

METACOG-26: Symposium on Artificial Metacognition

2026 AAAI Fall Symposium Series · November 5–7, 2026 · Westin Arlington, Arlington, Virginia

Full papers: 20 minutes. Short papers: 10 minutes. Each paper session closes with a discussion with the presenters.

Thursday, November 5

9:00 am - 10:30 am	Session 1: Opening and Keynote <i>Chair: Paulo Shakarian (Syracuse University)</i>
9:00 am - 9:30 am	Introduction to METACOG-26 Paulo Shakarian (Syracuse University)
9:30 am - 10:30 am	Keynote: John Laird (University of Michigan) Co-Director, Center for Integrated Cognition · Title TBA
10:30 am - 11:00 am	<i>Break</i>
11:00 am - 12:30 pm	Session 2: Metacognition in Cognitive Architectures <i>Chair: Christian Lebiere (Carnegie Mellon University)</i>
11:00 am - 11:20 am <i>Full paper</i> TOP 3 PAPER	From Impasse to Adaptation: An Integrated LLM Supporting Meta-Cognition in a Cognitive Architecture Amitis Hamidi and Matthias Scheutz (Tufts University)
11:20 am - 11:40 am <i>Full paper</i>	Explaining Cognition and Communication in Cognitive Robots Marjorie McShane, Jesse English, Christian Arndt, Sergei Nirenburg, and Sanjay Oruganti (Rensselaer Polytechnic Institute)
11:40 am - 12:00 pm <i>Full paper</i>	Metacognitive(Metacognitive ... (Metacognitive Aesthetics) ...)): Implications for Coupled Human - AI systems Mark Orr and Tiffany Seeley (Institute for Human & Machine Cognition)
12:00 pm - 12:10 pm <i>Short paper</i>	Metadata for Metacognition: Supporting Self-Regulation Capabilities in Soar James Kirk, Steven Jones, and Robert Wray (Center for Integrated Cognition)
12:10 pm - 12:30 pm	Discussion with presenters on Metacognition in Cognitive Architectures Moderated by the session chair
12:30 pm - 2:00 pm	<i>Lunch</i>
2:00 pm - 3:30 pm	Session 3: Metacognitive Learning and Adaptation <i>Chair: Arslan Basharat (Kitware)</i>
2:00 pm - 2:20 pm <i>Full paper</i> TOP 3 PAPER	A Metacognitive Framework for Test-Time Adaptation: Taxonomy and Research Challenges Dario Loi, Gabriele Onorato, Antonella Coviello, Shahriar Rifat (Northeastern University); Nathaniel D. Bastian (DARPA); Francesco Restuccia (Northeastern University)
2:20 pm - 2:40 pm <i>Full paper</i>	IMAGINE: Metacognitive Counterfactual Reasoning for Robust Adversary System Analysis Jinhong Guo, Jaehoon Choe, Mykola Hubchak, and Tsai-Ching Lu (Lockheed Martin Advanced Technology Laboratories)
2:40 pm - 3:00 pm <i>Full paper</i>	From Bellman to Boltzmann: Towards a Kinetic Theory of Controlled Emergence and Meta-Cognition Jia Liu (The Ohio State University); Alvaro Velasquez (University of Colorado Boulder); Susmit Jha and Nathaniel Bastian (DARPA)
3:00 pm - 3:10 pm <i>Short paper</i>	Adaptive Metacognition in AI: From Monitoring to Learned Control Brendan Conway-Smith (Carleton University)
3:10 pm - 3:30 pm	Discussion with presenters on Metacognitive Learning and Adaptation Moderated by the session chair
3:30 pm - 4:00 pm	<i>Break</i>
4:00 pm - 5:00 pm	Session 4: Future of Metacognition Research <i>Chair: Nathaniel D. Bastian (DARPA)</i>
4:00 pm - 5:00 pm	Special Session: Future of Metacognition Research Nathaniel D. Bastian (DARPA)
5:30 pm - 6:30 pm	Reception

Friday, November 6

9:00 am - 10:30 am	Session 5: Sponsored Talk and Keynote <i>Chair: Paulo Shakarian (Syracuse University)</i>
9:05 am - 9:25 am	Sponsored Talk: PCI Federal Speaker Todd Hughes, VP for Artificial Intelligence
9:25 am - 9:30 am	Keynote Introduction Andrea Stocco (University of Washington)
9:30 am - 10:30 am	Keynote: Mark Steyvers (University of California, Irvine) Professor and Chair, Department of Cognitive Sciences <i>Metacognition and uncertainty communication in humans and LLMs</i>
10:30 am - 11:00 am	<i>Break</i>
11:00 am - 12:30 pm	Session 6: Metacognitive Monitoring <i>Chair: Andrea Stocco (University of Washington)</i>
11:00 am - 11:20 am <i>Full paper</i> TOP 3 PAPER	From Metacognitive Monitoring to Control: Resource Allocation in Neuro-Symbolic AI Michael Clopton and Sven Thijsen (Florida Atlantic University)
11:20 am - 11:40 am <i>Full paper</i>	Grounded Reasoning for Visual Ambiguity Resolution Justin Brody and Minh Nguyen (Franklin & Marshall College)
11:40 am - 12:00 pm <i>Full paper</i>	Temporal Metacognition for Monitoring and Control in Large Language Models Sahil Kale (KnowledgeVerse AI)
12:00 pm - 12:10 pm <i>Short paper</i>	A Metacognitive Perspective on Anomaly Detection with Vision Foundation Models Matteo Galiazzo, Gabriele Onorato, Dario Loi (Northeastern University); Nathaniel D. Bastian (DARPA); Francesco Restuccia (Northeastern University)
12:10 pm - 12:30 pm	Discussion with presenters on Metacognitive Monitoring Moderated by the session chair
12:30 pm - 2:00 pm	<i>Lunch</i>
2:00 pm - 3:30 pm	Session 7: Trustworthy Metacognitive Systems <i>Chair: Francesco Restuccia (Northeastern University)</i>
2:00 pm - 2:20 pm <i>Full paper</i>	Model-Based Testability of Dynamical Metacognitive Systems: A Radio-Frequency Case Tyler Cody and Peter A. Beling (University of Virginia)
2:20 pm - 2:40 pm <i>Full paper</i>	Meta-Cognizing Seed AI Ben Goertzel and Patrick Hammer (SingularityNET Foundation)
2:40 pm - 2:50 pm <i>Short paper</i>	Monitoring Before Answering: Epistemic Monitoring Improves Knowledge-Limit Recognition in Large Language Models Malia Barker, Parth Mehrotra, Edoardo Serra, and Edward Ferrier (Boise State University)
2:50 pm - 3:30 pm	Discussion with presenters on Trustworthy Metacognitive Systems Moderated by the session chair
3:30 pm - 4:00 pm	<i>Break</i>
4:00 pm - 5:00 pm	Session 8: The Artificial Metacognition Community <i>Chair: Paulo Shakarian (Syracuse University)</i>
4:00 pm - 5:00 pm	Community Discussion: The Artificial Metacognition Community Discussion of the artificial metacognition research community and its future directions
5:30 pm - 6:30 pm	Plenary Session

Saturday, November 7

9:00 am - 10:30 am	Session 9: Sponsored Talk and Keynote <i>Chair: Andrea Stocco (University of Washington)</i>
9:00 am - 9:05 am	Keynote Introduction Paulo Shakarian (Syracuse University)
9:05 am - 10:05 am	Keynote: Susmit Jha (DARPA) Program Manager · Title TBA
10:05 am - 10:30 am	TBD
10:30 am - 11:00 am	<i>Break</i>
11:00 am - 12:30 pm	Session 10: Metacognitive Control and Closing <i>Chair: Christian Lebiere (Carnegie Mellon University)</i>
11:00 am - 11:20 am <i>Full paper</i>	Metacognitive Reasoning in Energy Based Models using Instance Based Learning Theory Tailia Malloy, Prateek Rajput, Serge Lionel Nikiema (University of Luxembourg); Cleotilde Gonzalez (Carnegie Mellon University); Tegawendé F. Bissyandé (University of Luxembourg)
11:20 am - 11:40 am <i>Full paper</i>	AI Training Manager: Bounded Closed-Loop Control of Adaptive Training Anjali Rao and Nikhil Kamalkumar Advani (Independent Researchers)
11:40 am - 11:50 am	Discussion with presenters on Metacognitive Control Moderated by the session chair
11:50 am - 12:30 pm	Feedback Session: Your Feedback on METACOG-26 Open feedback from participants on the symposium