

Computational Psychiatry

Tuesday February 18, 2020

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome & Opening Remarks: Dean Miguel García-Garibay (Dean of Physical Sciences, UCLA) and Dima Shlyakhtenko (Director, IPAM)*
- 9:00–9:50 **Emery Brown** (Massachusetts Institute of Technology)
Deciphering the Dynamics of the Unconscious Brain Under General Anesthesia
- 10:00–10:15 *Break*
- 10:15–11:05 **Nancy Kopell** (Boston University)
Rhythms and Brain Disorders
- 11:15–11:30 *Break*
- 11:30–12:20 **Marti Jett** (Army Futures Command, Medical Research, Fort Detrick)
Integration of Multi-molecular Systemic Studies with Physiologic and Clinical features applied to Post-Traumatic Stress Disorder (PTSD): identification of subgroups.
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Pendleton Montague** (Virginia Tech Carilion)
Invasive approaches in the future of Computational Psychiatry
- 3:30–4:00 *Break*
- 4:00–4:50 **Daniel Durstewitz** (Ruprecht-Karls-Universität Heidelberg)
Deep Learning of dynamical systems for mechanistic insight and prediction in psychiatry
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Wednesday February 19, 2020

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Shashaank Vattikuti** (National Institutes of Health (NIH))
Perceptual rivalry as a window into cognition
- 10:00–10:15 *Break*
- 10:15–11:05 **Justin Baker** (Harvard Medical School)
Sensing Psychosis: Toward Robust Computational Phenotypes in Severe Mental Illness
- 11:15–11:30 *Break*

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- 11:30–12:20 **Sarah Yip** (Yale University)
Connectome-based modeling of real world clinical outcomes in addictions
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Danilo Bzdok** (McGill University)
Algorithmic Analytics towards Precision Psychiatry
- 3:30–4:00 *Break*
- 4:00–4:50 **A. David Redish** (University of Minnesota, Twin Cities)
Cross-species translation through computational analyses - implications for understanding and modifying psychiatric treatments

Thursday February 20, 2020

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Daniel Bennett** (Princeton University)
Modelling mood and mood disorders with reinforcement learning
- 10:00–10:15 *Break*
- 10:15–11:05 **Daniel Forger** (University of Michigan)
Computational Psychiatry from the bottom up (whole brain simulation) and top down (analysis of wearable data)
- 11:15–11:30 *Break*
- 11:30–12:20 **Deanna Barch** (Washington University in St. Louis)
Computational Contributions to Understanding Impaired Motivation and Effort in Psychosis
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Martin Paulus** (University of California, San Diego (UCSD))
Decision-Making and Computational Psychiatry: An Explanatory and Pragmatic Perspective
- 3:00–3:15 *Break*
- 3:15–4:05 **Samuel Neymotin** (The Nathan S. Kline Institute for Psychiatric Research (NKI))
Using Biophysical Computational Neural Models to Investigate Neuropsychiatric Disorders
- 4:15–4:30 *Break*
- 4:30–5:20 **Michele Ferrante** (National Institutes of Health (NIH))
Computational Psychiatry: Funding Opportunities and New Research Directions

Friday February 21, 2020

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Michael Bonsall** (University of Oxford)
Multiscale mathematical approaches for translational mental health benefits
- 10:00–10:15 *Break*
- 10:15–11:05 **John Murray** (Yale University)
Neural Circuit Modeling of Large-Scale Brain Dynamics for Computational Psychiatry
- 11:15–11:30 *Break*
- 11:30–12:30 *Discussion*

