



# 2022

## Kavli Summer Institute in Cognitive Neuroscience

Week 1: June 21-25, 2022

*Motivated Cognition: Environmental, Neural, and Computational Bases*

### Course Directors

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University of California, Davis

Cognition is fundamentally motivated: active, goal-driven, and sensitive to context. People organize their thinking to enable survival, growth, and well-being in the world. While these statements might seem uncontroversial, investigating behavior from the perspective of motivated cognition has led to novel and surprising insights. In this week, expert speakers will discuss how environmental forces shape motivated cognition, how neural and computational systems support these processes, and how variations in these processes lead to differences in thinking and behavior across development and across individuals, including in psychiatric disorders. Challenges and essential next steps for this burgeoning field will be highlighted.

**Monday (6/20): Juneteenth Holiday (free day, sightsee, rest, meet the other fellows)**

**Tuesday (6/21): Environmental Influences on Motivated Cognition**

8:00-8:30	Breakfast
8:30-8:35	Welcome – Mangun, Giesbrecht and Miller
8:35-8:45	Introductory Remarks – Yuko Munakata and Randy O'Reilly
8:45-10:00	<b>Speaker 1: Dimo Amso</b> Columbia University <i>Ecological Insights into the Development of Cognitive Control</i>
10:00-10:30	Break
10:30-11:45	<b>Speaker 2: Wil Cunningham</b> University of Toronto <i>Motivated Social Cognition</i>
11:45-1:45	Lunch
1:45-5:00	<b>Lab Session:</b> – Neuroanatomy – <b>Skirmantas Janusonis (UCSB)</b> LOCATION: Physical Sciences Building North (PSBN), Rms. 2664 and 2666 <a href="http://www.aw.id.ucsb.edu/maps/ucsbmap.html">http://www.aw.id.ucsb.edu/maps/ucsbmap.html</a> (in D5, next to Chemistry).

**Wednesday (6/22): Neural Mechanisms of Motivated Cognition**

8:00-8:45	Breakfast
8:45-10:00	<b>Speaker 3: Earl Miller</b> MIT <i>Neural Oscillations and Motivated Cognitive Control</i>

- 10:00-10:30 Break
- 10:30-11:45 **Speaker 4: Erie Boorman, UC Davis**  
*The Neural Architecture of Reinforcement Learning and Decision Making*
- 11:45-1:45 Lunch
- 1:45-5:00 Lab Session: – Neuropathology Lab/Neuropsych Videos I– **Robert Knight and Robert Rafal**
- 6:00-6:30 Pizza Dinner (LPC)
- 6:30-8:00 Lab Session: – Neuropathology Lab/Neuropsych Videos II– **Robert Knight and Robert Rafal**

### **Thursday (6/23): Computational Models of Motivated Cognition**

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 5: Randy O'Reilly, University of California, Davis**  
*Computational models of the systems neuroscience of motivated cognition*
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 6: Michael Frank, Brown University**  
*Insights from modeling frontostriatal mechanisms in motivated cognition*
- 11:45-1:45 Lunch
- 1:45-5:00 Lab Session: -- Grant writing -- Steve Grant (NIDA, ret.)

### **Friday (6/24): Individual Differences and Disorders of Motivated Cognition**

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 7: Catherine Hartley, NYU**  
*Mechanisms of Motivated Actions & Choices: Variations across Individuals and Development*
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 8: Adriana Galvan, UCLA**  
*Motivated behavior in adolescence*
- 11:45-1:45 Lunch
- 2:30-4:00 **DEBATES: Teams 1 and 2** (fellows will be organized into teams during week 1)
- 4-5:30 Chill out until BBQ
- 5:30 **BBQ at Goleta Beach (walking distance from campus – see map)**

### **Saturday (6/25): Individual Differences and Development of Motivated Cognition**

- 8:00-8:45 Breakfast
- 8:45-10:00 **Speaker 9: Yuko Munakata, University of California, Davis**  
*Variations in Cognitive Control During Childhood and Beyond: The Role of Social Factors*
- 10:00-10:30 Break
- 10:30-11:45 **Speaker 10: Kimberly Chiew, University of Denver**

*The Influence of Motivation and Affect on Cognitive Control and Memory*

11:45-1:45

Lunch

1:45-3:00

**Speaker 11: Michael Treadway**, Emory University

*Motivational factors in major mental disorders*

3.00-3.30

Final discussion and sum-up.

**Sunday:** Free, to self-assemble and enjoy the Santa Barbara area and each other's company.

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