Curiosity, Creativity and Complexity Conference

May 23-25, 2023

Jerome L. Greene Science Center, 9th Floor
3227 Broadway, NY, NY
Agenda: Day 1

8:15-8:40am
Check in and Refreshments

8:45-9:00am
Welcome/Opening Remarks from Jacqueline Gottlieb, Columbia University

9:05-9:30am
Tali Sharot, University College London
Motives for information seeking: Theory and applications

9:35-10:00am
Ming Hsu, University of California-Berkeley
Knowing what you don’t know: Information seeking in open-ended decisions

10:05-10:30am
Daniel Schacter, Harvard University
On the relations among creativity, memory and episodic simulation

10:35-11:05am
Break and Poster Viewing

11:05-11:35am
Bruno Averbeck, National Institute of Mental Health
Neural and computational mechanisms underlying exploratory behavior

11:40am-12:05pm
Benjamin Hayden, University of Minnesota
Neural signatures of categorically distinct information-seeking states in virtual foraging

12:10-12:35pm
Ilya Monosov, Washington University, St Louis
Neurobiology of curiosity

12:40-2:30pm
Lunch and Poster Viewing

2:35-3:00pm
Joy Geng, University of California-Davis
Good-enough is sometimes best: The role of attentional guidance in visual search

3:05-3:30pm
Floris de Lange, Donders Institute
How does surprise influence information sampling and curiosity?

3:35-4:00pm
Russell Golman, Carnegie Mellon University
The information-gap theory of curiosity

4:00-6:00pm
Reception and Poster Viewing
Agenda: Day 2

8:00-8:55am
Speaker and Travel Awardees Breakfast

8:15-8:55am
Check in and Refreshments

8:55-9:05am
Announcements

9:10-9:35am
Jessica Andrews-Hanna, University of Arizona
Minds at rest: What resting state cognition can tell us about creativity, curiosity and rumination

9:40-10:05am
Kinneret Teodorescu, Technion, Israel
The foraging mind: A link between spatial search, creativity and dishonesty

10:10-10:35am
Kalina Christoff, University of British Columbia
Spontaneous thought as an act of self-exploration: A view from the dynamic framework of thought

10:40-11:05am
Break and Poster Viewing

10:10-10:35am
Pietro Ortoleva, Princeton University
When to decide: Choice in parallel search

11:10-11:35am
Yusufcan Masatioglu, University of Maryland
Intrinsic information preferences and skewness

11:40am-12:05pm
Michaela Pagel, Columbia University
Beliefs that entertain

12:10-12:35pm
Lunch and Poster Viewing

12:40-2:30pm
Catherine Hartley, New York University
Causes and consequences of exploration across development

2:35-3:00pm
Jochen Triesch, Frankfurt Institute for Advanced Studies
Exploring and learning to represent objects

3:05-3:30pm
Ian Osband, Google Deep Mind, London
Epistemic neural networks

3:35-4:00pm
Reception and Poster Viewing
Agenda: Day 3

8:15-8:55am
Check in and Refreshments

9:00-9:25am
Mattias Gruber, Cardiff University
Individual differences in how curiosity and prediction errors affect learning and information seeking

9:30-9:55am
Ifat Levy, Yale University
Individual differences in decision-making under uncertainty

10:00-10:25am
Angela Yu, University of California-San Diego
Individual differences in intrinsic motivations

11:00-11:25am
Todd Gureckis, New York University
Studying the structure of playful goals

11:30-11:55am
Daniel Polani, University of Hertfordshire
Empowerment: The information that would be free

12:15-1:45pm
Moderated Discussion

10:30-10:55am
Break

11:55-12:10pm
Break

12:15-1:45pm
Moderated Discussion
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Davies, B., Sankar*, A., Stanford University

20 - How to find complex exploration behaviors
Xiong*, H., Ji-An, L., Mattar, M., Willson, R., University of Arizona

21 - Complexity and rigidity in human planning
Ho*, M., Cohen, J., Griffiths, T., Princeton University

22 - Planning by active sensing
Lakshminarasimhan*, K., Zhu, S., Angelaki, D., New York University

23 - I see! How narrative meaning influences gaze behavior
Berlot*, E., Schmitt, L.M., Huber-Huber, C., Peelen, M.V., De Lange, F.P., Donders Institute-Amsterdam, Radboud University

24 - The interaction between menu complexity and attentional sampling strategies in multi-attribute decision making
Elsey*, J., Niebur, E., Stuphorn, V., Johns Hopkins University

25 - Introspective inference counteracts perceptual distortion
Mihali*, A., Broeker, M., Ragalmuto, F., Horga*, G., Columbia University

26 - Curiouser and Curiouser: Children’s Intrinsic Exploration of Mazes and its Effects on Reaching a Goal in DeepMind Lab
Kosoy*, E., Pathak, D., Agrawal, P., Efros, A., Gopnik, A., University of California-Berkeley

27 - Neural underpinnings of the evaluation of control to determine when mental effort is worth investing
Froemer*, R., Kim, J., Prater Fahey, M., Shenhav, A., University of Birmingham

28 - Distinct roles of reward and information gains in prioritizing decision-relevant stimuli
Li*, Y., Gottlieb, J., Columbia University

29 - Information-seeking vs reward maximization: how widespread is curiosity across vertebrate species?
Ajuwon*, V., Monteiro, T., Ojeda, A., Murphy, R., Walton, M., Kacelnik, A., University of Oxford

30 - Sensory uncertainty modulates reward-based enhancements in complex predictive actions
Akande*, A., Kreynemeier, P., Spering, M., University of British Columbia

31 - Representations of information value in mouse orbitofrontal cortex during information seeking
Bussell* J., Bromberg-Martin, E., Abbott, L., Axel, R., Columbia University

32 - Dorsal raphe neurons signal expected reward amount and reward delay during multi-attribute decision-making
Feng*, Y., Bromberg-Martin, E., Monosov, I., Washington University

33 - Theta oscillations coordinate curiosity-driven memory enhancements
Eschmann*, K.C.J., Singh, K.D., Gruber, M., Cardiff University

34 - A region of posterior parietal cortex prospects the future certainty provided by instrumental information
Singletary*, N.M., Horga, G., Gottlieb, J., Columbia University

35 - Value signals in the orbitofrontal cortex incorporate reference-dependent news utility
Eum*, B., Enkavi, Z., O’Doherty, J., Rangel, A., California Institute of Technology

36 - Modulation of decision policy by environmental uncertainty & striatal stimulation
Badyna*, J., Yttri, E., Carnegie Mellon
1 - Creative insight and generalization in reinforcement learning
Jaskir*, A., Frank, M.J., Brown University

2 - The language of creativity: what large language models have to say about creative writing
Orwig*, W., Edenbaum, E., Greene, J., Schacter, D.L., Harvard

3 - Investigating the intersection between mind wandering and cognitive flexibility in anxiety.
Kaiko*, I., Todd, J., Hunt, C., Irish., M., University of Sydney

4 - Individual differences in creativity may be linked to decision making behaviors
Yoder*, H., Trattner, J., Jiang, A., Sands, L.P., Kishida, K.T., Wake Forest University

5 - How are lingering thoughts modulated by current concerns?
Palacios*, G.K., Bellana, B., Honey, C., University of California-Davis

6 - The effect of agency on memory and learning in preschool children: exploring the role of curiosity
Tani*, N., Olson, I., Newcombe, N., Temple University

7 - Regularised neural networks mimic human insight
Löwe*, A.T., Touzo, L., Muhle-Karbe, P.S., Saxe, A.M., Summerfield, C., Schuck, N.W., Max Planck Human Development

8 - Curiously different: interest-curiosity and deprivation-curiosity have distinct benefits and drawbacks
Whitecross*, W.M., Smithson, M., Australian National University

9 - When and why the minds of others pique our curiosity
Wylie*, J., Manallil, M., Gantman, A., Young, L., Boston College

10 - Dynamics of curiosity and complexity in wikipedia readers
Zhou*, D., Patankar, S., Gertach, M., Zurn, P., Lydon-Staley, D., Bassett, D.S., University of Pennsylvania

11 - Isolating the distinct motivational factors that shape real-world news seeking

12 - Mice in Manhattan: rapid learning and flexible routing in a massively reconfigurable maze, with or without cortex
Zheng*, J., Guimarães, R., Perona, P., Meister, M., California Institute of Technology

13 - Curious replay for model-based adaptation
IKauvar*, I., Doyle, C., Zhou, L., Haber, N., Stanford University

14 - Tackling complexity: using computational complexity theory to model human cognition
Franco*, P., Yadav,N., Murawski, University of Melbourne

15 - Computational complexity drives extended deliberation
Hong*, T., Stauffer W., Carnegie Mellon University, University Of Pittsburgh

16 - The role of model uncertainty in the arbitration between model-based vs model-free reinforcement learning
Liu *, J., Wang, S., University of Maryland-College Park

17 - Inefficient prioritization of task-relevant attributes during instrumental information demand
Rischall, I., Hunter, L., Jensen, G., Gottlieb, J., Columbia University

18 - Human hacks and bugs in the recruitment of reward systems for goal achievement
Molinaro*, G., Collins, A.G.E., University of California-Berkeley
19 - Multiple roles for simplicity in evaluating explanations
Vrantsidis*, T.H., Lombrozo, T., Princeton University

20 - Pleasure from understanding
Vessel, E.A., Max Planck Institute for Empirical Aesthetics

21 - Deploying attention for information gains during probabilistic decisions
Domínguez-Zamora*, J.F., Horga, G., Gottlieb, J., Columbia University

22 - The use of optic flow during locomotion
Powell*, N., Panfili, D., Oh, Y., Hayhoe, M., University of Texas-Austin

23 - Spike synchrony during information gathering in multi-attribute decision-making
Locke*, S., Yang, Y., Sampson, S., Emeric, E., Usher, M., Levy, D., Stuphorn, V., Niebur, E., Johns Hopkins University

24 - Optimizing music-based interventions for stroke rehabilitation

25 - Gains and losses modulate novelty-seeking during explore-exploit decisions
Rothenhoefer*, K.M., Stocker, M., Costa, V.D., Oregon National Primate Center

26 - Closed-loop microstimulation of primate prefrontal cortex causally modulates dynamic social attention
Fan*, S., Dal Monte, O., Nair, A.R., Fagan, N.A., Chang, S.W., Yale University

27 - The causal role of lateral frontopolar cortex in choices between complex environments
Law*, C., Chau, B.K.H, Hong Kong University

28 - Creativity camp participation effects on amygdala-frontal resting-state functional connectivity in adolescents

29 - Effects of Psilocybin on inter-subject brain synchronization during music listening
Winston*, B., Chen, J., Barrett, F., Johns Hopkins University

30 - Verbal movie recall reveals heightened self-reference and contextual variability in heroin-addicted individuals
King*, S., Kronberg, G., Mcclain, N., Ceceli, A., Gray, J., Alia-Klein, N., Goldstein, R.Z., Icahn School of Medicine at Mount Sinai

31 - Cognitive control is inversely related to statistical learning in 5-year-old children
Foster*, R., Sweeney, L., Kim, J., Gomez, R., Munakata, Y., Johns Hopkins University

32 - Caregiver presence influences the explore-exploit tradeoff
Dahmani*, A., Amir, D., Thomas, A., Gopnik, A., University of California-Berkeley

33 - Bayesian modeling of age-related differences in instruction and learning based decision making
Korem*, N., Duek, O., Jia, R., Grubb, M., Levy, I., Yale University

34 - Artificial attention model (AAM): a premise for bimodal language learning in infant and robot
Boucenna*, S., Bergoin, R., Cohen, D., Pitti, A., Cy Paris Cergy Universite

35 - Goal attribution in human infants and machines
Yasuda, S., Li, W., Martinez, D., Lake, B., Dillon, M., New York University

36 - Generating human-like goals by synthesizing reward programs
Davidson, G., Gureckis, T.M., Lake, B.M., New York University