# **Ninth Advances in Cognitive Systems Conference**

# **Schedule: November 15-18, 2021**

**Monday, November 15th**

**Goal Reasoning Workshop:**



**Workshop on Pedagogical Advances in Cognitive Systems:**

For further information, contact the organizer, Tom Williams [twilliams@mines.edu](mailto:twilliams@mines.edu).

**Tuesday, November 16 th**

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| **Time** | **Description** |
| **10:45 AM** | **Welcome and Logistics**- Mark Burstein and Mohan Sridharan |
| **11:00 AM** | **Session 1**   1. [An Analysis and Comparison of ACT-R and Soar](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_6.pdf), John Laird. 2. [Deep Goal Reasoning: An Analysis](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_9.pdf), Weihang Yuan and Hector Munoz-Avila. 3. [Scaling Challenges in Explanatory Reasoning](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_33.pdf), Pat Langley and Mohan Sridharan. |
| **12:30 PM** | **Break** |
| **1:00 PM** | **Invited talk -**[**Gerd Gigerenzer**](https://advancesincognitivesystems.github.io/acs2021/speakers/gerd_gigerenzer/) [Director of the Harding Center for Risk Literacy, University of Potsdam](https://www.mpib-berlin.mpg.de/staff/gerd-gigerenzer) [Psychological AI: Simplicity and Transparency in Prediction](https://advancesincognitivesystems.github.io/acs2021/talks/#gigerenzer) |
| **1:45 PM** | **Session 2**   1. [Scales and Hedges in a Logic with Analogous Semantics](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_14.pdf), H.R.Schmidtke and S. Coelho. 2. [Hierarchical Problem Networks for Knowledge-Based Planning](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_28.pdf), Pat Langley and Howard Shrobe |
| **2:45 PM** | **Break** |
| **3:00 PM** | **Session 3 (Short Talks)**  *Short talks are 10 minutes plus 2 minutes for questions during changeover.*   1. [Signature Entrenchment and Conceptual Changes in Automated Theory Repair](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_20.pdf), Xue Li, Alan Bundy and Eugene Philalithis 2. [Operationalizing Tactical Representations](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_16.pdf), Thomas Hinrichs and Kenneth Forbus. 3. [From Unstructured Text to Causal Knowledge Graphs: A Transformer-Based Approach](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_21.pdf), Scott Friedman, Ian Magnususon, Vasanth Sarathy and Sonja Schmer-Galunder. |
| **3:40 PM** | **Break (with a Breakout Room for each short talk)** |
| **4:00 PM** | **Session 4**   1. [OpenMIND: Planning and Adapting in Domains with Novelty](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_35.pdf), D. Musliner, M. Pelican, M. McLure, S. Johnston, R. Freedman and C. Knutson 2. [Learning Norms via Natural Language Teachings](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_17.pdf), Taylor Olson and Ken Forbus. |
| **5:00 PM** | **Adjourn** |

\**Schedule still subject to change. Please note that all times are Eastern Time (GMT-5). Talks will be recorded and made available on YouTube.*

**Wednesday, November 17 th**

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| **Time** | **Description** |
| **10:55 AM** | **Herbert A. Simon Award Presentation**- Pat Langley |
| **11:00 AM** | **Herbert A. Simon Talk -**[**James Allen**](https://advancesincognitivesystems.github.io/acs2021/speakers/james_allen/)**,** [University of Rochester](https://www.cs.rochester.edu/u/james/) and IHMC  [Conversational systems: Past, Present and future](https://advancesincognitivesystems.github.io/acs2021/talks/#allen) |
| **11:45 AM** | **Session 5**   1. [Knowledge Engineering in the Long Game of Artificial Intelligence: The Case of Speech Acts](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_4.pdf), Marjorie McShane, Jesse English and Sergei Nirenburg. 2. [Language Models as a Knowledge Source for Cognitive Agents](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_13.pdf), Robert Wray, James Kirk and John Laird. |
| **12:45 PM** | **Break** |
| **1:15 PM** | **Invited talk -**[**Ute Schmid**](https://advancesincognitivesystems.github.io/acs2021/speakers/ute_schmid/) [Head of the Cognitive Systems Group, University of Bamberg](https://www.uni-bamberg.de/en/cogsys/schmid/) [Reconciling knowledge-based and data-driven AI for human-in-the-loop](https://advancesincognitivesystems.github.io/acs2021/talks/#schmid) machine learning |
| **2:00 PM** | **Session 6**   1. [The Impact of Partner Expressions on Felt Emotion in the Iterated Prisoner’s Dilemma: An Event-level Analysis](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_24.pdf), M. Angelika-Nikita, C.M. de Melo, K. Terada, G. Lucas and J. Gratch. 2. [Towards a Cognitive Model of Collaborative Memory](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_15.pdf), Willa Mannering, Suparana Rajaram and Michael Jones. |
| **3:00 PM** | **Break** |
| **3:15 PM** | **Session 7 (Short Talks)**  *Short talks are 10 minutes plus 2 minutes for questions during changeover.*   1. [Language Generation for Broad-Coverage, Explainable Cognitive Systems](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_5.pdf), Marjorie McShane and Ivan Leon. 2. [Physical Reasoning in an Open World](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_7.pdf), Zhuoran Zeng and Ernest Davis. 3. [Task Modifiers for HTN Planning and Acting](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_18.pdf), W. Yuan, H. Munoz-Avila, V.R.Gogineni, S. Kondrakunta, M. Cox and L. He. 4. [Finding Trolls Under Bridges: Preliminary Work on a Motif Detector](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_23.pdf), W.V. Yarlott, A. Ochoa, A. Acharya, L. Bobrow, D. C. Estrada, D. Gomez, J. Zeng, D. McDonald, C. Miller and M. A. Finlayson 5. [Lensing Machines: Representing Perspective in Latent Variable Models](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_10.pdf), Karthik Dinakar and Henry Lieberman. 6. [An explainability analysis of a sentiment prediction task using a transformer-based attention filter](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_22.pdf), Neşet Özkan Tan, J. Bensemann, D. Benavides-Prado, Y. Chen, M. Gahegan, L. Lee, A. Y. Peng, P. Riddle and M. Witbrock. |
| **4:40 PM** | **Break (with a Breakout Room for each short talk)** |
| **5:00 PM** | **Adjourn** |

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**Thursday, November 18 th**

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| **Time** | **Description** |
| **11:00 AM** | **Session 8**   1. [Computational Metacognition](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_1.pdf), Michael Cox, Zahiduddin Mohammad, Sravya Kondrakunta, Ventaksamapth Raja Gogineni, Dustin Dannenhauer and Othalia Larue 2. [Self-directed Learning of Action Models using Exploratory Planning](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_29.pdf), D. Dannenhauer, M. Molineaux, M. Floyd, N. Reifsnyder and D. Aha. 3. [Rational Selection of Goal Operations and the Integration of Search Strategies with Goal-Driven Autonomy](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_8.pdf), S. Kondrakuntam V. Gogineni, M. Cox, D. Coleman, X. Tan, T. Lin, M. Hou, F Zhang, F. McQuarrie, C. Edwards. |
| **12:30 PM** | **Break** |
| **1:00 PM** | **Invited talk -**[**Anthony Cohn**](https://advancesincognitivesystems.github.io/acs2021/speakers/Anthony_Cohn/) [Professor of Automated Reasoning, University of Leeds](https://eps.leeds.ac.uk/computing/staff/76/professor-anthony-g-cohn-freng-ceng-citp) [Manipulation in cluttered environments and interacting with robots](https://advancesincognitivesystems.github.io/acs2021/talks/#cohn) |
| **1:45 PM** | **Panel Discussion -**[**Research Directions for Cognitive Systems**](https://advancesincognitivesystems.github.io/acs2021/talks/#panel) |
| **2:30 PM** | **Session 9**   1. [Active Observer Visual Problem-Solving Methods are Dynamically Hypothesized, Deployed and Tested](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_3.pdf), Markus Solbach and John Tsotsos. |
| **3:00 PM** | **Break** |
| **3:15 PM** | **Session 10 (Short Talks)**  *Short talks are 10 minutes plus 2 minutes for questions during changeover.*   1. [A System for Image Understanding using Sensemaking and Narrative](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_26.pdf), Zev Battad and Mei Si. 2. [An Initial Description of Capabilities and Constraints for Designing a Computational Auditory System (an Artificial Ear) for Cognitive Architectures](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_11.pdf), Frank Ritter, Mathieu Brener and Jeffrey Bolkhovsky. 3. [Convolutional Cobweb: A Model of Incremental Learning from 2D Images](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_30.pdf), Christopher Maclellan and Harshil Thakur. 4. [A Computational Perspective on Some Cognitive Illusions](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_25.pdf), Kenneth Forbus. 5. [Automatic Item Generation of Figural Analogy Problems: A Review and Outlook](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_2.pdf), Yuan Yang, Deepayan Sanyal, Joel Michelson, James Ainooson and Maithilee Kunda. 6. [Structural Alignment as an Abductive Integer Linear Programming Problem](https://advancesincognitivesystems.github.io/acs2021/data/ACS-21_paper_19.pdf), Clifton McFate. |
| **4:35 PM** | **Break (with a Breakout Room for each short talk)** |
| **5:00 PM** | **Closing comments and adjournment** |

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