ImNO 2022 Program-at-a-Glance

	March 22, 2022	
	Zoom Meeting Room 1	Zoom Meeting Room 2
10:00 - 10:15	Opening Remarks	
10:15 - 11:00	Keynote Session David Jaffray MD Anderson Cancer Center	
11:00 - 11:05	Break	
11:05 - 12:05	Oral 1 Cancer Imaging – Therapy Response	Oral 2 Neuro Imaging
12:05 - 13:05	Lunch Break Gathertown Tutorial (first 10 minutes) and Educational Challenge Kick Off	
13:05 - 13:35	Pitch 1 Machine Learning I	Pitch 2 Neuro Imaging I
13:35 - 14:15	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 1 & 2 Presenting	
14:15 - 14:20	Break	
14:20 - 15:20	Oral 3 MR imaging I	Oral 4 Device, Hardware and System Development
15:20 - 15:25	Break	
15:25 - 15:55	Pitch 3 MR Imaging	Pitch 4 Hardware, Software and System Development
15:55 - 16:35	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 3 &4 Presenting	
16:35 - 18:35	Gathertown Social Event ImKNOW: Connect with Industry Panelists	

	March 23, 2022	
	Zoom Meeting Room 1	Zoom Meeting Room 2
10:00 - 10:05	Opening Remarks	
10:05 - 10:50	Keynote Session Alison Noble University of Oxford	
10:50 - 10:55	Break	
10:55 - 11:55	Oral 5 Machine Learning	Oral 6 Cellular and Molecular
11:55 - 12:55	Lunch and Learn Patient Partnerships Session	
12:55 - 13:25	Pitch 5 Machine Learning II	Pitch 6 Cardiac, Cellular and Molecular
13:25 - 14:05	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 5 & 6 Presenting	
14:05 - 14:10	Break	
14:10 - 15:10	Oral 7 Cancer Imaging	Oral 8 Cardiac and Vascular Imaging
15:10 - 15:15	Break	
15:15 - 15:45	Pitch 7 Cancer Imaging	Pitch 8 Ultrasound and Optical Imaging
15:45 - 16:25	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 7 & 8 Presenting	
16:25 - 17:25	Gathertown Social Event Trivia night	

	March 24, 2022	
	Zoom Meeting Room 1	Zoom Meeting Room 2
10:00 - 10:05	Opening Remarks	
10:05 - 11:05	Oral 9 Imaging for Musculoskeletal Analysis	Oral 10 MR imaging II
11:05 - 11:10	Break	
11:10 - 11:40	Pitch 9 Imaging for Musculoskeletal Analysis	Pitch 10 Neuro Imaging II
11:40 - 12:20	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 9 & 10 Presenting	
12:20 - 13:20	Lunch Break Educational Challenge Presentations	
13:20 - 14:20	Oral 11 Lung Imaging	Oral 12 Image-Guided Intervention and Surgery
14:20 - 14:25	Break	
14:25 - 14:55	Pitch 11 Lung Imaging	Pitch 12 Image-Guided Intervention and Surgery
14:55 - 15:35	Gathertown Meet-and-Greet Poster Viewing Pitch Sessions 11 & 12 Presenting	
15:35 - 16:35	Global Health Session	
16:35 - 17:05	Closing and Awards	

ImNO 2022 Program (Tentative) – last update February 22, 2022

Tuesday, March 22, 2022

10:00	**Opening Remarks** Gabor Fichtinger and Tina Khazaee, ImNO 2022 Chairs	Zoom Meeting Room 1
10:15	**Keynote Session I** Chairs: Yara Alawneh and Catherine Coolens **Re-wiring Academic Medicine for Integrated Computation and Prediction** David Jaffray, MD Anderson Cancer Center	Zoom Meeting Room 1
11:00	**Break**	
11:05	**Oral 1** **Cancer Imaging — Therapy Response** Zoom Meeting Room 1 Chairs: Alice Santilli and Josephine Tan **O1-1: Predicting Recurrence Risk in Lung Cancer Using Multi-Modal Radiomics and Random Survival Forest** Christie Jaryd, Western University **O1-2: Glioma Regions with Low Apparent Diffusion Coefficient: Correlation Between Volumetric Changes During Chemoradiation and Progression-Free and Overall Survival** Liam Lawrence, University of Toronto **O1-3: The Effects of Stereotactic Body Radiotherapy on Tumour Microvasculature: Insights from Optical Coherence Angiography Towards Adaptive Radiation Medicine** Nader Allam, University Health Network **O1-4: Tumour Cell Clusters Surviving After Radiotherapy Can Be Detected Via Texture Analysis of Optical Coherence Tomography Images to Predict Treatment Outcome** Natalia Demidova, University of Toronto	**Oral 2** **Neuro Imaging** Zoom Meeting Room 2 Chairs: Maged Goubran and Min Su Kang **O2-1: Lower Amyloid-PET Signal in White Matter Lesions Is Associated with Increased Free Water: A Multi-Center Mixed Cohort of Small Vessel Disease and Alzheimer's Pathology** Julie Ottoy, Sunnybrook Research Institute **O2-2: Greater Monoamine Oxidase B Distribution Volume in the Prefrontal Cortex in Traumatic Brain Injury with Persistent Symptoms: An [11C]SL25.1188 PET Study** Yuko Koshimori, Centre for Addiction and Mental Health **O2-3: A Digital Brain Perfusion Phantom to Test the Performance of CT Perfusion Software** Kevin Chung, Robarts Research Institute **O2-4: Physiological and Functional Brain Changes in Adults Recovering from COVID-19** William Kim, Sunnybrook Research Institute
12:05	**Gathertown Tutorial (first 10 minutes) and Educational Challenge Kick Off**	Gathertown

13:05	**Pitch 1** **Machine Learning I**	**Pitch 2** **Neuro Imaging I**
	Zoom Meeting Room 1	Zoom Meeting Room 2
	Chairs: Jennifer Polus and Martin Yaffe	Chairs: Kevin Chung and Julie Ottoy
	P1-1: Domain Transfer Through Image-To-Image Translation in Prostate Cancer Detection Meng Zhou, Queen's University	**P2-1: Updated Radiosynthesis of Three High Demand Positron-Emitting Radiotracers for Neuroimaging** Olujide Oyeniran, Western University
	P1-2: Computer-Aided Methods to Predict Prostate MRI Quality Via Rectal Content Estimation Abdullah Al-Hayali, University of Guelph	**P2-2: Beta Amyloid Deposition and Cognitive Decline in Parkinson's Disease: A Study of the PPMI Cohort** Alexander Mihaescu, Centre for Addiction and Mental Health
	P1-3: Effects of Feature Type and Multiple Scanners on Brain Metastasis Treatment Outcome Prediction David DeVries, Western University	**P2-3: Evaluation of Spinal Cord Registration for Diffusion Tensor Imaging with Pathological Spine Data** Vignesh Sivan, University of Waterloo
	P1-4: Unsupervised Learning for Classification of Prostate Cancer Severity Andrea Perera-Ortega, Queen's University	**P2-4: Chemical Exchange Saturation Transfer (CEST) pH-Weighted MRI Optimization in the Spinal Cord** Alicia Cronin, Western University
	P1-5: Comparison of Radiomic Features for Bounding Box and Traditional Segmentation Methods of Axillary Lymph Node Metastases from Breast Cancer on CT Matthew Van Oirschot, University of Toronto	**P2-5: Piloting a Methodology to Assess Functional Connectivity in Healthy Brain Aging** Abhijot Singh Sidhu, University of Calgary
	P1-6: Using Deep Learning to Predict Tumour Mutational Burden in Lung Squamous Cell Carcinoma from 20 Centres Salma Dammak, Western University	**P2-6: Investigating the Effect of Thrombotic Thrombocytopenic Purpura on Neurocognitive Function** Fahad Hannan, Western University
	P1-7: Prostate Segmentation and Reconstruction for Integration in An Ultrasound-Guided Prostate Biopsy System for Nationwide Implementation in Senegal Colton Barr, Queen's University	**P2-7: First-in-Human PET Imaging of [18F]SDM-4MP3: A Detour on the Synaptic Imaging Journey, and Cautionary Note** Kim Desmond, Centre for Addiction and Mental Health
	P1-8: Machine Learning Determination of the Relationship Between the uCT-Derived Visceral Adipose Tissue and Whole-Body Adipose Tissue in Rats Joseph Umoh, Robarts Research Institute	**P2-8: Investigating the Effect of Tissue Heterogeneity on NIRS Monitoring of Cerebral Oxidative Metabolism** Natalie Li, Western University
13:35	**Meet-and-Greet** **Poster Viewing — Pitch Sessions 1 & 2 Presenting**	Gathertown
14:15	**Break**	

14:20	**Oral 3** **MR Imaging I**	**Oral 4** **Device, Hardware and System Development**
	Zoom Meeting Room 1	Zoom Meeting Room 2
	Chairs: Jaykumar Patel and Fatemeh Zabihollahy	Chairs: Amoon Jamzad and Nidhi Singh
	O3-1: Correcting for Gradient Non-Linearity in Concurrent Field Monitored MRI Data Paul Dubovan, Western University	**O4-1: Cautery State Classification for Navigated iKnife Surgery** Josh Ehrlich, Queen's University
	O3-2: Tissue Equivalent Agarose/MnCl2 MRI Relaxation Phantom for MR Studies Daniel Sare, Ryerson University	**O4-2: Continuing Design and Developments of a Forward-Looking Ultrasound Catheter** Alykhan Sewani, Ryerson University
	O3-3: Real-Time Rigid Motion Detection for Brain MRI Using Spherical Navigators Miriam Hewlett, Western University	**O4-3: Design of a Radio-Ultrasound-Guided System for Breast Cancer Surgery** Sydney Wilson, Western University
	O3-4: MRSI Processing and Simulation Using the FID Appliance (FID-A) Toolkit Brenden Kadota, Sunnybrook Research Institute	**O4-4: Development of Photoacoustic Tomography to Monitor Photothermal Therapy of Localized Prostate Cancer** Ivan Kosik, University Health Network
15:20	**Break**	
15:25	**Pitch 3** **MR Imaging**	**Pitch 4** **Hardware, Software and System Development**
	Zoom Meeting Room 1	Zoom Meeting Room 2
	Chairs: Simran Sethi and Dafna Sussman	Chairs: Natasha Alves-Kotzev and Rebecca Hisey
	P3-1: Monitoring the Effect of Cariporide on Intracellular Acidification By CEST-MRI Maryam Mozaffari, Robarts Research Institute	**P4-1: Feasibility of a Spatially Tracked Three-Dimensional Ultrasound (3DUS) System for Point-of-Care Whole-Breast Imaging** Claire Park, Robarts Research Institute
	P3-2: ExTE-HERMES: An MR Spectroscopy Acquisition for Detection of GABA and GSH in the Human Brain Peter Truong, Sunnybrook Research Institute	**P4-2: An Open-Source Testbed for Developing Image-Guided Robotic Tumor Bed Inspection** Laura Connolly, Queen's University
	P3-3: MR Image Resolution Enhancement Using Real-ESRGAN Shawkh Ibne Rashid, Ontario Tech University	**P4-3: The CathPilot: Performance Characterization and Comparison to Conventional Catheters** James Zhou, Ryerson University
	P3-4: Retrospective Frequency and Phase Drift Correction in Rosette MRSI Data Using Spectral Registration Sneha Senthil, Sunnybrook Research Institute	**P4-4: Design of a Novel Side-Looking Catheter for Fenestrated Endovascular Aneurysm Repair Procedures** Yara Alawneh, Ryerson University

	P3-5: A Numerical Bloch Solver with Dynamic Relaxation Calculations for Low-Field MRI Modeling John Adams, Western University	**P4-5: Open-Source Software for Analysis of Mass Spectrometry Imaging** Mackenzie Sharp, Queen's University
	P3-6: Improving Volumetric Magnetic Resonance Arrythmia Substrate Characterization in Cardiac Sequences with Non-Cartesian Gradients Saqeeb Hassan, University of Toronto	**P4-6: Building a Platform for Medical Imaging Federated Analysis** Jenny Lee, TECHNA Institute
	P3-7: Quantitative Susceptibility Mapping of Brain Regions to Assess Metal Deposition Following Total Hip Arthroplasty and Hip Resurfacing Arthroplasty Shahnaz Taleb, Western University	**P4-7: Open Health Imaging Foundation (OHIF) V3: Workflow-Centric Web-Based Medical Imaging Platform** Alireza Sedghi, Open Health Imaging Foundation
	P3-8: Multi-Metabolite-Selective Single-Voxel Spectroscopy Sequence Using Ultra-High Field Proton Magnetic Resonance Spectroscopy Kesavi Kanagasabai, Robarts Research Institute	**P4-8: Review of Research Tools for Computer-Assisted Interventions** Zaiba Amla, Ryerson University
15:55	**Meet-and-Greet** **Poster Viewing — Pitch Sessions 3 & 4 Presenting**	Gathertown
16:35	**Social Event — ImKNOW: Connect with Industry Panelists**	Gathertown

Wednesday, March 23, 2022

10:00	**Opening Remarks** Gabor Fichtinger and Tina Khazaee, ImNO 2022 Chairs	Zoom Meeting Room 1
10:05	**Keynote Session II** Chairs: Anne Martel and Hareem Nisar **Ultrasound Video Analysis** Alison Noble, University of Oxford	Zoom Meeting Room 1
10:50	**Break**	
10:55	**Oral 5** **Machine Learning** Zoom Meeting Room 1 Chairs: Ryan Au and Alison Noble	**Oral 6** **Cellular and Molecular** Zoom Meeting Room 2 Chairs: Wenchao Han and Mahnaz Tajik
	O5-1: Fully Automated Multi-Organ Segmentation of Female Pelvic MRI Using Transfer and Active Learning Fatemeh Zabihollahy, Johns Hopkins University	**O6-1: In Vitro Testing of Novel Manganese-Derived Paramagnetic Contrast Agents for MRI Reporter Gene Imaging** Sean McRae, Western University

	O5-2: Automated Fatty Liver Disease Detection in Point-of-Care Ultrasound B-Mode Images Miriam Naim Ibrahim, University of Guelph	**O6-2: Imaging of Neuroinflammation in Chronic Traumatic Encephalopathy** Cassis Varlow, University of Toronto
	O5-3: Evaluating Faster R-CNN for Cataract Surgery Tool Detection Using Microscopy Video Hung-Yu Lee, Queen's University	**O6-3: Analysis of Magnetic Resonance Relaxation Rates in Mammalian Cells Expressing Essential Magnetosome Genes** Qin (Daisy) Sun, Lawson Health Research Institute
	O5-4: Magnetic Resonance T1 Spectrum Analysis Using Neural Networks Tristhal Parasram, University of Windsor	**O6-4: CRISPR Editing of Chimeric Antigen Receptor T (CAR-T) Cells Expressing Human-Derived MRI and PET Reporter Genes** John Kelly, Robarts Research Institute
11:55	**Lunch and Learn — Patient Partnerships Session**	Zoom Meeting Room 1
	Chairs: Glenn Bauman and Baraa Daher	
	Justin Noble, Ontario Institute for Cancer Research Raymond Kim, Princess Margaret Cancer Centre Glykeria Martou, Queen's University	Diana Lemaire, OICR Patient and Family Advisory Committee Melissa Cable-Cibula, M. Corporate Communications Sherri McCullough, Kingston General Hospital
12:55	**Pitch 5** **Machine Learning II**	**Pitch 6** **Cardiac and Cellular and Molecular**
	Zoom Meeting Room 1	Zoom Meeting Room 2
	Chairs: Aaron Fenster and Amir Moslemi	Chairs: Layale Bazzi and John Ronald
	P5-1: A CT-Based Radiomics Model for Predicting Feeding Tube Insertion in Oropharyngeal Cancer Tricia Chinnery, Western University	**P6-1: A Highly Modular Activatable Synthetic Biology System to Visualize In Vivo Cell-Cell Communication** TianDuo Wang, Western University
	P5-2: Deep Learning-Based MR Image Re-Parameterization Abhijeet Narang, Indian Institute of Technology (ISM), Dhanbad	**P6-2: Trimodal Tracking of Mesenchymal Stem Cells (MSCs) with Magnetic Particle Imaging (MPI), Bioluminescence Imaging (BLI) and Positron Emission Tomography (PET)** Nourhan Shalaby, Western University
	P5-3: Deep Learning Based Differentiation of Solid and Cystic Renal Masses Using T2-Weighted MRI Images Rohini Gaikar, University of Guelph	**P6-3: Fluorine-19 MRI of Stem Cell-Derived Alveolar-Like Macrophages Tagged with Perfluoropolyether** Janny Kim, The Hospital for Sick Children
	P5-4: Automatic Thyroid Nodule Detection and Segmentation Method Based on Mask R-CNN Ningtao Liu, Robarts Research Institute	**P6-4: VivoTrax+TM Improves the Sensitivity and Detection of Cancer Cells with Magnetic Particle Imaging** Kyle Van Beek, Robarts Research Institute
	P5-5: Deep Image Clustering for Standardization of Radiological Workflows Dhruv Patel, Queen's University	**P6-5: PET Imaging of GLUT5 in Rodent Models of Neuroinflammation** Amanda Boyle, Centre for Addiction and Mental Health

	P5-6: Automated Tumour Reconstruction for Real-Time Visualization in Breast-Conserving Surgical Navigation Chris Yeung, Queen's University	**P6-6: The Environment Surrounding Iron Oxide Nanoparticles Influences Sensitivity and Resolution for Magnetic Particle Imaging** Maryam Berih, Western University
	P5-7: Semi-Supervised Segmentation of 3D Ultrasound Images Zachary Szentimrey, University of Guelph	**P6-7: Multi-View 3D Echocardiography Volume Compounding for Mitral Valve Procedure Planning** Patrick Carnahan, Robarts Research Institute
	P5-8: An Advanced Acquisition/Reconstruction Method for 1H and 129Xe MRI with Deep Learning Samuel Perron, Western University	**P6-8: The Resurrection of Multi-Energy Subtraction Angiography** Lisa Garland, Robarts Research Institute
13:25	**Meet-and-Greet** — Gathertown **Poster Viewing — Pitch Sessions 5 & 6 Presenting**	
14:05	**Break**	
14:10	**Oral 7** **Cancer Imaging** Zoom Meeting Room 1	**Oral 8** **Cardiac and Vascular Imaging** Zoom Meeting Room 2
	Chairs: Amanda Boyle and Maryam Mozaffari	Chairs: Mia Mojica and Jill Weyers
	O7-1: Quantification of the Tumor Microvascular Response to Stereotactic Body Radiation Therapy Using Optical Coherence Tomography Angiography and Dynamic Contrast Enhanced MRI William Zabel, University Health Network	**O8-1: Assessing Acute Cardiac Inflammation After Left-Sided Breast Cancer Radiotherapy with Hybrid PET/MRI** Oi Wai Chau, London Regional Cancer Program
	O7-2: Contrast Enhanced Endobronchial Ultrasound for Malignant Lymph Node Detection and Staging Sean McGrath, University of Toronto	**O8-2: Imaging and Electrophysiological Biomarkers in a Novel Preclinical Pig Model of Doxorubicin-Induced Cardiotoxicity** Peter Lin, University of Toronto
	O7-3: Ventilation Heterogeneity Assessed By V-SPECT and 129Xe MRI in Lung Cancer Patients Prior to Lung Resection: An Interim Analysis of Prevalence and Clinical Relevance Nisarg Radadia, McMaster University	**O8-3: Imaging Endothelial Cell Mechanosensory Response to Wall Shear Stress at Varying O2 Tensions** Kevin Moore, Western University
	O7-4: Optical Identification of Biomarkers for Liquid Biopsies Matthew Chen, University of Toronto	**O8-4: Characterization of Myocardial Metabolism Using a Novel Dual-Condition PET/MRI Protocol** Fayez Habach, University of Toronto
15:10	**Break**	

	Pitch 7 Cancer Imaging Zoom Meeting Room 1	Pitch 8 Ultrasound and Optical Imaging Zoom Meeting Room 2
15:15	Chairs: Tricia Chinnery and Tom Purdie	Chairs: Eno Hysi and Amin Jafarisojahrood
	P7-1: Vision Transformers for Prostate Cancer Detection from Ultrasound Paul Wilson, Queen's University	**P8-1: Development of a Simulation Training Curriculum for Ultrasound-Guided Vascular Access for Sustainable Translation to West Africa** Sarah Ryan, Queen's University
	P7-2: p53 Immunohistochemistry Interpretation Based on Digital Image Analysis for Better Prediction of Mutation Status in Acute Myeloid Leukemia Ting Xiao, University of Toronto	**P8-2: In Vitro and in Vivo Assessment of Focused Ultrasound-Triggered Docetaxel-Loaded Nanobubbles for Locally Advanced Breast Cancer Therapy** Patrick Dong Min Chang, University of Toronto
	P7-3: Visualization of Cancer Probability Maps in Micro-Ultrasound Guided Prostate Biopsy Hung-Yu Lee, Queen's University	**P8-3: Label Noise Compensation in Prostate Cancer Classification** Mahdi Gilany, Queen's University
	P7-4: Discriminating Optically Turbid Media by Scatterer Size and Scattering Coefficient Using Backscattered Linearly and Circularly Polarized Light Michael Singh, University of Toronto	**P8-4: Automated Catheter Segmentation in 3D Ultrasound Images from High-Dose-Rate Prostate Brachytherapy** Nicole Kitner, Queen's University
	P7-5: Modelling the Radiation Distribution of Stereotactic Radiotherapy in the Treatment of Patients with Multiple Lung Lesions Edward Wang, Western University	**P8-5: 3D Spatial-Frequency Domain Imaging for Oral Cancer Surgery: Initial Simulations Using Deep Learning** Arjun Jagota, University Health Network
	P7-6: Visualization of the Zonal Anatomy for Transrectal Ultrasound Guided Prostate Biopsy Catherine Wu, Queen's University	**P8-6: Development & Evaluation of a Bone-Targeted Photoacoustic Imaging Agent** Rowan Swann, McMaster University
	P7-7: Cell Phenotyping Using Unsupervised Clustering on Multiplexed Fluorescence Images of Breast Cancer Tissue Specimens Wenchao Han, Sunnybrook Research Institute	**P8-7: Methotrexate-Loaded Microbubbles for Imaging and Treatment of Inflammatory Bowel Disease** Yara Ensminger, University of Toronto
	P7-8: Impact of the Location of Tumor in Prostate Cancer Detection on 3-T Multiparametric MRI Based on the Prostate Sector Map Fatemeh Zabihollahy, University of California, Los Angeles	**P8-8: Ideal Chromophore for Intralipid-Based Tissue-Mimicking Phantom** Rasa Eskandari, Western University
15:45	**Meet-and-Greet** **Poster Viewing — Pitch Sessions 7 & 8 Presenting**	Gathertown
16:25	**Social Event — Trivia Night**	Gathertown

Thursday, March 24, 2022

10:00 **Opening Remarks** — Zoom Meeting Room 1

Gabor Fichtinger and Tina Khazaee, ImNO 2022 Chairs

10:05

Oral 9
Imaging for Musculoskeletal Analysis

Zoom Meeting Room 1

Chairs: Nader Allam and Gabor Fichtinger

O9-1: In-Vitro Characteristics of Embolic Agents for Osteoarthritis
Kierdra Dowling, University of Toronto

O9-2: Four-Dimensional Computed Tomography Scanning Allows for the Visualization and Measurement of Glenohumeral Joint Arthrokinematics
Baraa Daher, Western University

O9-3: Estimating Muscle Fiber Composition Via Resting-State Muscle BOLD Signal Complexity
Joshua McGillivray, McMaster University

O9-4: 3D Ultrasound to Characterize Synovial Volume in First Carpometacarpal Osteoarthritis Patients
Carla Du Toit, Robarts Research Institute

Oral 10
MR Imaging II

Zoom Meeting Room 2

Chairs: Sofia Chavez and Miriam Hewlett

O10-1: Advanced Diffusion MRI Metrics Reveal Acute Sensitivity to Mild Traumatic Brain Injury in a Mouse Model
Naila Rahman, Western University

O10-2: Human Brain Multi-Slice Imaging Using Hyperpolarized 129Xe
Vira Grynko, Lakehead University

O10-3: Tracking Disease Progression in Parkinson's Disease Using Striato-Cortical Gradients
Dimuthu Hemachandra, Robarts Research Institute

O10-4: The Impact of Western Diet Consumption Upon Guinea Pig Placental Metabolism At Two Time Points in Pregnancy Using [1-13C]Pyruvate MRI
Lindsay Morris, Western University

11:05 **Break**

11:10

Pitch 9
Imaging for Musculoskeletal Analysis

Zoom Meeting Room 1

Chairs: Jordan Broberg and Jessica Rodgers

P9-1: The Exploration of the Relationship Between Kinematic Joint Contact and Subchondral Volumetric Bone Mineral Density in People with and Without Wrist Trauma
Lauren Straatman, Western University

P9-2: Optical Imaging for Rheumatoid Arthritis Disease Activity Monitoring: An In Silico and Disease-Mimicking Phantom Study
Seva Ioussoufovitch, Western University

Pitch 10
Neuro Imaging II

Zoom Meeting Room 2

Chairs: Alexander Mihaescu and Dan Xiao

P10-1: Neuroimaging VMAT2 in Parkinson's Disease with Rapid Eye Movement Sleep Behaviour Disorder
Mikaeel Valli, Centre for Addiction and Mental Health

P10-2: Quantifying Lasting Regional Microstructural and Functional Abnormalities in Aging Retired Professional Football Players
Ethan Danielli, McMaster University

	P9-3: Provocative Scapholunate Instability Wrist Positioning Elizabeth Norman, Western University	**P10-3: Quantifying Myelin Water Fraction in the Fetal Guinea Pig Brain** Simran Sethi, Western University
	P9-4: A Deep Learning Algorithm for Automatic Cartilage Segmentation in Knee 3D Ultrasound Images Nathan Orlando, Robarts Research Institute	**P10-4: Resting-State Brain Activity in Pediatric Concussion: A Sex-Based Analysis** Bhanu Sharma, McMaster University
	P9-5: A Comparative Study of Bone Plug Movement in Rectangular Versus Cylindrical Bone Tunnel Using Bone-Patellar Tendon-Bone Grafts Michele Matsubara, University of Toronto	**P10-5: Neural Correlates of Connected Speech in Cerebrovascular Disease** Dana Broberg, Western University
	P9-6: A Convolutional Neural Network for Detection of Corrosion on Retrieved Hip Arthroplasty Systems Anastasia Codirenzi, Western University	**P10-6: Hyperpolarized 129Xe Time-of-Flight Pulse Sequence for Substantial Brain Signal Stability Improvement** Yurii Shepelytskyi, Lakehead University
	P9-7: [18F]FEPPA Autoradiography As a Measure of Macrophage Content in Knee Synovial Tissue Zachary Koudys, Western University	**P10-7: 7 Tesla Diffusion MRI in Subcortical Structures Following COVID-19 Infection** Helma Heidari, Robarts Research Institute
		P10-8: Evaluating Regional Correlations Between Glutamate+Glutamine and GABA+ in the Resting Human Brain Claire Shyu, Centre for Addiction and Mental Health
11:40	**Meet-and-Greet** **Poster Viewing — Pitch Sessions 9 & 10 Presenting**	Gathertown
12:20	**Educational Challenge Presentations**	Zoom Meeting Room 1
13:20	**Oral 11** **Lung Imaging** Zoom Meeting Room 1 Chairs: Nancy Ford and Meghan Koo	**Oral 12** **Image-Guided Intervention and Surgery** Zoom Meeting Room 2 Chairs: Claire Park and Ali Tavallaei
	O11-1: Investigating the Relationship Between Quantitative Ute MRI Measurements and Pulmonary Function of Healthy Pediatric Subjects Daniel Genkin, Ryerson University	**O12-1: Impact of Real-Time Magnetic Resonance Thermometry Motion Compensation on Focused Ultrasound Controlled Hyperthermia in a Small Animal Model** Suzanne Wong, The Hospital for Sick Children
	O11-2: Abnormal 129Xe Ventilation MRI and Inhaled Corticosteroid Deposition in Severe Asthma Ashutosh Thakar, McMaster University	**O12-2: Combining Colour and Ultrasound Video for Central Venous Catheterization Workflow Recognition** Rebecca Hisey, Queen's University
	O11-3: Feasibility of Simultaneous Whole-Lung Ventilation-Perfusion Imaging with Volumetric CT in Non-Small Cell Lung Cancer Heather Young, Western University	**O12-3: Identifying Tissues for Task Recognition in Training of Open Inguinal Hernia Repairs** Elizabeth Klosa, Queen's University

	O11-4: Evaluating CT Imaging Structural Changes in Cystic Fibrosis Responders and Non-Responders Following CFTR Modulator Therapy Gaurav Veer Singh, Ryerson University	**O12-4: Development of a Mini Stereotactic Guidance System for Percutaneous Liver Tumour Ablation** Joeana Cambranis Romero, Robarts Research Institute
14:20	**Break**	
14:25	**Pitch 11** **Lung Imaging**	**Pitch 12** **Image-Guided Intervention and Surgery**
	Zoom Meeting Room 1	Zoom Meeting Room 2
	Chairs: Alicia Cronin and Sarah Svenningsen	Chairs: Michael Daly and Leah Groves
	P11-1: Comparison of Computed Tomography Texture-Based Radiomic Features with Machine Learning for Predicting Chronic Obstructive Pulmonary Disease Kalysta Makimoto, Ryerson University	**P12-1: Recognizing Needle Insertion Attempts in Webcam Video for Skill Assessment in Central Venous Catheterization Training** Catherine Austin, Queen's University
	P11-2: Intra-Visit and Inter-Visit Repeatability of 129Xe Multiple-Breath Washout MRI in Children with Stable Cystic Fibrosis Lung Disease Faiyza Alam, University of Toronto	**P12-2: Toward Automated Three-Dimensional Ultrasound Image Guidance of Gynecological Brachytherapy Treatments** Tiana Trumpour, Robarts Research Institute
	P11-3: The Use of the 129Xe MRI vADC Approach for the Emphysema Progression Evaluation Elnaz Parniyany, Western University	**P12-3: Feasibility of a Video-Based Skill Assessment Method for Central Venous Catheterization** Olivia O'Driscoll, Queen's University
	P11-4: Fractal Dimensions of Airway Surfaces from Computed Tomography Jason Bartlett, Ryerson University	**P12-4: Machine Learning the Assessment of Surgeon Technical Skill for One Handed Surgical Knot Tying** Kevin Kasa, Sunnybrook Research Institute
	P11-5: The Use of Two De-Noising Methods in Healthy Rats for 129Xe Diffusion-Weighted and 19F/129Xe Dynamic-Ventilation MRI Imaging Elise Woodward, Western University	**P12-5: Deep Learning Based Vessel Segmentation from Ice Imaging: Towards an Ultrasound-Based Vascular Navigation Image Guidance System** Hareem Nisar, Robarts Research Institute
	P11-6: Optimization of Tube Voltage for Xenon-Enhanced Dual-Energy Radiography for Imaging Lung Function Fateen Basharat, Ryerson University	**P12-6: Determining the Location of Tumor Classifications in Breast Cancer Surgery** Josh Ehrlich, Queen's University
	P11-7: Inter- & Intra-Visit Reproducibility of Free-Breathing Magnetic Resonance Imaging in Stable Pediatric Cystic Fibrosis Lung Disease Samal Munidasa, University of Toronto	**P12-7: Catheter Tracking Error Characterization for MRI-Guided Interventions** Arjun Gupta, University of Toronto

	P11-8: The Use of 3D Hyperpolarized 129Xe Lung MRI for Deep-Learning-Based Automated Quantification of Ventilation Defects and Heterogeneity Tuneesh Ranota, Western University	**P12-8: Semi-Supervised Cautery Detection with Preprocessing in Basal Cell Carcinoma Surgical Videos** Lucas March, Queen's University
14:55	**Meet-and-Greet** **Poster Viewing — Pitch Sessions 11 & 12 Presenting**	Gathertown
15:35	**Medical Imaging in Global Health: Challenges and Opportunities for Collaboration** Chairs: Helma Heidari and Parvin Mousavi Udunna Anazodo, McGill University Carlos Torres, University of Ottawa	Zoom Meeting Room 1
16:35	**Closing and Awards**	Zoom Meeting Room 1