, Imaging Research Laboratories, Robarts Research Institute

Multi-modality imaging of primary colon tumor xenografts identifies phenotypic differences in the tumor microenvironment
Trevor McKee, University Health Network

3:00-3:15 BREAK

3:15-4:45 Session 5 Left Side of the Ballroom

Nano Technologies and Innovative Methods

Session Chair: David Jaffray, University Health Network

How to deliver Nanoparticles into Tumours-Probing the Interactions of Nanoparticles with Biological Systems
Warren Chan, Institute of Biomaterials and Biomedical Engineering

Multimodality organic nanophotonics for cancer imaging and therapy

3:15-4:50 Session 6 Right Side of the Ballroom

Quantitative Imaging and Therapy

Session Chair: Jerry Battista, University of Western Ontario

Registration of prostate MRI to digital histopathology: Image-guided slicing and retrospective fiducial-based virtual tissue reassembly
Eli Gibson, University of Western Ontario: Departments of Medical Imaging
System design of adaptive image-guided percutaneous needle intervention software using open source

<p>Gang Zheng, University Health Network</p> <p><i>Modelling Intra-tumoral Transport</i> Shawn Stapleton, University Health Network</p> <p><i>Mechatronically Assisted Low Dose Rate Prostate Brachytherapy with Oblique Needles and 3D Ultrasound Guidance</i> Bon Ryu, Imaging Research Laboratories, Robarts Research Institute</p> <p><i>Automatic Segmentation of Non-Small Cell Lung Carcinoma Using 3D Texture Features in Co-Registered 18-FDG PET/CT Images</i> Daniel Markel, Sunnybrook Health Sciences Centre</p>	<p><i>components</i> Andras Lasso, Queen's University</p> <p><i>Artificial Electron Disequilibrium in Lung Radiotherapy Dose Calculations from Inaccurate Cone-beam CT Image Data: Evaluation of CT number Correction Techniques</i> Brandon Disher, London Regional Cancer Program, London Health Sciences Centre</p> <p><i>Murine Model for Early Biomarkers of Response to Antiangiogenics and RT</i> Carolyn Chung, University Health Network</p> <p><i>Quantification of Lung Function Using Dynamic Hyperpolarized ^{129}Xe Magnetic Resonance Spectroscopy</i> Matthew Fox, University of Western Ontario</p> <p><i>Quantitative Endoscopy for Improved Target Delineation in Planning Radiation Therapy</i> Robert Weersink, University Health Network</p>
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4:45 – 7:00 POSTER SESSION/RECEPTION - GIOVANNI ROOM

February 1, 2011 FOCUS: Devices, Technology, Commercialization

7:30-8:00 REGISTRATION AND BREAKFAST

8:00-8:55 COMMERCIALIZATION EDUCATION SESSION

Opening talk: Tibor Turi, NSERC Ontario Engage grant program

General Introduction to IP and Commercialization

John Wallenberg PhD, OICR

Fred Lapner, Medical Devices Bureau, Health Canada (TBD)

Steve Leonard, Patent Agent, Hill&Schumacher

8:55-9:00 OPENING REMARKS

9:00-9:50 *Diffuse Optical Molecular Imaging of Cancer In Vivo: What works and when?*

Brian Poque, Professor of Engineering, Dartmouth Dean of Graduate Studies

9:50-10:40 *Minimally Invasive Robotics-Assisted Lung Tumour Localization and Therapy*

Rajni Patel, Scientific Director, University of Western Ontario

10:40-11:00 BREAK

11:00-12:30 Session 7 Left Side of the Ballroom

Targeted Probe Development and Biomarkers

Chair: Martin Yaffe, Sunnybrook Health Sciences Centre

Discovery of New PET Radiopharmaceuticals for Cancer and Brain Imaging

Neil Vasdev, Centre for Addiction and Mental Health

Co-registered contrast-enhanced ultrasound and MR imaging: pre-clinical studies

Rajiv Chopra, Sunnybrook Health Sciences Centre

CT Imaging

Mathieu Boudreau, Robarts Research Institute

Zinc Imaging Sensors for Detection of Prostate Cancer

Xiao-an Zhang, Environmental Sciences, University of Toronto

NGR Targeting of Liposomal Systems

Mike Dunne, University of Toronto/University Health Network

11:00-12:30 Session 8 Right Side of the Ballroom

Visualization and Image Analysis

Chair: Jerry Battista, University of Western Ontario

3D Sparse Field Active Surface for Automatic Segmentation of CT Lung Tumours

Joseph Awad, Imaging Research Laboratories, Robarts Research Institute

Three-dimensional Ultrasound for Carotid Atherosclerosis: A Semi-automated Method to Quantify Vessel Wall Volume

E. Ukwatta, Robarts Research Institute

US to CT Registration of the Aortic Root

Pencilla Lang, Robarts Research Institute

Intraoperative Cone-Beam CT and Real-Time Virtual Endoscopy for Guidance of Head and Neck Surgery

Mike J. Daly, University Health Network

Quantitative Magnetic Susceptibility Mapping in Rat Brain Structures using Ultra-High Field MRI

David Rudko, Centre for Functional and Metabolic Mapping, Robarts Research Institute

Automatic Localization of Fiducial Markers in X-ray

<p><i>Magnetic Resonance Elastography for Correlative Pathology of Prostate</i> Deirdre M. McGrath, University Health Network</p> <p><i>Do CVR measurements in healthy volunteers obtained using BOLD MRI and TCD correlate?</i> Amir Behpour, Medical Imaging, University of Toronto</p>	<p><i>Fluoroscopy Images</i> Olesya Peshko, University Health Network</p>
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12:30-1:30 LUNCH

<p>1:30-3:00 Session 7 (con-d) Left Side of the Ballroom <i>Targeted Probe Development and Biomarker</i> Chair: Martin Yaffe, Sunnybrook Health Sciences Centre</p> <p><i>Imaging with novel nanodroplet probes</i> Naomi Matsuura, Sunnybrook Health Sciences Centre</p> <p><i>Ultrasound Imaging with Microbubbles</i> Peter Burns, Sunnybrook Health Sciences Centre</p> <p><i>Targeted Dendrimer-Based Radioimaging Agents</i> Alex Adronov, Department of Chemistry and Chemical Biology, McMaster University</p> <p><i>Comparison of [18F]FDG and [18F]FLT-PET/CT for detection of early response of A431 tumour xenografts to an epidermal growth factor receptor tyrosine kinase inhibitor</i> John Forbes, Center for Probe Development and Commercialization</p> <p><i>Imaging of Malignant Glioma Using CT Perfusion Coupled With 18F-fluorodeoxyglucose PET</i> Timothy Pok Chi Yeung, London Regional Cancer Program; Departments of Medical Biophysics</p>	<p>1:30-3:00 Session 9 Right Side of the Ballroom <i>Robotics and Device Therapy</i> Chair: Aaron Fenster, Robarts Research Institute</p> <p><i>MRI and Biopsy Performance in Delineating Recurrent Tumor Boundaries after Radiotherapy for Prostate Cancer</i> Cynthia Menard, University Health Network</p> <p><i>3D Image-Guided Robotic Needle Positioning System for Small Animal Interventions</i> Christopher Waring, Imaging Research Laboratories, Robarts Research Institute</p> <p><i>The development of a minimally invasive Radiofrequency ablation coil electrode.</i> Brock Miller, Department of Medical Physics, Princess Margaret Hospital, University Health Network</p> <p><i>Hybrid Intravascular Ultrasound and Optical Coherence Tomography Catheter for Imaging of Coronary Atherosclerosis</i> Brian Li, Sunnybrook Health Sciences Centre</p> <p><i>Comparison of deformations of the prostate due to needle insertion during TRUS-guided biopsy of hand-held and mechanically stabilized systems</i> Tharindu De Silva, Biomedical Engineering, The University of Western Ontario</p> <p><i>Local Activation Time Map Of The Left Ventricle Using MR-Guided Approach</i> Samuel O. Oduneye, Sunnybrook Health Sciences Centre</p>
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3:00-3:15 BREAK

Imaging Network Ontario Symposium Jan 31 – Feb 1, 2011 89 Chestnut Street

SESSION 10. COMMERCIALIZATION OF IMAGING DEVICES AND TECHNOLOGY

Chair: Raphael Ronen, Director, Medical Imaging Technologies, MaRS Innovation

3:15-4:20 PANEL 1. FROM BENCH TO COMPANY

Opening talk: Aaron Fenster, Centre Director, CImTeC

Panel Members:

Kullervo Hynynen, Imaging Research, Sunnybrook

Don Plewes, Founding Scientist, Sentinelle

Aaron Fenster, Centre Director, CImTeC

4:20-5:40 PANEL 2. FROM COMPANY TO CLINIC

Opening talk: Tibor Turi, NSERC Ontario Engage grant program

Panel Members:

Cameron Piron, CEO, Sentinelle

Frederic Francis, Resonant Medical

Desmond Hirson, VisualSonics

Michelle McBane, Innovation Accelerator Fund

Carey Agnew, Medical Devices Bureau, Health Canada (TBD)

Steve Leonard, Patent Agent, Hill&Schumacher

5:45 – 6:00 POSTER AWARDS ANNOUNCEMENT

6:00 CLOSING REMARKS