

STUDY GROUP SESSION

Title: Hyperpolarised Media

Day: Monday May 9, 2016

Time: 16:30-18:30

Room #: Hall 406 D

Study Group Chair, Daniel B. Vigneron, Ph.D.; Vice Chair, Matthew Merritt, Ph.D.; Secretary, Bastiaan Driehuys, Ph.D.;

Committee: Past Chair, Chengbo Wang, Ph.D.

2016-2017 Incoming Committee: Secretary, Christoffer Laustsen, Ph.D.; Trainee Representative, Angus Z. Lau, Ph.D.

Overview: The Mission of this 10+ year old study group is to facilitate the development, evaluation and application of MR using hyperpolarized media including gases and injectable solutions of HP compounds enriched with carbon-13 and other prepolarized nuclei. This Study Group covers both preclinical and clinical research using this powerful MR molecular imaging approach and aims to advance education, training and collaboration in this field.

	Talk titles	Requested Speaker
16:30	Introduction - Welcome & Business Meeting	Daniel B. Vigneron, Ph.D. University of California, San Francisco, USA
16:40	Introduction of New Elected Committee Member	Christoffer Laustsen, Ph.D. Aarhus University, Denmark
16:45	Introduction of New Elected Committee Trainee Representative	Angus Z. Lau, Ph.D. University of Oxford, OCMR, United Kingdom
16:50	Pre-Clinical Studies Profiling Tumor Metabolism & Physiology to Guide Treatment	Murali K. Cherukuri, Ph.D. National Institutes of Health, USA
17:05	Hyperpolarized Gas MRI: Status, Challenges, & Opportunities	John P. Mugler III, Ph.D. University of Virginia, USA
17:12	Using Hyperpolarized MRI to Study Cardiac Metabolism	Damian J. Tyler, Ph.D. University of Oxford, United Kingdom
17:19	Initial Human Cardiac HP ¹³ C MR at University of Toronto	Justin Y.C. Lau, M.Sc. Sunnybrook Research Institute, Canada
17:25	Traditional & Electronic Poster Session	
18:25	Announcement of Poster Award Winners	Hyperpolarised Media SG Committee
18:30	Adjournment	

Electronic & Traditional Poster Presentations

Characterisation of Adipose Tissue-Derived Mesenchymal Stem Cell using Hyperpolarized MRS	Lotte Bertelsen, Ph.D. Aarhus University Hospital, Denmark
Concentration-Dependent Hepatic Metabolism <i>In Vivo</i> Using a Near Physiological Dose Range of Hyperpolarized [1-13C] Pyruvate	Emine Can, M.Sc. Swiss Federal Ins. of Technology, EPFL, Switzerland
Whole Lung Morphometry with Hyperpolarised ³ He Gas Diffusion MRI - 3D Multiple b-value Acquisition & Compressed Sensing	Ho-Fung Chan, M.Eng. University of Sheffield, United Kingdom
3D Dynamic Hyperpolarized ¹³ C-Pyruvate MR Metabolic Imaging of Human Prostate Cancer	Hsin-Yu Chen, M.Sc. University of California, San Francisco, USA
[¹³ C]-tert-butanol-2-β-D-galactose: A Potential New Hyperpolarized Imaging Agent for In Vivo Imaging of Senescent Cells	Keshav Datta, M.S. Stanford University, USA

Can the Forced Oscillation Technique & a Computational Model of Respiratory System Mechanics Explain Asthma Ventilation Defects?	Megan C. Fennema Robarts Research Institute, Western Univ., Canada
Dual-Echo EPI Sequence for Integrated Distortion Correction in 3D Time-Resolved Hyperpolarized ^{13}C MRI	Benjamin J. Geraghty, M.Sc. University of Toronto, Canada
Mis-Estimation & Bias of Hyperpolarized ADC Measurements Due to Slice Profile Effects	Jeremy W. Gordon, Ph.D. University of California, San Francisco, USA
Hyperpolarized Xenon-129 Lung 3D SB-CSI at 1.5 & 3 Tesla	Steven Guan, B.Sc. University of Virginia, USA
Differentiating Early Stage & Later Stage Idiopathic Pulmonary Fibrosis using Hyperpolarized ^{129}Xe Ventilation MRI	Mu He, M.Sc. CIVM-Duke University Medical Center, USA
Spatial Fuzzy C-Means Thresholding for Semi-Automated Calculation of Percentage Lung Ventilated Volume from Hyperpolarised Gas & ^1H MRI	Paul John C. Hughes, M.Eng. University of Sheffield, United Kingdom
Intraperitoneal Substrate Administration for ^{13}C Metabolic Imaging in a Mouse Model of Abdominal Metastasis	Justin Y.C. Lau, M.Sc. Sunnybrook Research Institute, Canada
Optimization & Application of Bipolar Gradient for Flow-Suppressed Hyperpolarized ^{13}C CSI in Mouse Liver at 9.4T	Hansol Lee, B.Sc. Yonsei University, Republic of Korea
Using a Low Rank Plus Sparse Reconstruction Approach to Accelerate 3D Dynamic bSSFP Hyperpolarized Carbon-13 MR Imaging	Eugene Milshteyn, B.Sc. University of California, San Francisco, USA
Noninvasive Biomarkers for the Diagnosis of Hepatic Ischemia Reperfusion Injury: A Real-Time <i>In Vivo</i> Hyperpolarized ^{13}C MRS & IVIM-DWI	Chung Man Moon, Ph.D. Research Institute for Medical Imaging, Republic of Korea
<i>In-Vivo</i> Assessment of Lung Injury Using Hyperpolarized Carbon-13 MRI in a Two-hit Model of Acid Aspiration & VILI	Mehrdad Pourfathi, M.Sc. University of Pennsylvania, USA
MR of Hyperpolarized Xe-129 Dissolved in the Human Brain at 1.5 T & 3.0 T	Madhwesha Rao, B.E. University of Sheffield, United Kingdom
Improved Fitting of ^{129}Xe Spectroscopy Identifies Three Dissolved-Phase Resonances in the Human Lung	Scott H. Robertson, M.Sc. Duke University, USA
Quantitative Gas Exchange using Hyperpolarized ^{129}Xe MRI in Idiopathic Pulmonary Fibrosis	Ziyi Wang, B.Eng. Duke University, USA
Severity Evaluation in Cystic Fibrosis Using Oxygen-Enhanced MRI: Comparison to Hyperpolarized Helium-3 MRI	Wei Zha, Ph.D. University of Wisconsin-Madison, USA
<i>In Vivo</i> Enzyme Activity Measurements with Hyperpolarized ^{13}C Pyruvate in a Transgenic Tumor Mouse Model	Zihan Zhu, B.Sc. University of California, San Francisco, USA