



The One-Stop-Shop
Spectroscopy Solution

MR SCIENCE Laboratory
Magnetic Resonance Scientific Engineering for Clinical Excellence



7th Annual INSPECTOR MR Spectroscopy Workshop

Columbia University in the City of New York
Friday, November 17, 2023, 8:00 AM – 5:45 PM EST
9th floor, Jerome L. Greene Science Center
3227 Broadway, New York, NY 10027

Sponsored by MISSIONS – The Merck Imaging Network

8:00 AM **Check-in & Breakfast**
9th Floor, Jerome L. Green Science Center

8:45 AM **Welcome & Agenda**
Christoph Juchem, Ph.D., Columbia University



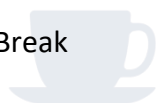
Session I

9:00 AM **Fulfilling a pressing need for standardization in MRS research:
MRS-BIDS and NIfTI-MRS**
Mark Mikkelsen, Ph.D., Weill Cornell Medicine

9:30 AM **Deep Learning-based MRS Reconstruction and Denoising with
Artificial Fourier Transform Network (AFT-Net)**
Yanting Yang, M.S., Columbia University

10:00 AM **MRS of brain glutamate metabolism as a translational biomarker for drug development**
Corey Miller, Ph.D., Merck & Co.

10:30 AM **Coffee Break**



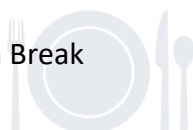
Session II

11:00 AM **Chemical shift displacement error: prospective and retrospective
corrections for 3T PRESS MRS data acquired on GE scanners**
Diana Rotaru, Ph.D., Columbia University

11:30 AM **synMARSS, a novel platform for simulating in vivo synthetic spectra**
Karl Landheer, Ph.D., Regeneron Pharmaceuticals

12:00 PM **Panel Discussion, Artificial Intelligence (AI) for MR Spectroscopy**
Moderator: Christoph Juchem, Ph.D., Columbia University
Panelist: Jia Guo, Ph.D., Columbia University
Panelist: Maggie Fung, GE Healthcare
Panelist: Sachin Jambawalikar, Ph.D., Columbia University
Panelist: Lawrence Kegeles, M.D., Ph.D., New York State Psychiatric Institute

12:30 PM **Lunch Break**





Session III

- 1:30 PM **The Past, Present, and Future of Functional Magnetic Resonance Spectroscopy (fMRS)**
Alex Lin, Ph.D., Harvard Medical School
- 2:00 PM **MC-ECLIPSE for B₀ shimming and arbitrary ROI shaped OVS for applications in human brain ¹H-MRSI**
Chathura Kumaragamage, Ph.D., Yale University School of Medicine
- 2:30 PM **First-in-human Evaluation of [1-¹³C] Pyruvate in D₂O for Hyperpolarized MRI Promises More Accurate Cancer Diagnosis**
Guannan Zhang, Ph.D., Memorial Sloan Kettering Cancer Center
- 3:00 PM **NMR-based Metabolomics**
Leo Cheng, Ph.D., Harvard Medical School

- 3:30 PM **Coffee Break**



Session IV

- 4:00 PM **Integrating Structural, Functional, and Biochemical Brain Imaging Data with MRShiny Brain - An Interactive Web Application**
Jessica Archibald, Ph.D., Weill Cornell Medicine
- 4:30 PM **Latest Spectroscopy Features in PV360**
Saaussan Madi, Ph.D., Bruker BioSpin
- 5:00 PM **Spectral registration for retrospective B₀ drift correction of rosette MRSI data at 3 Tesla**
Jamie Near, Ph.D., University of Toronto
- 5:30 PM **Final Comments & Adjournment**
Christoph Juchem, Ph.D., Columbia University



Online Program:

