

Speakers

Paul Thompson, Ph.D.

Director of ENIGMA Center for Worldwide Medicine, Imaging & Genomics, Los Angeles, CA

Vince Calhoun, Ph.D.

Chief Executive Officer/Director, Image Analysis & MR, The Mind Research Network, Albuquerque, NM

Michael Milham, M.D., Ph.D.

Director, Center for the Developing Brain, Child Mind Institute, New York, NY

Peter Bandettini, Ph.D.

Chief, Section on Functional Imaging Methods, National Institute of Mental Health (NIMH), Bethesda, MD

Patrick Bellgowan, Ph.D.

Program Director, National Institute of Neurological Disorders and Stroke (NINDS), Bethesda, MD

Brian Caffo, Ph.D.

Professor, Department of Biostatistics, JHU Bloomberg School of Public Health, Baltimore, MD

Jian Chen, Ph.D.

Assistant Professor, Computer Science & Electrical Engineering, UMBC, Baltimore, MD

Peter Kochunov, Ph.D.

Associate Professor, Department of Psychiatry, University of Maryland, Baltimore, MD

Andreia Faria, M.D., Ph.D.

Assistant Professor, Department of Radiology, Johns Hopkins University, Baltimore, MD

Amitabh Varshney, Ph.D.

Director, Institute for Advanced Computer Studies, University of Maryland, College Park, MD

General Information

Registration

Please arrive before 9:00 AM to pick up your folder at the registration desk on the 2nd floor of the SMC center. Complimentary lunch is provided with registration.

Organizing Committee

Rao Gullapalli, Ph.D., David Seminowicz, Ph.D., Chandler Sours, Ph.D., Da Shi, Shiyu Tang, Luma Samawi and Luiz Pessoa, Ph.D.

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Maryland Neuroimaging Retreat

Neuroimaging in the Era of Big Data

April 12, 2016

8:30 AM—5:00 PM

University of Maryland, Baltimore
SMC Campus Center
Elm Ballroom



Agenda

- 8:30-9:00** Registration and Breakfast
- 9:00-9:20** **Amitabh Varshney, Ph.D., UMCP**
Revealing Patterns in the Injured Brain
- 9:20-9:50** **Vince Calhoun, Ph.D., The Mind Research Network**
The Chronnectome: Incorporating Time Into the Whole-brain Functional Connectome
- 9:55-10:20** **Jian Chen, Ph.D., UMBC**
Objective Visualization: Understanding Perceptual Accuracy of Spatial Data Representation
- 10:25-10:50** **Peter Kochunov, Ph.D., UMB**
Big Data and Imaging Genetics Research in Psychiatry
- 10:50-11:05** Coffee Break
- 11:10-11:35** **Patrick Bellgowan, Ph.D., NINDS/NIH**
Efforts to Share TBI-related Neuroimaging Data
- 11:40-12:10** **Trainee Presentation: Elizabeth Hutchinson, Ph.D., NICHD/NIH**
What Can the Next Generation of Diffusion MRI Methods Offer TBI Research?
- Trainee Presentation: John Fedota, Ph.D., NIDA/NIH**
Insula Demonstrates a Non-linear Response to Varying Demand for Cognitive Control and Weaker Resting State Connectivity with the Executive Control Network in Smokers
- 12:15-12:45** Lunch
- 12:45-1:30** Poster Session
- 1:30-2:00** **Peter Bandettini, Ph.D., NIMH/NIH**
New fMRI Observations at an Individual Level Using Novel Acquisition, Activation Paradigm, and Processing Approaches
- 2:05-2:30** **Brian Caffo, Ph.D., JHU**
Bar Codes, Fingerprints and Reproducibility in Functional and Structural Brain Imaging Data
- 2:35-3:05** **Michael Milham, M.D., Ph.D., Child Mind Institute**
Brain Imaging-based Markers for Biological Psychiatry: How Will We Get There?
- 3:10-3:35** **Andreia Faria, M.D., Ph.D., JHU**
High-throughput Neuro-informatics in the Big Data Era
- 3:35-3:50** Coffee Break

Agenda (continued)

- 3:50-4:00** Introduction of Keynote Speaker
- 4:00-5:00** **Keynote Speaker: Paul Thompson, Ph.D., ENIGMA & USC**
The ENIGMA Consortium: Mapping Human Brain Disease with Imaging and Genomics in 50,000 Individuals from 35 Countries
- 5:00-6:00** Networking Reception (Frank & Nic's West End Grille)

Keynote Speaker

Paul Thompson, Ph.D.

Director of ENIGMA Center for Worldwide Medicine, Imaging & Genomics, and Professor, University of Southern California (USC)



Dr. Thompson directs the USC Imaging Genetics Center and is the PI and Co-founder of the ENIGMA Consortium, a multi-site neuroimaging effort of unprecedented scale, whose 30 working groups analyze data from 35 countries. He directs the ENIGMA Center for Worldwide Medicine, Imaging and Genomics, an NIH Center of Excellence that brings together over 500 scientists to study 12 major brain diseases, from schizophrenia, bipolar illness and depression to HIV, 22q

deletion syndrome and addictions. ENIGMA's work has been covered in *Science*, *Nature*, and *MIT Technology Review* and has been honored as an innovative approach for "crowd-sourcing" science. ENIGMA's work led to the discovery of common genetic variants that affect the brain in over 30,000 people scanned with MRI and genome-wide scans. Dr. Thompson was trained as a mathematician and later received a Ph.D. in neuroscience. In 2013, he moved to the University of Southern California to create the USC Imaging Genetics Center and the USC Institute for Neuroimaging and Informatics which focuses on the neuroscience, mathematics, software engineering and clinical aspects of neuroimaging and brain mapping. He is a Professor of Neurology, Psychiatry, Engineering, Radiology, Pediatrics and Ophthalmology at USC. Dr. Thompson and his team are interested in tracking how diseases spread in the brain over time, often before symptoms begin and how medications resist them. Dr. Thompson also serves as PI for numerous NIH grants on brain MRI and DTI.