



2019

Kavli Summer Institute in Cognitive Neuroscience

Week 2: Computational Social Neuroscience: Advances, Challenges, and New Directions

Course Directors

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In 2007, the Summer Institute in Cognitive Neuroscience debuted the burgeoning topic of “Social Neuroscience”. The past decade has witnessed an explosion of research investigating the brain bases of social behavior. We anticipate that innovations in computational approaches and experimental design will be instrumental in progressing towards a more mechanistic understanding of social behavior. This Summer Institute will feature new advances in neuroscientific research that inform the brain basis of a wide array of social behaviors, including social perception, cognition, decision-making, and interactions. Our collection of faculty lecturers will showcase examples of how computational approaches can yield insights into the brain basis of social behavior, discuss challenges inherent to this research, and introduce new directions that will inspire the next wave of research in this area.

Monday (7/01): Value in the social world

- 8:00-8:30 Breakfast
8:30-8:45 Introductory Remarks – Leah and Luke (introduced by Barry Geisbrecht/Mike Miller)
8:45-10:10 **Speaker 1: Read Montague**, Virginia Tech
Computational substrates of valuation and learning during human social exchange
10:00-10:30 Break
10:30-11:45 **Speaker 2: Cendri Hutcherson**, University of Toronto
How do we know and value others' preferences?: Novel insights from neural and computational models
11:45-1:45 Lunch
1:45-3:00 **Speaker 3: Leah Somerville**, Harvard University
Applying computational approaches to the study of social-cognitive development
3:00-3:15 Break
3:15-4:15 Lab Session: Ethics
4:15 Adjourn

Tuesday (7/02): Social connections

- 8:00-8:45 Breakfast

- 8:45-10:00 **Speaker 4: Daniela Schiller**, Mount Sinai Medical School
Navigating social space – relationships as trajectories along social dimensions
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 5: Thalia Wheatley**, Dartmouth College
Moving beyond the isolated brain
- 11:45-1:45 Lunch
- 1:45-5:00 Lab Session: Brain Imaging
- 5:00 Adjourn

Wednesday (7/03): Social perception

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 6: Kyle Ratner**, UCSB
Out with the old, in with the new: How advances in fMRI and EEG analysis methods are changing social perception research
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 7: Jon Freeman**, NYU
Neural mechanisms of split-second social perception
- 11:45-1:45 Lunch
- 1:45-5:00 Debate Preparation (no lab)
- 6:30-8:00 **DEBATES: Teams 3 and 4** (fellows will be organized into teams during week 1)

Thursday (7/04): Social decision-making

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 8: Steve Chang**, Yale University
Neurobiological principles underlying social decision and social gaze in the primate brain
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 9: Molly Crockett**, Yale University
Computational modeling of moral preferences and inferences
- 11:45-1:45 Lunch
- 1:45-5:00 Lab Session: EEG and TMS
- 5:00 Adjourn

Friday (7/05): Group-modulated cognition and behavior

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 10: Matthew Apps**, University of Oxford
Computational and imaging approaches to decision making
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 11: Luke Chang**, Dartmouth College
Towards a computational social and affective neuroscience
- 11:45 Adjourn
- 5:00-6:00 Reception **Banquet Faculty Club**
- 6:00-8:00 Dinner **Banquet Faculty Club**

Acknowledgments: We are deeply grateful to the National Institute of Mental Health and the National Institute on Drug Abuse for their support of this training program (NIMH 2R25 MH057541), and to the Kavli Foundation for their support. Thanks also to Jayne Kelly at the Sage Center for the Study of the Mind at UCSB, and to Taleen Ledesma at the Center for Mind and Brain at UC Davis for their assistance and support.