

# 2025 Computational Cognition and Machine Intelligence Program Review

Dr. Benjamin Robinson | February 10-11, 2025 | Arlington, VA -hybrid

Basic Research Innovation Collaboration Center (BRICC)  
4100 N Fairfax Drive, Suite 450 | Arlington, VA 22203

## Agenda Day 1 | Monday, February 10, 2025

Time	Topic	Speaker
8:15-8:30	<b>In-person Check-in/Virtual login</b>	
8:30-9:10	Causal Reinforcement Learning: Discovery and Decision Making	Elias Bareinboim, Columbia Univ.
9:10-9:50	Watch and Practice to Improve: Learning to Act by Watching Human Videos	Deepak Pathak, Carnegie Mellon Univ.
9:50-10:20	<b>BREAK</b>	
10:20-11:00	Reasoning for Social Autonomous Agents	Ken Forbus, Northwestern Univ.
11:00-11:40	Counterfactuals and Multiple Rewards: Inducing and Explaining Good Team Behavior for Effective Agent-Human Teaming	Kagan Tumer, Oregon State Univ.
11:40-13:00	<b>LUNCH</b>	
13:00-13:40	Cognitive Skills: Integrating Situated Learning with Global Symbolic Planning	Sergey Levine, UC Berkeley
13:40-14:20	(YIP) Supporting Information Foraging by Utilizing Agents' Collective Foraging Behavior	Sandeep Kuttal, Univ. of Tulsa/NC State
14:20-14:50	<b>BREAK</b>	
14:50-15:30	(YIP) Towards Preference-Aware Autonomy: Specification, Synthesis, and Interactive Planning	Jie Fu, Worcester Polytechnic Univ/Univ of Florida
15:30-16:10	Networked Nonlinear Decision-Making: Opportunism, Explanations, and Learning Echo-Chambers	Gene Santos, Dartmouth Univ.
16:10-16:40	Reasoning in Autonomous Systems via Wiring Diagrams	Jason Lo, California State Univ., Northridge
16:40	<b>REVIEW ADJOURNED FOR THE DAY</b>	
17:00	Networking/Social at Bronson Bier Hall	

<b>Agenda Day 2   Tuesday, February 11, 2025</b>		
<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
<b>8:15-8:30</b>	<b>In-person Check-in/Virtual login</b>	
<b>8:30-9:10</b>	Robust State Estimation, Information Gathering, and Behavior for Autonomous Systems in Complex uncertain Domains	Leslie Kaelbling, MIT
<b>9:10-9:50</b>	Autonomous Decision-Making Systems under (Adversarial) Distribution Shifts: Learning to Adapt, Generalize and Robustify	Furong Huang, Univ. of Maryland
<b>9:50-10:20</b>	<b>BREAK</b>	
<b>10:20-11:00</b>	Embodied Visual Intelligence	John Tsotsos, York Univ.
<b>11:00-11:40</b>	(YIP) Robust Maximum Entropy Planning, Learning and Control in Uncertain Environments	Jason Pacheco, Univ. of Arizona
<b>11:40-13:00</b>	<b>LUNCH</b>	
<b>13:00-13:40</b>	Advanced Hyperdimensional Mathematics for Adaptive Information Processing	Mohsen Imani, UC Irvine
<b>13:40-14:20</b>	(YIP) A Theory-Based Concept Learning Framework for Perception, Reasoning, and Planning	Jiajun Wu, Stanford Univ.
<b>14:20-14:50</b>	<b>BREAK</b>	
<b>14:50-15:30</b>	Toward Cognitive Realism in Game Theoretic Models of Social Behavior	Alan Wagner, Penn State Univ.
<b>15:30-16:00</b>	Expanding the Frontiers of Decision Making Under Uncertainty	Shaddin Dughmi, Univ. of Southern California
<b>16:00</b>	<b>REVIEW ADJOURNED</b>	