NEWS | POSTED AUGUST 14, 2018

VIDEOS: Cognitive Science Conference Workshop

Videos now available for the recent Conference Workshop on Exploration-Exploitation Trade-Offs, hosted by the Cognitive Science Society and sponsored by the Jacobs Foundation.

To view the videos, visit the Workshop Google site, which will retain active video links for the rest of the year. These videos are also shared on Databrary, and will stay accessible there permanently.

About the Workshop:
All cognitive systems both gather information and use that information to make decisions (e.g., explore and exploit). But there is an intrinsic tension between these two aspects of cognition. Exploration is costly in that resources allocated to information-seeking are unavailable for action. Moreover, actions have to be taken before all relevant information is available. When should a cognitive system seek new information and when should it stop to decide how to act? How do people and other organisms resolve this tension between exploration and exploitation? Is there an optimal way of doing so? And how can systems be motivated to seek information when that pursuit is costly and the immediate utility of the information may not be apparent?

Workshop Schedule:
9:00-9:15: Opening Remarks

9:15-10:45: Curiosity and Information-Seeking in Development
Celeste Kidd: "The role of information gaps and learning rate on exploration"
Elizabeth Bonawitz: "Drivers of exploration: information, expectation, and affect"

Rista Plate: “How social information influences exploration and exploitation: Implications for learning”

10:45-11:00: Coffee break

11:00-12:00: Evolutionary Perspectives on Explore-Exploit

Emilie Snell-Rood: “Exploration in development: common principles from gene expression to neurons”

Willem Frankenhuis: “Balancing sampling and specialization: Adaptationist models of incremental cognitive development”

12:00-12:20: Poster teasers

12:20-1:30: Lunch

1:30-2:00: Poster viewing

2:00-3:30 Explore-exploit in Reinforcement Learning and the Brain

Cate Hartley: “The value of variability: Dynamic changes in reinforcement learning from childhood to adulthood”

Robert Wilson: “The role of information and randomization in exploration and exploitation”

Ben Hayden: “Explore-exploit tradeoffs as a driver of risky choice and learning in rhesus macaques”

3:30-3:45: Coffee break

3:45-5:15: Explore-exploit in the Mind

Thomas Griffiths: “Exploring on the inside: Rational models of the uses of cognitive resources”

Marcelo Mattar: “Prioritized exploration of mental simulations”

Alison Gopnik: “Childhood as a solution to explore-exploit tensions; changes in exploration and hypothesis search across life history”

5:15-5:30: Closing remarks