Day 1 Wednesday, December 1	Day 2 Thursday, December 2
8:45AM – 9:00AM **Conference Welcome** *Grand Room, Aloft Hotel*	
9:00AM – 10:00AM **Keynote Speaker** *TBA* - Dani Bassett, University of Pennsylvania *Grand Room, Aloft Hotel*	9:00AM – 10:00AM **Keynote Speaker** *Externalizing and sharing the neuroverse* – Yuki Kamitani, Kyoto University and ATR *Grand Room, Aloft Hotel*
10:00AM – 11:45AM **Watching Flash Talks** (7 min talks) Abstracts available in https://conference.neuromatch.io/ *Grand Room, Aloft Hotel*	10:00AM – 11:00AM **Panel Discussion: Model vs Data** 11:00AM – 11:45PM **Short Talks** • *The complete connectome of an insect brain* – Michael Winding, University of Cambridge • *Sensory intermixing of mental imagery and perception* – Nadine Dijkstra, Wellcome Centre for Human Neuroimaging • *Brain-inspired spiking neural network controller for a neurorobotic whisker system* – Alberto Antonietti, University of Pavia, Politecnico di Milano *Grand Room, Aloft Hotel*
11:45AM – 1:00PM **Lunch Break** (lunch not provided; snacks and beverages will be available in all sessions)	11:45AM – 1:00PM **Lunch Break** (lunch not provided; snacks and beverages will be available in all sessions)
1:00PM – 2:00PM **Keynote Speaker** TBA - Chethan Pandarinath, Georgia Tech & Emory University *Grand Room, Aloft Hotel*	1:00PM – 2:00PM **Keynote Speaker** *Formation and update of sensory priors in working memory and perceptual decision-making tasks* – Athena Akrami, University College London *Grand Room, Aloft Hotel*
2:00PM – 3:45PM **Short Talks** • *Resilience through diversity: Loss of neuronal heterogeneity in epileptogenic human tissue impairs network resilience to sudden changes in synchrony* – Scott Rich, Krembil Brain Institute • *A mechanism for inter-areal coherence through communication based on connectivity and oscillatory power* – Marius Schneider, Ernst Strüngmann Institute for Neuroscience	2:00PM – 3:45PM **Short Talks** • *Transient neuronal suppression for exploitation of new sensory evidence* – Maxwell Shinn, University College London • *Systematic exploration of neuron type differences in standard plasticity protocols employing a novel pathway-based plasticity rule* – Patricia Rubisch, University of Edinburgh

• *Synchronization in the Connectome: Metastable oscillatory modes emerge from interactions in the brain spacetime network* -Francesca Castaldo, University College London • *Directly interfacing brain and deep networks exposes non-hierarchical visual processing* – Nick Sexton, University College London • *Untangling Contributions of Distinct Features of Images to Object Processing in Inferotemporal Cortex* – Hanxiao Lu, Yale University • *What can deep reinforcement learning tell us about human motor learning and vice-versa?* – Michele Garibbo, University of Bristol *Grand Room, Aloft Hotel*	• *Different hypotheses on the role of the PFC in solving simple cognitive tasks* – Nathan Cloos, Université Catholique de Louvain • *A theory for the population rate of adapting neurons disambiguates mean vs. variance-driven dynamics and explains log-normal response statistics* – Laureline Logiaco, Columbia University • *Rank similarity filters for computationally-efficient machine learning on high dimensional data* – Katharine Shapcott, FIAS • *Novel population of synchronously active pyramidal cells in hippocampal area CA1* – Dori Grijseels, University of Sussex *Grand Room, Aloft Hotel*
3:45PM – 4:45PM **Speed Networking**: 5 min networking rotating cycles to meet and network with attendees *Grand Room, Aloft Hotel*	3:45PM – 4:45PM **Break** Socializing is encouraged (Bar in premise for 21+) *Grand Room, Aloft Hotel*
5:00PM – 5:45PM **Short Talks** • *Image embeddings informed by natural language improve predictions and understanding of human higher-level visual cortex* – Aria Wang, Carnegie Mellon University • *Hypothesis-neutral response-optimized models of higher-order visual cortex reveal strong semantic selectivity* – Meenakshi Khosla, MIT • *Maggot brain, mirror image? A statistical analysis of bilateral symmetry in an insect brain connectome* – Benjamin Pedigo, Johns Hopkins University *Grand Room, Aloft Hotel*	5:00PM – 6:00PM **Panel Discussion: Learn vs Compute** *Grand Room, Aloft Hotel*
6:00PM – 7:00PM **Keynote Speaker** *An all-natural deep recurrent neural network architecture for flexible navigation* - Vivek Jayaraman, Janelia Research Campus	6:00PM – 6:45PM **Short Talks** • *What can 140,000 Reaches Tell Us About Demographic Contributions to Visuomotor Adaptation?* – Hrach Asmerian, University of California, Berkeley • *Neural Representation: Bridging Neuroscience and Philosophy* – Andrew Richmond, Columbia University

Grand Room, Aloft Hotel	• *Predictive coding is a consequence of energy efficiency in recurrent neural networks* – Abudallah Ali, Donder Institute for Brain, Cognition, and Behaviour *Grand Room, Aloft Hotel*
7:00PM – 7:45PM **Short Talks** • *An optogenetic theory of stimulation near criticality* – Brandon Benson, Stanford University • *Decoding finger movements from human posterior parietal cortex* – Charles Guan, California Institute of Technology • *Stretching and squeezing of neuronal log firing rate distribution by psychedelic and intrinsic brain state transitions* – Michael Okun, University of Sheffield *Grand Room, Aloft Hotel*	7:00PM – 7:45PM **Short Talks** • *Multiscale and extended retrieval of associative memory structures in a cortical model of local-global inhibition balance* – Tom Burns, Okinawa Institute of Science and Technology • *Neurocomputational mechanisms of causal inference during multisensory processing in the macaque brain* – Guangyao Qi, Institute of Neuroscince, Chinese Academy of Sciences • *Two-Photon Imaging of Norepinephrine in the Prefrontal Cortex Shows that Norepinephrine Structures Cell Firing Through Local Release* – Samira Glaeser-Kahn, Yale University *Grand Room, Aloft Hotel*
7:45PM – 8:00PM Nothing	7:45PM – 8:00PM Wrap Up NMC4