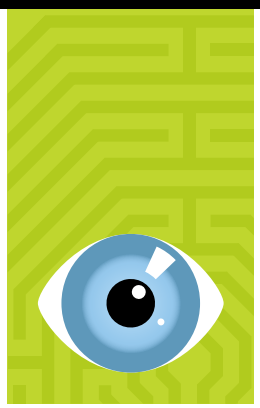
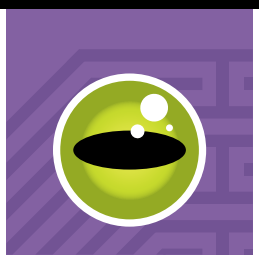
CogSci 2021

VIRTUAL





Invited speakers

Julia Fischer
Onur Güntürkün
Erich Jarvis
Friederike Range

COMPARATIVE COGNITION

Cognitive Animals

Invited panels

Cognition of time

Comparative and neural approaches to social cognition

Towards comparative aesthetics

Organizers

Tecumseh Fitch
Claus Lamm
Helmut Leder
Kristin Teßmar-Raible

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#CogSci2021

Program for the 43rd Annual Meeting of the Cognitive Science Society

26 – 29 July 2021

Vienna, Austria

Comparative Cognition

Animal Minds

Organizers: Tecumseh Fitch, Claus Lamm, Helmut Leder, Kristin Teßmar-Raible

https://cognitivesciencesociety.org/cogsci-2021/

Dear Colleagues,

Welcome to the 43rd Annual Conference of the Cognitive Science Society!

This year's conference brings together the latest research from all Cognitive Science and also highlights this year's theme **Comparative Cognition: Animal Minds**.

The program features four plenary speakers: Friederike Range (University of Veterinary Medicine, Vienna), Onur Güntürkün (Ruhr University Bochum), Julia Fischer (University of Göttingen), and Erich Jarvis (The Rockefeller University). The keynotes and invited symposia showcase the broad spectrum of ideas that encompass the conference theme of comparative cognition.

Further, the program includes the Rumelhart Prize keynote presentation by Susan Goldin-Meadow (University of Chicago), and symposia to celebrate the winner of the Elman Prize: Wei Ji Ma (New York University), the Heineken Award winner Robert Zatorre (McGill University), and the Robert J. Glushko Dissertation Prizes session.

The program committee for CogSci 2021 received 1,025 submissions, including 710 full papers, 275 member abstracts, 8 publication-based talks, as well as 15 proposals for symposia, and 17 for workshops and tutorials. After a rigorous review process, the committee selected 152 papers for oral presentation and inclusion in the conference proceedings (14.8%), 332 papers for poster presentation and inclusion in the proceedings (32.4%), and 175 papers for poster presentation with inclusion of abstracts in the proceedings (17.1%) We also selected 275 submitted member abstracts. In addition, we accepted 6 publication-based talks, 12 symposia, and 9 workshops and tutorials to make for an exciting and inclusive program.

We hope that you enjoy the conference this year!

Your Program Chairs,

Tecumseh Fitch (University of Vienna)

Claus Lamm (University of Vienna)

Helmut Leder (University of Vienna)

Kristin Teßmar-Raible (University of Vienna)

Acknowledgements

We are extremely grateful to everyone who contributed to the planning and organization of this year's Cognitive Science virtual meeting, to the authors who submitted their contributions, and to all the reviewers who generously donated their expertise and time to evaluate the submissions. We offer our special thanks to those reviewers who have completed additional reviews during the COVID-19 pandemic. We thank the members of the Program Committee who coordinated the reviews and made important recommendations about the submissions, and the members of the conference organizing subcommittees who showed great efficiency in completing their demanding tasks; the Organizing and Program Committee members are listed in the following pages.

We are very grateful for the assistance of a number of individuals and groups critical to handling the many organizational aspects of the virtual meeting. We thank Kevin Gluck, the Chair of the Cognitive Science Society, Anna Drummey, the Executive Officer of the Society, and the entire Governing Board of the Society, especially Anna Papafragou, for their advice and support throughout the process.

Additional help at the University of Vienna included PCS-wrangling by David Cserjan, meta-reviewing administration and proceedings preparation by Gesche Westphal-Fitch, and crucial contributions to the opening ceremony from Peter Rantaša and Christine Sporrer.

Michelle Smith and Jude Ross at Podium Conferences, and James Stewart at Precision Conference Solutions have been helpful, cheerful, effective, and constant partners during the process.

Finally, we are grateful to the Cognitive Science Society and to the sponsors of this conference, including The Robert J. Glushko and Pamela Samuelson Foundation, Duolingo and the European Office of Aerospace Research and Development, along with Toyota Research Institute, Finding Five, and MIT – IBM Watson AI Lab, as well as the exhibitors, for their support.

Enjoy the virtual conference!

Tecumseh Fitch, Claus Lamm, Helmut Leder, and Kristin Teßmar-Raible

Co-Chairs, CogSci2021

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- Helmut Leder
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CogSci 2021 Organizers

Tecumseh Fitch

Tecumseh Fitch is the head of the Department of Behavioral and Cognitive Biology, at the Faculty of Life Sciences, University of Vienna. Fitch studies the biology and evolution of cognition and communication in vertebrates. He has a particular interest in the evolution of language, music and speech in humans, studied from a broad comparative perspective. Current research foci include bioacoustics, the biology and evolution of rhythm, empirical aesthetics and comparisons of syntactic abilities in different bird and mammal species.

Claus Lamm

Claus Lamm is a Full Professor of Biological Psychology at the University of Vienna and deputy speaker of the Vienna Cognitive Science Hub. His research mainly revolves around the neuro-cognitive mechanisms of social behaviors, with a particular focus on empathy and prosociality. He studies these phenomena in both humans and non-human animals, and advocates an inherently interdisciplinary and collaborative research approach.

Helmut Leder

Helmut Leder is professor of General-and Cognitive Psychology at the University of Vienna where in 2004 he founded the research focus in Empirical Aesthetics, in which human aesthetic experiences are studied, regarding a variety of objects, and contexts, from neurophysiological laboratory studies, to field studies in museum and outdoors. He has published more than 200 peer-reviewed papers, more than a dozen funded projects in Empirical Aesthetics, he was the president of the International Association of Empirical Aesthetics, and in Vienna is also the Head of the interdisciplinary Cognitive Sciences Research Hub.

Kristin Tessmar-Raible

Kristin Tessmar-Raible is professor for chronobiology at the Max Perutz Labs, University of Vienna. She received her training in comparative neurobiology and is particularly interested in the effects of time on the behavior of animals, including humans.

Her current main focus is on the timing mechanism and effects of monthly and annual clocks.

Conference Services

CogSci 2021 Virtual platform is available for viewing of pre-recorded videos and reviewing posters effective July 19th. Live sessions begin July 26th and continue until July 29th at the following times:

- 14:00 – 24:00 CEST (Vienna)
- 08:00 – 16:00 EDT (New York)

Pre-Registration

Delegates who have registered and paid in advance will receive an email from Underline, the virtual platform provider on July 19th or following registration if after July 19th with the direct link to enter the platform. Delegates can also access the Underline site via the CogSci 2021 website.

Registration

If you wish to register and have not yet done so, please register via the website.

Note: Registrations completed after July 24 may experience delayed access to the virtual conference.

Code of conduct

By entering the virtual platform and participating in CogSci 2021 you are agreeing to the CogSci 2021 Code of Conduct. **To read the code of conduct, please click here**

Technical help during the virtual conference

If you encounter any technical issues during your virtual experience, please contact the software provider directly, by either visiting the 'Help Desk' while online, or emailing: cogsci2021@underline.io

Additional Information

Business Meeting

The Society business meeting will be available on-demand to view any time throughout the conference dates, to ensure it is accessible to all. We encourage you to view the business meeting video early in the conference proceedings, to be apprised of all Society news and information ahead of any voting requests.

Affinity and Discussion Groups

CogSci 2021 is pleased to announce a series of Affinity and Discussion Group sessions, which are scheduled to take place during the virtual conference.

These sessions include affinity groups arranged and supported by International Cognitive Science Group, WiCS, and a session focussed on primarily undergraduate institutions (PUIs). In addition, we have discussion groups on Trajectories in Cognitive Science, funding through the National Science Foundation (NSF), and a scientific discussion group on Neural Network Models of Cognition.

These sessions are free to attend for all CogSci 2021 delegates. Please view the website for further information including dates of the scheduled session.

Q&A Sessions

Pre-recorded videos are available for viewing in advance of the meeting to allow delegates to view at their leisure and in recognition that the time zones are not inclusive to all. Questions can be left for the authors in the video chat window at any time.

Sessions are scheduled for a specific live viewing of the pre-recorded video followed by live Q&A with the presenting author. Questions can be asked via text chat or by indicating interest in asking the question via audio feed. The virtual conference Q&A sessions will mostly take place via text chat. The chat boxes are located just below the viewing screens.

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The mission of the European Office of Aerospace Research & Development (EOARD) is to discover, shape, and champion basic science of Air Force interest through collaborations with the scientific community in Europe, Eurasia, the Middle East, and Africa. We accomplish this through three primary activities:

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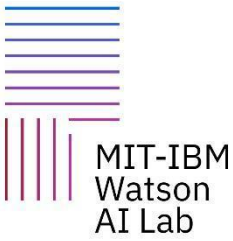

MIT-IBM Watson AI Lab

The MIT-IBM Watson AI Lab is a community of scientists from MIT and IBM Research dedicated to pushing the frontiers of artificial intelligence and translating breakthroughs into real-world impact. Founded in 2017, the Lab works with industry to translate fundamental science into applications that solve immediate problems in the business world and beyond. The Lab currently manages a research portfolio of more than 80 projects, with an emphasis on data-driven, deep learning approaches to understanding language and the visual world and techniques for making large-scale AI systems more efficient and robust. The Lab is also developing AI systems for healthcare and a variety of decision-making applications. In all of its work, the Lab is committed to building trustworthy and socially responsible AI systems.

https://mitibmwatsonailab.mit.edu/
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FindingFive

FindingFive is a non-profit tech startup with a mission of building the technological infrastructure for online behavioral research. We focus on eliminating the pain points faced by researchers such as programming an online study and securely collecting and storing participant data. Our web platform, findingfive.com, enables researcher to rapidly create browser-based online studies with academic terms that are already familiar to them: stimuli, responses, trials, and so on. We aim to free researchers from the technical burden of setting up online experiments, so that they can focus on science itself. In 2021 and forward, FindingFive is also building its own participant pool so that researchers can create studies and recruit participants all in the same place.

https://www.findingfive.com

Exhibitors

MIT Press

Welcome attendees of the Cognitive Science Society 2021 Annual Conference to our virtual exhibit! Please be sure to check out some of our latest and forthcoming titles including: Bots & Beasts by Paul Thagard; Out of the Cave by Mark L Johnson and Don M Tucker; and The Bias That Divides Us by Keith Stanovich. Recently published titles include: The Working Mind by Juan Pascual-Leone and Janice M. Johnson; new textbooks include The Psychology of Learning by Jan De Houwer and Sean Hughes, and Perceptual Learning by Barbara Dosher and Zhong-Lin Lu.

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Conference Awards

Marr Prize

The Marr Prize, named in honor of the late David Marr, is awarded to the best student paper at the conference. All student first authors were eligible for the Marr Prize for the best student paper. The Marr Prize includes an honorarium of $1000 and is sponsored by The Cognitive Science Society.

The winner of the 2021 Marr Prize for the Best Student Paper is:

James Benjamin Falandays, *University of California, Merced*
The emergence of cultural attractors: An agent-based model of collective perceptual alignment

Computational Modeling Prizes

Four prizes worth $1000 each are awarded for the best full paper submissions to CogSci 2021 that involve computational cognitive modeling. The four prizes represent the best modeling work in the areas of perception/action, language, higher-level cognition, and applied cognition. These prizes are sponsored by The Cognitive Science Society. The winners of the 2021 Computational Modeling Prizes are:

APPLIED COGNITION

Eeshan Hasan, Vanderbilt University
Improving medical image decision making by leveraging metacognitive processes and representational

HIGHER-LEVEL COGNITION

Emily M. Heffernan, University of Toronto
Learning exceptions to the rule in human and model via hippocampal encoding

LANGUAGE

Claire Augusta Bergey, The University of Chicago
Learning communicative acts in children's conversations: a Hidden Topic Markov Model analysis of the CHILDES corpus

PERCEPTION & ACTION

Samuel J. Cheyette, University of California, Berkeley
The psychophysics of number arise from resource-limited spatial memory

Sayan Gul Award

Sayan Gul was an undergraduate at University of California, Berkeley studying cognitive science and computer science, and had great potential as a cognitive scientist. This award is intended to support similarly outstanding undergraduates conducting research in cognitive science. In memory of Sayan Gul, the award supports undergraduate students with travel related costs who are presenting authors at the conference. The Sayan Gul Award includes a cash award of $500. This year's recipient of the Sayan Gul award is:

Xuanyi Chen, Rice University
Challenges for using Representational Similarity Analysis to Infer Cognitive Processes: A Demonstration

Diversity & Inclusion Conference Awards

Burcu Arslan, Koç University, Turkey
Grammatical complexity and gesture production of younger and older adults

Shaozhe Cheng, Zhejiang University, China
Intention beyond desire: Humans spontaneously commit to future actions

Ropafadzo Denga, Rensselaer Polytechnic Institute, United States of America
Need for speed: Applying ex-Gaussian modeling techniques to examine intra-individual reaction time variability in expert Tetris players

Amir Hosein Hadian Rasanan, Shahid Beheshti University, Iran
Reflected boundary drift diffusion model: A double responding framework for Go/No-Go paradigm

Shobhit Jagga, Indian Institute of Technology, India
Modeling procrastination as rational metareasoning about task effort

João Loula, Massachusetts Institute of Technology, United States of America
Combining rules and simulation to explain infant physical learning

Sahil Luthra, University of Connecticut, United States of America
Lexically-mediated compensation for coarticulation in older adults

Ezgi Mamus, MPI/Radboud University, Netherlands
Modality of input influences encoding of path and manner of motion in speech but not in co-speech gestures

Kerem Oktar, Princeton University, United States of America
Deciding to be authentic: Intuition is favored over deliberation for self-reflective decisions

Verónica Ramenzoni, National Scientific and Technical Research Council, Argentina
Body Image During Quarantine; Generational Effects of Social Media Pressure on Body Appearance Perception

Diversity & Social Inequality Awards

Listeners evaluate native and non-native speakers differently (but not in the way you think)
Martin Ho Kwan Ip & Anna Papafragou, University of Pennsylvania

Disciplinary Diversity & Integration Award in Cognitive Science

Paper Winners

A longitudinal study of great ape cognition
Manuel Bohn; Johanna Eckert; Daniel Hanus; Daniel Benjamin Moritz Haun: Max Planck Institute for Evolutionary Anthropology

Categorical perception of p-values
V. N. Vimal Rao: University of Minnesota-Twin Cities; Jeffrey K. Bye: University of Minnesota; Sashank Varma: Georgia Tech

Symposia Winners

The evolution of rhythm from neurons to ecology
Organizer: Andrea Ravignani: Comparative Bioacoustics Group, Max Planck Institute for Psycholinguistics

The deep history of information technologies: A cognitive perspective
Organizer: Helena Miton: Santa Fe Institute

Robert J. Glushko Dissertation Prizes

The Cognitive Science Society and the Robert J. Glushko and Pamela Samuelson Foundation award up to five outstanding dissertation prizes in cognitive science each year. The goals of these prizes are to increase the prominence of cognitive science and encourage students to engage in interdisciplinary efforts to understand minds and intelligent systems. The hope is that the prizes will recognize and honor young researchers conducting ground-breaking research in cognitive science. The eventual goal is to aid in efforts to bridge between the areas of cognitive science and create theories of general interest to the multiple fields concerned with scientifically understanding the nature of minds and intelligent systems. Promoting a unified cognitive science is consistent with the belief that understanding how minds work will require the synthesis of many different empirical methods, formal tools, and analytic theories. 2011 was the inaugural year of this prize, and a new competition is held annually.

The 2021 recipients are as follows, and will be featured in a special session Thursday July 29th 19:00 – 21:00 CEST:

Esti Blanco-Elorrieta, New York University, 2020
Towards an ecologically valid neurobiology of bilingualism

Laura Gwilliams, New York University, 2020
Towards a mechanistic account of speech comprehension in the human brain

Andrew Lampinen, Stanford University, 2020
A computational framework for learning and transforming task representations

Shari Liu, Harvard University, 2020
Nature and origins of intuitive psychology in human infants

Vencislav Popov, Carnegie Mellon University, 2020
Resource depletion and recovery in human memory

James Whittington, University of Oxford, 2020
A Bayesian account of learning and generalising representations in the brain

The Jeffrey L. Elman Prize for Scientific Achievement and Community Building

In recognition of Jeffrey L. Elman's many contributions to the field of cognitive science, the Cognitive Science Society in partnership with the University of California, San Diego awards a prize at the Cognitive Science Society annual meeting to mid-career cognitive scientists (individuals or teams) whose careers exemplify the twin strands of scientific excellence and commitment to community-building and service that were so evident in his career. Jeffrey Elman made major contributions to the theoretical foundations of human cognition, most notably in the areas of language and development. His work continues to have an immense impact across fields as diverse as cognitive science, psycholinguistics, developmental psychology, evolutionary theory, computer science and linguistics. In addition to his important intellectual contributions, he also was an inspiring scientific citizen who is remembered for his generosity and mentorship.

The 2021 Elman Prize has been awarded to **Wei Ji Ma**, Professor in the Center for Neural Science and Department of Psychology at New York University

Elman Symposium

Wednesday, July 28, 2021, 15:20 – 17:00 CEST

Symposium chair: Ronald van den Berg, Stockholm University

Presenters:

Ronald van den Berg, Department of Psychology, Stockholm University
Janneke Jehee, Donders institute for Brain, Cognition and Behavior
Daeyeol Lee, Johns Hopkins University
Will Adler, Center for Democracy and Technology
Yael Niv, Princeton Neuroscience Institute
Wei Ji Ma, New York University

Join us to celebrate Wei Ji Ma, New York University, and his contributions to building the community and service to the field of Cognitive Science. In his talk, Wei Ji interviews several of his role models and asks why outreach, advocacy, and activism are not rewarded in academic science.

David E. Rumelhart Prize

The David E. Rumelhart Prize is awarded annually to an individual or collaborative team making a significant contemporary contribution to the theoretical foundations of human cognition. Contributions may be formal in nature: mathematical modeling of human cognitive processes, formal analysis of language and other products of human cognitive activity, and computational analyses of human cognition using symbolic or non-symbolic frameworks all fall within the scope of the award. The David E. Rumelhart Prize is funded by the Robert J. Glushko and Pamela Samuelson Foundation. The prize consists of a hand-crafted, custom bronze medal, a certificate, a citation of the awardee's contribution, and a monetary award of $100,000.

The recipient of the 2021 Prize is **Susan Goldin-Meadow**, from The University of Chicago.

Prize Presentation

Tuesday, July 27, 2021, 19:00 – 20:10 CEST

Susan Goldin-Meadow, The University of Chicago
The mind hidden in our hands

The Rumelhart Prize Reception and Announcement of the 22nd Rumelhart Prize Recipient follow the Prize Presentation on Tuesday July 27, 2021, 20:10 – 20:20 CEST.

Rumelhart Symposium

Tuesday July 27, 2021, 20:40 – 22:20 CEST

Symposium chair: Martha Alibali, University of Wisconsin

Presenters:

Meredith L Rowe, Harvard University
Jana M Iverson, University of Pittsburgh
Susan Wagner Cook, University of Iowa
Erica Cartmill, University of California, Los Angeles

Invited Presentations

Invited Speakers

Tuesday, July 27: 14:40 – 15:40 CEST

Friederike Range, University of Vienna
The effects of domestication on dog-human interactions

Wednesday, July 28: 14:00 – 15:00 CEST

Onur Güntürkün, Ruhr-Universität Bochum
Why are birds so smart?

Wednesday, July 28: 20:40 – 21:40 CEST

Erich Jarvis, Rockefeller University
Brain pathways for vocal learning and spoken language

Thursday, July 29: 14:00 – 15:00 CEST

Julia Fischer, DPZ Göttingen
Social and cognitive aging in nonhuman primates

Invited Symposia

Tuesday, July 27: 15:40 – 17:20 CEST

Comparative & neural approaches to social cognition

Chairs:

Claus Lamm, University of Vienna
Natalie Sebanz, Central European University

Presenters

Judith Burkhart, University of Zurich
Mariska Kret, Leiden University
Giorgia Silani, University of Vienna
Shiri Lev-Ari, University of London, Royal Holloway

Tuesday, July 27: 20:40 – 22:00 CEST

Cognition of time

Chair:

Kristin Tessmar-Raible, University of Vienna

Presenters

Amita Sehgal, University of Pennsylvania
Petr Janata, University of California, Davis
Daniela Pollak, Medical University of Vienna
Fuat Balci, University of Manitoba

Thursday, July 29: 15:20 – 17:00

Towards comparative aesthetics

Chairs:

Helmut Leder, University of Vienna'
Leonida Fusani, University of Vienna

Presenters

Laura Kelley, University of Exeter
Mila Mileva, University of Plymouth
Matthew Pelowski, University of Vienna
Jessica Yorzinski, Texas A&M University

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DAY 1: JULY 26

VIENNA	NEW YORK	
14:00-22:00	08:00-16:00	**Workshop 1: Symbolic and sub-symbolic systems in people and machines** **Organizers and Presenters**: Simon Valentin: University of Edinburgh; Bonan Zhao: University of Edinburgh; Chentian Jiang: University of Edinburgh; Neil R Bramley: University of Edinburgh; Chris Lucas: University of Edinburgh
14:00-22:00	08:00-16:00	**Workshop 2: Using games to understand intelligence** **Organizers and Presenters:** Franziska Brändle: Max Planck Institute for Biological Cybernetics; Kelsey R Allen: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology; Eric Schulz: Max Planck Institute for Biological Cybernetics
14:00-22:00	08:00-16:00	**Workshop 3: Engineering and reverse-engineering morality** **Organizers and Presenters:** Sydney Levine: Massachusetts Institute of Technology; Fiery Cushman: Harvard University; Iyad Rahwan: Max Planck Institute for Human Development; Josh Tenenbaum: Massachusetts Institute of Technology
14:00-22:00	08:00-16:00	**Workshop 4: Minds at play** **Organizers and Presenters:** Junyi Chu: Massachusetts Institute of Technology; Laura Schulz: Massachusetts Institute of Technology

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14:00-22:00 **08:00-16:00**

Workshop 5: Interdisciplinary advances in affective cognition

Organizers and Presenters: Yang Wu: Stanford University; Desmond Ong: National University of Singapore; Hyowon Gweon: Stanford University; Eric Walle: University of California, Merced; György Gergely: Central European University; Daniel Dukes: University of Fribourg; Kara Weisman: Developing Belief Network; Seth Pollak: University of Wisconsin-Madison; Vanessa LoBue: University of Rutgers, Newark; Mark Thornton: Dartmouth College; Anat Perry: Hebrew University of Jerusalem; and Rebecca Saxe: Massachusetts Institute of Technology

18:00-22:00 **12:00-16:00**

Workshop 6: Combating the climate crisis with cognitive science

Organizers and Presenters: Rachit Dubey: Princeton University; Joshua Peterson: Princeton University

18:00-22:00 **12:00-16:00**

Workshop 7: Career paths beyond the tenure track for cognitive scientists

Organizers and Presenters: Vanessa Simmering: Doctrina Consulting, LLC; Carissa L Shafto: Brightfield Strategies, LLC

18:00-22:00 **12:00-16:00**

Tutorial 1: Introduction to PCIBEX – An open-science platform for online experiments: Design, data-collection and code-sharing

Organizers and Presenters: Florian Schwarz: University of Pennsylvania; Jeremy Zehr: University of Pennsylvania

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18:00-22:00 **12:00-16:00**

Tutorial 2: Practical interpretation and insights with recurrence quantification analysis for decision making research

Organizers and Presenters: Erin N McCormick: Carnegie Mellon University; Leslie M Blaha: Air Force Research Laboratory

22:00-24:30 **16:00-18:30**

Affinity group: Neural network models of cognition

Learn more

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DAY 2: JULY 27

VIENNA	NEW YORK	
10:30 – 12:00	04:30-06:00	**Affinity group: International cognitive science group** Learn more
14:00-14:40	08:00-08:40	**Welcome address/Opening ceremony** Join us to hear from the Cognitive Science Society Chair, the 2021 Meeting organizers and special guests.
14:40-15:40	08:40-09:40	**Plenary speaker: Friederike Range** University of Veterinary Medicine, Vienna Chair: Tecumseh Fitch, University of Vienna The effects of domestication on dog-human interactions
15:40-17:20	9:40-11:20	**Invited panel: Comparative & neural approaches to social cognition** Co-chairs: Claus Lamm, University of Vienna Natalie Sebanz, Central European University Technical Chair: Sean Zhang, Northwestern University

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The evolutionary origin of corepresentation during joint action: A comparative approach
Judith Burkart, Universität Zürich

Emotion Processing in Homo and Pan
Mariska Kret, Leiden University

Understanding social motivation: A neuro-pharmacological and clinical account
Giorgia Silani, University of Vienna

Language from a social networks perspective
Shiri Lev-Ari, University of London, Royal Holloway

15:40-17:20 **9:40-11:20**

Symposium 1: The deep history of information technologies: A cognitive perspective

Symposium chair: Dr Helena Miton, Wayne State University

Technical chair: Tiwalayo Eisape, Massachusetts Institute of Technology

Presenters: Stephen Chrisomalis: Wayne State University; Valeria Giardino: CNRS; Olivier Morin: MPI für Menschheitsgechichte; Andrew Riggsby: University of Texas at Austin; Helena Miton: Santa Fe Institute

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Cognition constrains and influences human cultural productions, among which are information technologies. Information technologies, because of and through their intensive use, can be expected to reflect human cognition particularly well. Cognitive approaches to information technologies have the potential of informing both cognitive science and historical disciplines. Beyond high ecological validity, we demonstrate the relevance of real-world data in testing and informing theories about how the mind works, through four different case studies and contexts: how we represent the world and space around us (Riggsby), how we represent more abstract -number- concepts (Chrisomalis), how we optimize written characters for our visual system (Miton), and coinage to minimize possible errors (Morin). Discussion and moderation will be assured by Valeria Giardino, a philosopher whose main research topic is reasoning with diagrams and the role of cognitive artifacts in improving thought.

15:40-17:20 **9:40-11:20**

Symposium2: Sequential meaning-making in language and visual narratives

Symposium chair: Neil Cohn, Tilburg University

Technical chair: Elisabeth Tabery, University of Vienna

Presenters: Bien Klomberg: Tilburg University; Irmak Hacımusaoğlu: Tilburg University; Cas Coopmans: Max Planck Institute for Psycholinguistics; Neil Cohn: Tilburg University

The last two decades have seen emerging research on the structure and cognition of visual narratives, like those found in comics and picture stories (Cohn & Magliano, 2020). A primary characteristic of this research has been the comparison between the meaning-making in sequencing of pictures and that of sequential words or sentences in language. This comparison has extended across research methods and their

findings...In this symposium, we further explore these comparisons between language and visual narratives in four presentations exploring visual narrative sequencing. These studies span various methodologies of corpus research along with behavioral and neurocognitive experimentation, and they probe several fundamental topics of meaning-making found in both the verbal and visual modalities: the expression of motion events, the generation of inferences, anaphoricity and co-reference, and information density.

15:40-17:20 **9:40-11:20**

IP1: Animal cognition

Chair: John Michael, Central European University

Technical chair: Emmy Liu

1231 Relationship between delay discounting and risk preference in chimpanzees (Pan troglodytes) and humans

Authors: Stefanie Keupp: German Primate Center; Sebastian Grueneisen: Max Planck Institute for Human Development; Felix Warneken: University of Michigan; Elliot Andrew Ludvig: University of Warwick; Alicia P. Melis: University College London

1264 In sync or vocal? How bottlenose dolphins coordinate in a cooperative task

Authors: Kelly Jaakkola: Dolphin Research Center; Emily Guarino: Dolphin Research Center; Katy Donegan: Dolphin Research Center; Christina McMullen: Dolphin Research Center; Stephanie L King: University of Bristol

1418 A longitudinal study of great ape cognition: Stability, reliability and the influence of individual characteristics

Authors: Manuel Bohn: Max Planck Institute for Evolutionary Anthropology; Johanna Eckert: Max Planck Institute for Evolutionary Anthropology; Daniel Hanus: MPI-EVA; Daniel Benjamin Moritz Haun: Max Planck Institute for Evolutionary Anthropology

1971 Rhythmic behaviors in chimpanzees: Range, functional contexts, sex differences and emotional correlates

Authors: Gabriela-Alina Sauciuc: Lund University, Cognitive Science; Jagoda Złakowska: Lund University; Karl Johan Klang: Lund University, Cognitive Science; Anna Zara Louise Wester: Radboud University; Tomas Persson: Lund University; Elainie A Madsen: Lund University

2006 Goffin's cockatoos learn to discriminate objects based on weight alone in an object choice task

Authors: Poppy Julie Lambert: University of Veterinary Medicine Vienna; Alexandra Stiegler: University of Vienna; Theresa Rössler: University of Veterinary Medicine Vienna; Megan Lambert: University of Veterinary Medicine, Vienna; Alice Auersperg: University of Veterinary Medicine Vienna

15:40-17:20 **9:40-11:20**

IP2: Communication

Chair: Agnieszka Konopka, University of Aberdeen

Technical chair: Kimia Goederle, University of Vienna

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2061 Extending rational models of communication from beliefs to actions
Authors: Ted Sumers: Princeton University; Robert Hawkins: Princeton University; Mark K Ho: Princeton University; Tom Griffiths: Princeton University

2005 Understanding distal goals from proximal communicative actions
Authors: Martin Dockendorff: Central European University; Laura Schmitz: Leibniz Universität Hannover; Günther Knoblich: Central European University; Cordula Vesper: Aarhus University

1119 Learning to communicate about shared procedural abstractions
Authors: William P McCarthy: University of California, San Diego; Robert Hawkins: Princeton University; Haoliang Wang: University of California, San Diego; Cameron Holdaway: University of California, San Diego; Judith E. Fan: University of California, San Diego

1583 I know you know I'm signaling: Novel gestures are designed to guide observers' inferences about communicative goals
Authors: Amanda L Royka: Yale University; Marieke Schouwstra: University of Amsterdam; Simon Kirby: The University of Edinburgh; Julian Jara-Ettinger: Yale University

1943 Visual communication of object concepts at different levels of abstraction
Authors: Justin Yang: University of California, San Diego; Judith E. Fan: University of California, San Diego

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15:40-17:20 9:40-11:20

IP3: Cognitive modelling

Chair: Thomas Barkowsky, University of Bremen

Technical chair: Chase McDonald, Carnegie Mellon University

2287 Planning to plan: A Bayesian model for optimizing the depth of decision tree search
Authors: Ionatan Kuperwajs: New York University; Wei Ji Ma: New York University

2371 How to revise beliefs from conditionals: A new proposal
Authors: Stephan Hartmann: LMU Munich; Ulrike Hahn: Birkbeck, University of London

1855 Reason-based constraint in theory of mind
Authors: Corey Cusimano: Princeton University; Natalia C Zorrilla: Princeton University; David Danks: Carnegie Mellon University; Tania Lombrozo: Princeton University

1360 Interaction flexibility in artificial agents teaming with humans
Authors: Patrick Nalepka: Macquarie University; Jordan P Gregory-Dunsmore: Macquarie University; James Simpson: Macquarie University; Gaurav Patil: Macquarie University; Michael J Richardson: Macquarie University

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1958 When does an individual accept misinformation?
Authors: David Borukhson: University of Freiburg; Philipp Lorenz-Spreen: Max Planck Institute; Marco Ragni: South Denmark University

15:40-17:20 **9:40-11:20**

IP4: Comprehension

Chair: Elizabeth Bonawitz, Harvard University

Technical chair: Jonathan Kominsky, Harvard Graduate School of Education

2252 Loopholes, a window into value alignment and the learning of meaning
Authors: Sophie Bridgers: Massachusetts Institute of Technology; Laura Schulz: Massachusetts Institute of Technology; Tomer D. Ullman: Harvard University

1532 The effects of onset and offset masking on the time course of non-native spoken-word recognition in noise
Authors: Florian Hintz: Max Planck Institute for Psycholinguistics; Cesko Voeten: Leiden University; James McQueen: Radboud University; Odette Scharenborg: Delft University of Technology

2385 What did I sign? A study of the impenetrability of legalese in contracts
Authors: Eric Martinez: Massachusetts Institute of Technology; Francis Mollica: University of Edinburgh; Yufei Liu: Wellesley College; Anita Podrug: Massachusetts Institute of Technology; Edward Gibson: Massachusetts Institute of Technology

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2298 Multi-level linguistic alignment in a virtual collaborative problem-solving task
Authors: Nicholas D. Duran: Arizona State University; Amie Paige Paige: Arizona State University; Sidney D'Mello: University of Colorado Boulder

1777 Just following directions! The effects of gender on direction giving
Authors: Iliana Moraitaki: Bangor University; Thora Tenbrink: Bangor University

15:40-17:20 **9:40-11:20**

IP5: Categorization

Chair: Gary Lupyan, University of Wisconsin-Madison

Technical chair: Raihyung Lee, University of California, Los Angeles

1160 Individual variability in strategies and learning outcomes in auditory category learning
Authors: Casey L Roark: University of Pittsburgh; Bharath Chandrasekaran: University of Pittsburgh

1423 Designing probabilistic category learning experiments: The probabilistic prototype distortion task
Authors: Nicolas Marchant: Universidad Adolfo Ibáñez; Sergio E. Chaigneau: Universidad Adolfo Ibáñez

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1587 Categorical perception of p-values
Authors: V. N. Vimal Rao: University of Minnesota-Twin Cities; Jeffrey K. Bye: University of Minnesota; Sashank Varma: Georgia Tech

1875 The dynamics of exemplar and prototype representations depend on environmental statistics
Authors: Arjun Devraj: Princeton University; Qiong Zhang: Princeton University; Tom Griffiths: Princeton University

1831 Comparison promotes the spontaneous transfer of relational categories
Authors: Sean Snoddy: Binghamton University; Kenneth Kurtz: Binghamton University

15:40-17:20 **9:40-11:20**

IP6: Language models 1

Chair: Hedde Zeijlstra, University of Gottingen

Technical chair: Joao Goncalves, University of Coimbra

1373 Word probability re-estimation using topic modeling and lexical decision data
Authors: Emmanuel Keuleers: Tilburg University

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1241 On factors influencing typing time: Insights from a viral online typing game
Authors: Robert Chen: Massachusetts Institute of Technology; Roger Levy: Massachusetts Institute of Technology; Tiwalayo Eisape: Massachusetts Institute of Technology

1738 Feature encoding modulates cue-based retrieval: Modeling interference effects in both grammatical and ungrammatical sentences
Authors: Himanshu Yadav: University of Potsdam; Garrett Smith: Universität Potsdam; Shravan Vasishth: Potsdam

2095 Why is scaling up models of language evolution hard?
Authors: Marieke S Woensdregt: Radboud University; Matthew Spike: University of Edinburgh; Ronald de Haan: University of Amsterdam; Todd Wareham: Memorial University of Newfoundland; Iris van Rooij: Radboud University; Mark Blokpoel: Donders Institute for Brain, Cognition and Behaviour

1130 Do language models learn typicality judgments from text?
Authors: Kanishka Misra: Purdue University; Allyson Ettinger: University of Chicago; Julia Rayz: Purdue University

15:40-17:20 **9:40-11:20**

IP7: Vision

Chair: Hongjing Lu, University of California, Los Angeles

Technical chair: Jennifer Hu, Massachusetts Institute of Technology

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1118 Three-dimensional pose discrimination in natural images of humans
Authors: Hongru Zhu: Johns Hopkins University; Alan Yuille: Johns Hopkins University; Daniel Kersten: University of Minnesota Twin Cities

1570 Improving medical image decision making by leveraging metacognitive processes and representational similarity
Authors: Eeshan Hasan: Vanderbilt University; Jennifer Trueblood: Vanderbilt University; Quentin Eichbaum: Vanderbilt University Medical Center; Adam Seegmiller: Vanderbilt University Medical Center; Charles William Stratton: Vanderbilt University Medical Center

1735 Identifiability and specificity of the two-point visual control model of steering
Authors: Leendert van Maanen: Utrecht University; Remo van der Heiden: Utrecht University; Sietske Bootsma: Utrecht University; Christian P. Janssen: Utrecht University

2335 A confirmation bias due to approximate active inference
Authors: Ankani Chattoraj: University of Rochester; Sabyasachi Shivkumar: University of Rochester; Yongsoo Ra: Seoul National University; Ralf M Haefner: University of Rochester

2340 Relating confidence judgements to temporal biases in perceptual decision-making
Authors: Ankani Chattoraj: University of Rochester; Martynas Snarskis: University of Rochester; Ralf M Haefner: University of Rochester

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17:20-19:00	**11:20-13:00**	**Poster & exhibitor session #1** Poster videos and associated documents are available to review in the Underline platform and participate in live discussion with Poster Session #1 presenters in Gather.town. Follow the link in the poster session to access the Gather.town platform.
19:00-20:10	**13:00-14:10**	**Rumelhart prize ceremony and lecture: Susan Goldin-Meadow** University of Chicago Chair: Bob Glushko **The mind hidden in our hands**
20:10-20:20	**14:10-14:20**	**2022 Rumelhart prize announcement** Join us for the announcement of the 22nd winner of the Rumelhart Prize
20:20-20:40	**14:20-14:40**	**Break**
20:40-22:20	**14:40-16:20**	**Invited panel: Cognition of time** Chair:

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Kristin Tessmar, University of Vienna

Technical chair: Sean Zheng, Northwestern University

Context-dependent need for sleep in the consolidation of memory
Amita Sehgal, University of Pennsylvania

Time for music
Petr Janata, University of California, Davis

From hibernation to depression: Brown fat as the missing link between seasonality and affective behavior
Daniela Pollak, Medical University of Vienna

Timely decisions
Fuat Balci, University of Manitoba

20:40-22:20 **14:40-16:20**

Rumelhart symposium

Chair: Martha Alibali, University of Wisconsin

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Technical chair: Tiwalayo Eisape, Massachusetts Institute of Technology

How, when and why early gesture use predicts language development
Meredith L. Rowe, Harvard University

Early identification of developmental delay and disorder: What we can learn from gesture, speech, and the dynamics of the communicative process
Jana M. Iverson, University of Pittsburgh

In search of a mechanism: Unpacking the effects of hand gesture on math learning
Susan Wagner Cook, University of Iowa

Comparative perspectives on gesture and the evolution of language
Erica Cartmill, University of California, Los Angeles

20:40-22:20 **14:40-16:20**

Symposium 3: Conceptual blending in animal cognition: A comparative approach

Symposium chair: Eric Leonardis, Case Western Reserve University

Technical chair: Elisabeth Tabery, University of Vienna

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Presenters: Mark Turner Turner: Case Western Reserve University; Eric Leonardis: University of California, San Diego; Arturs Semenuks: University of California, San Diego; Seana Coulson: University of California, San Diego; Jamin Pelkey: Ryerson University; Ikuma Adachi: Primate Research Institute; Deborah Forster: Waymo Insights Team

Are the differences between human and alloanimal cognition a matter of kind or of degree? This question continues to generate controversial arguments for the uniqueness of certain features of human cognition, with no clear consensus in sight (see, e.g., Hauser, Chomsky & Fitch, 2002; Suddendorf & Corbalis, 2007). To move the debate into fresh territory, this symposium develops a proposal from conceptual blending theory (CBT: Fauconnier & Turner, 2002; Turner, 2014) to argue that the differences in question are both a matter of kind and of degree. The symposium also takes up a line of inquiry initiated by Pelkey, who has proposed synthesizing CBT with related insights from Charles S. Peirce, Jakob Johann von Uexküll, and biosemiotics to build a stronger case for alloanimal blending. We bring together a diverse group of researchers to discuss human-unique cognitive abilities through the lens of CBT. Turner introduces CBT and outlines the cross-species cline of conceptual blending. Pelkey provides evidence for various types of blends in bats and discusses the conclusions of these analyses. Leonardis, Semenuks, and Coulson emphasize the importance of taking non-human perspectives in analyzing behaviors with CBT. Adachi discusses work on metaphorical and cross-modal mapping in primates. Forster serves as the moderator.

20:40-22:20 **14:40-16:20**

Symposium 4: The evolution of rhythm from neurons to ecology

Symposium chair: Andrea Ravignani, Comparative Bioacoustics Group, Max Planck Institute for Psycholinguistics

Technical chair: Bryce Linford, University of California, Los Angeles

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Presenters: Andrea Ravignani: Comparative Bioacoustics Group, Max Planck Institute for Psycholinguistics; Aniruddh D. Patel: Psychology, Tufts University; Nao Ota: Max Planck Institute for Ornithology; Masayo Soma: Hokkaido University; Hugo Merchant: Instituto de Neurobiologia, UNAM campus Juriquilla

Why are animal rhythms important? Cross-species work can help isolate what is unique in the human capacity for rhythm. In addition, cross-species work can provide inference on the origins and evolution of human rhythmic capacities. Neural tissue and cognitive capacities do not fossilize: by pinpointing shared biological mechanisms between humans and other animals, cross-species research can help reconstruct the evolution of rhythmic capacities in humans. This symposium will unify multiple comparative approaches to the evolution of musical rhythm. Specifically, we aim at (1) providing a platform for multiple fields to compare theoretical frameworks and methodologies across species, (2) integrating findings from behaviour, neuroscience, modelling, and cognition, (3) actively spurring cross-fertilization between musical rhythm and animal timing research, (4) drawing inferences on the evolution of human rhythm.

20:40-22:20 **14:40-16:20**

IP8: Development models

Chair Daphna Buchsbaum, Brown University

Technical chair: Alon Hafri, Johns Hopkins University

1370 Examining infant relation categorization through deep neural networks

Authors: Guy Davidson: New York University; Brenden Lake: New York University

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2380 Combining rules and simulation to explain infant physical learning
Authors: João Loula: Massachusetts Institute of Technology; Kelsey R Allen: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

2242 In-the-moment visual information from the infant's egocentric view determines the success of infant word learning: A computational study
Authors: Andrei Amatuni: The University of Texas at Austin; Sara E Schroer: University of Texas at Austin; Yayun Zhang: The University of Texas at Austin; Ryan E Peters: The University of Texas at Austin; Md. Alimoor Reza: Indiana University; David Crandall: Indiana University; Chen Yu: University of Texas at Austin

1834 Predicting children's and adults' preferences in physical interactions via physics simulation
Authors: George Kachergis: Stanford University; Samaher F Radwan: Stanford University; Bria Long: Stanford University; Judith E. Fan: University of California San Diego; Michael Lingelbach: Stanford University; Daniel M Bear: Stanford University; Daniel L. K. Yamins: Stanford; Michael C. Frank: Stanford University

2140 Characterizing the object categories two children see and interact with in a dense dataset of naturalistic visual experience
Authors: Bria Long: Stanford University; George Kachergis: Stanford University; Naiti S Bhatt: Scripps College; Michael C. Frank: Stanford University

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20:40-22:20 **14:40-16:20**

IP9: Language models 2

Chair: Dan Yurovsky, Carnegie Mellon University

Technical chair: Jozsef Arato, University of Vienna

1728 Learning approximate and exact numeral systems via reinforcement learning
Authors: Emil Carlsson: Chalmers University of Technology; Devdatt Dubhashi: Chalmers University of Technology; Fredrik D Johansson: Chalmers University of Technology

1754 Compression: A lossless mechanism for learning complex structured relational representations
Authors: Ekaterina Y. Shurkova: University of Edinburgh; Leonidas A. A. Doumas: University of Edinburgh

1879 Different kinds of cognitive plausibility: Why are transformers better than RNNs at predicting N400 amplitude?
Authors: James A Michaelov: The University of California San Diego; Megan D Bardolph: University of California, San Diego; Seana Coulson: University of California, San Diego; Benjamin Bergen: University of California, San Diego

1407 Memory constraints on cross situational word learning
Authors: Christine Soh: University of Pennsylvania; Charles Yang: University of Pennsylvania

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1737 A common framework for quantifying the learnability of nouns and verbs
Authors: Yuchen Zhou: Carnegie Mellon University; Dan Yurovsky: Carnegie Mellon University

20:40-22:40 **14:40-16:40**

IP10: Learning

Chair: David Noelle, University of California, Merced

Technical chair: Patrick Melichair, University of Vienna

2261 Superordinate word knowledge predicts longitudinal vocabulary growth
Authors: Molly Lewis: Carnegie Mellon University; Eliana Colunga: University of Colorado Boulder; Gary Lupyan: University of Wisconsin – Madison

1531 Can closed-ended practice tests promote understanding from text?
Authors: Lena Hildenbrand: University of Illinois at Chicago; Jennifer Wiley: University of Illinois Chicago

1944 A formal comparison/contrast of associative and relational learning: a case study of relational schema induction
Authors: Steven Phillips: National Institute of Advanced Industrial Science and Technology

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1460 A mixture of experts in associative generalization
Authors: Jessica Lee: University of New South Wales; Peter Lovibond: University of New South Wales; Brett Hayes: University of New South Wales; Stephan Lewandowsky: University of Bristol

2139 The value of learning and cognitive control allocation
Authors: Javier Alejandro Masís: Princeton University; Sebastian Musslick: Princeton University; Jonathan Cohen: Princeton University

1999 A novel non-linguistic audio-visual learning paradigm to test the cognitive correlates of learning rate
Authors: Angela Pasqualotto: University of Geneva; Aaron Cochrane: University of Geneva; Daphne Bavelier: University of Geneva; Irene Altarelli: University of Paris

20:40-22:20 **14:40-16:20**

IP11: Linguistics

Chair: Eva Wittenberg, University of San Diego

Technical chair: Philipp Kral, University of Vienna

1063 Event visibility in sign language motion: Evidence from Austrian Sign Language (ÖGS)
Authors: Julia Krebs: University of Salzburg; Gerda Strutzenberger: University of Salzburg; Hermann

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Schwameder: University of Salzburg; Ronnie B Wilbur Wilbur: Purdue University; Evie Malaia: University of Alabama; Dietmar Roehm: University of Salzburg

1112 Do gestures really facilitate speech production?
Authors: Yağmur Deniz Kısa: University of Chicago; Susan Goldin-Meadow: University of Chicago; Daniel Casasanto: Cornell University

1285 Sensory modality of input influences the encoding of motion events in speech but not co-speech gestures
Authors: Ezgi Mamus: Radboud University; Laura Speed: Radboud University; Asli Özyürek: Radboud University; Asifa Majid: University of York

1393 Lexically-mediated compensation for coarticulation in older adults
Authors: Sahil Luthra: University of Connecticut; Giovanni Peraza-Santiago: University of Connecticut; David Saltzman: University of Connecticut; Anne Marie Crinnion: University of Connecticut; James Magnuson: University of Connecticut

1594 Disentangling factors in the placement of manner adverbials in German: The effect of distributional similarity
Authors: Martin Schäfer: Universität Tübingen; Holger Gauza: University of Tübingen; Britta Stolterfoht: University of Tuebingen

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20:40-22:40 **14:40-16:40**

IP12: Neural networks & imaging

Chair: Amilcar Cardoso, University of Coimbra

Technical chair: Merle Kortendieck, University of Vienna

1440 Modeling object recognition in newborn chicks using deep neural networks
Authors: Donsuk Lee: Indiana University; Denizhan Pak: Indiana University; Justin N Wood: Indiana University

1175 Infants' social communication from a predictive processing perspective
Authors: Trinh Nguyen: University of Vienna; Drew H Abney: University of Georgia; Bennett I. Bertenthal: Indiana University Bloomington; Stefanie Hoehl: University of Vienna

2173 Why we should report colorimetric data in every paper
Authors: Richard E Veale: Kyoto University; Takahiko Kawashima: Kyoto University; Tomohisa Okada: Kyoto University; Jun Miyata: Kyoto University

2253 The role of the basal ganglia in the human cognitive architecture: A dynamic causal modeling comparison across tasks and individuals
Authors: Catherine Sibert: University of Washington; Holly Hake: University of Washington; John E Laird: University of Michigan; Christian Lebiere: Carnegie Mellong University; Paul S. Rosenbloom: University of Southern California; Andrea Stocco: University of Washington

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1569 Challenges for using representational similarity analysis to infer cognitive processes: A demonstration from interactive activation models of word reading
Authors: Xuanyi Chen: Rice University; Randi Martin: Rice University; Simon Fischer-Baum: Rice University

1867 Learning exceptions to the rule in human and model via hippocampal encoding
Authors: Emily M. Heffernan: University of Toronto; Michael L. Mack: University of Toronto

20:40-22:20 **14:40-16:20**

IP13: Reading

Chair: Anna Fisher, Carnegie Mellon University

Technical chair: Kimia Goderle, University of Vienna

1419 Eye movements when reading spaced and unspaced texts in Arabic
Authors: Tommi Leung: United Arab Emirates University; Fatima Boush: United Arab Emirates University; Qiyang Chen: Northeast Normal University; Meera Al Kaabi: United Arab Emirates University

1116 Using simulations to understand the reading of rapidly displayed subtitles
Authors: Erik D Reichle: Macquarie University; Lili Yu: Macquarie University; Sixin Liao: Macquarie University; Jan-Louis Kruger: Macquarie University

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1691 Eye movement traces of linguistic knowledge
Authors: Yevgeni Berzak: Massachusetts Institute of Technology; Roger Levy: Massachusetts Institute of Technology

1297 On the role of low-level linguistic levels for reading time prediction
Authors: Franck Dary: Aix-Marseille University; Abdellah Fourtassi: Aix-Marseille University; Alexis Nasr: Aix Marseille University

1048 The optimal amount of visuals promotes children's comprehension and attention: An eye tracking study
Authors: Cassondra M Eng: Carnegie Mellon University; Emma Gurchiek: Carnegie Mellon University; Kalpa Anjur: Carnegie Mellon University; Karrie E. Godwin: University of Maryland Baltimore County; Anna Fisher: Carnegie Mellon University

22:00-24:00 **16:00 -18:00**

Affinity group: CogSciPUI: Cognitive science faculty and interested future faculty at primarily undergraduate institutions

Learn more

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Affinity group: Women in cognitive science: Navigating the maze: Developing your career in animal cognition

Learn more

National Science Foundation funding (with opportunities for international collaboration)

Organizer and Presenter: Michael Hout

In this tutorial, I will provide an overview of opportunities at the National Science Foundation, taking care to discuss opportunities not only for US-based researchers but for international collaborations as well. Topics will include: finding the right program/solicitation to apply to, elements of strong proposals, different types of opportunities (and specific opportunities for PIs outside of the US), what happens after you submit a proposal, and time for questions/discussion.

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DAY 3: JULY 28

VIENNA	NEW YORK	
14:00-15:00	08:00-09:00	**Plenary speaker: Onur Güntürkün** Ruhr-Universitat Bochum Chair: Helmut Leder, University of Vienna **Why are birds so smart?**
15:00-15:20	09:00-09:20	**Break**
15:20-17:00	09:20-11:00	**Elman prize symposium** Chair: Ronald van den Berg, Stockholm University Technical chair: Chase McDonald, Carnegie Mellon University Speakers: Ronald van den Berg, Department of Psychology, Stockholm University Janneke Jehee, Donders institute for Brain, Cognition and Behavior Daeyeol Lee, Johns Hopkins University Will Adler, Center for Democracy and Technology

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Yael Niv, Princeton Neuroscience Institute
Wei Ji Ma, New York University

Join us to celebrate Wei Ji Ma, New York University, and his contributions to building the community and service to the field of Cognitive Science.

15:20-17:00 **09:20-11:00**

Symposium 5: Cognition in context

Symposium chair: Thomas Bugnyar, University of Vienna

Technical chair: Patrick Smela, University of Vienna

Presenters: Palmyre H Boucherie: University Vienna; Giulia Cimarelli PhD: University of Veterinary Medicine Vienna; Lisa Horn: University of Vienna; Vedrana Šlipogor: University of South Bohemia; Thomas Bugnyar: University of Vienna

The theory behind the evolution of cognition frames that cognitive processes have evolved in response to the complexity and challenges posed by the physical and social environment. To date, cognitive abilities have been mostly studied under controlled laboratory conditions that facilitate replicability and high-resolution measurements (Cauchoix, Hermer, Chaine, & Morand-Ferron, 2017). Yet, under these circumstances, cognitive abilities are evaluated in relatively stable and homogeneous situations that hardly match the species' natural environments (Niemelä and Dingemanse, 2014). Thus, results drawn from these controlled

studies do not necessarily scale to the range of cognitive processes displayed by individuals in naturalistic settings (Cauchoix, Chaine, & Barragan-Jason, 2020).

15:20-17:00 **09:20-11:00**

Symposium 6: Explanation in human thinking

Symposium chair: Molly S Quinn, University of Hildesheim

Technical chair: Joao Goncalves, University of Coimbra

Presenters: Jörg Cassens: Universitiy of Hildesheim; Lorenz Habenicht: University of Hildesheim; Julian Blohm: University of Hildesheim; Rebekah Wegener: University of Salzburg; Joanna Korman: US Naval Research Laboratory; Sangeet Khemlani: Naval Research Laboratory; Giorgio Gronchi: University of Florence; Ruth M.J. Byrne: Trinity College Dublin, University of Dublin; Greta Warren: University College Dublin; Molly S Quinn: University College Dublin; Mark T Keane: University College Dublin

Jörg Cassens, Rebekah Wegener, Lorenz Habenicht, and Julian Blohm discuss the dialogic form of explanations. Explanations are a long established research topic in a wide variety of disciplines, ranging from philosophy (van Fraassen, 1980; Achinstein, 1983) over the cognitive sciences and psychology (Lalljee et al., 1983; Keil and Wilson, 2000; Lombrozo, 2006) to computer science in general and artificial intelligence in particular (Schank, 1986; Leake, 1992; Leake (1995); Sørmo et al., 2005). However, while there is compelling research supporting the value, structure and function of explanation, as Edwards et al. (2019) argue, “accounts of explanation typically define explanation (the product) rather than explaining (the process)”. By contrast, we aim at an understanding of explanation as a functional variety of language behaviour that treats explanations as being:

- Contextualised, which itself is comprised of a) Context Awareness (knowing the situation the system is in) and b) Context Sensitivity (acting according to such situation),
- Construed by user interest,
- Multimodal, and
- Dialogic

In this talk, we will focus on the latter two aspects, the dialogic form of explanations and its representation in different modalities (and codalities). We will report on our recent empirical work where we have been looking at explanatory situations, firstly the differences between human to human explanations and machine to human explanations (using of-the-shelf speech dialogue systems) and secondly multimodal human to human explanations.

15:20-17:00 **09:20-11:00**

Symposium 7: Multimodal signalling of attractiveness

Symposium chair: Christina Krumpholz, University of Veterinary Medicine Vienna

Technical chair: Abby Clements, University of Pennsylvania

Presenters: Christina Krumpholz: University of Veterinary Medicine Vienna; Cliodhna Quigley: University of Vienna; Anthony C Little: University of Bath; Romi Zäske: Universitätsklinikum Jena; Katharina Riebel: Leiden University

A large literature on human facial attractiveness has adopted an evolutionary approach (Little et al., 2011). Much less research has examined cues in other modalities, such as smell (Groyecka et al., 2017) and audition (Zäske et al., 2020). Although these different modalities may interact significantly in human mate choice

(Feinberg, 2008), it is not yet understood how humans integrate cues from different sensory modalities. In the literature on animal communication, the most prominent theories suggest that different modalities either signal different qualities of an individual (multiple messages hypothesis) or communicate the same information (back-up signal hypothesis; Moller & Pomiankowski, 1993). These theories tend to disregard the possible interaction of different sensory modalities, and the role of multisensory integration.

15:20-17:00 **09:20-11:00**

IP14: Development & learning

Chair: Stephen Ferrigno, Harvard University

Technical chair: Jozsef Arato, University of Vienna

1187 Children's novelty preferences depend on information-seeking goals
Authors: Claudia G. Sehl: University of Waterloo; Ori Friedman: University of Waterloo; Stephanie Denison: University of Waterloo

1466 Infants' interpretation of information-seeking actions
Authors: Bálint Varga: Central European University; Gergely Csibra: Central European University; Agnes Kovacs: Central European University

1771 Developmental changes in perceived moral standing of robots
Authors: Madeline G Reinecke: Yale University; Matti Wilks: Yale University; Paul Bloom Bloom: Yale University

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1181 Modeling the mistakes of boundedly rational agents within a Bayesian theory of mind
Authors: Alwa Alanqary: Massachusetts Institute of Technology; Gloria Z Lin: Massachusetts Institute of Technology; Joie Le: Massachusetts Institute of Technology; Tan Zhi-Xuan: Massachusetts Institute of Technology; Vikash Mansinghka: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

1954 Incidental discrete emotions influence processes of evidence accumulation in reinforcement-learning
Authors: Kyle LaFollette: Case Western Reserve University; Anne Elizabeth Kotynski: Case Western Reserve University; Amanda Merner: Case Western Reserve University; Rock Lim: Case Western Reserve University; Huangqi Jiang: Case Western Reserve University; Heath A. Demaree: Case Western Reserve University

15:20-17:00 **09:20-11:00**

IP15: Development – social

Chair: Desmond Ong, National University of Singapore

Technical chair: Ece Yucer, University of Toronto

1909 Do you know what I know? Children use informants' beliefs about their abilities to calibrate choices during pedagogy
Authors: Ilona Bass: Rutgers University - Newark; Elise Mahaffey: Rutgers University - Newark; Elizabeth Bonawitz: Harvard Graduate School of Education

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2104 Children use artifacts to infer others' shared interests
Authors: Madison L Pesowski: University of California, San Diego; Deborah Kelemen: Boston University; Adena Schachner: University of California, San Diego

1631 Language and spatially-mediated attention in toddlers
Authors: Jelena Sucevic: University of Oxford; Kim Plunkett: University of Oxford

1888 Open-minded, not naïve: Three-month-old infants encode objects as the goals of other people's reaches
Authors: Brandon Matthew Woo: Harvard University; Shari Liu: Massachusetts Institute of Technology; Elizabeth Spelke: Harvard University

2229 Multimodal behaviors from children elicit parent responses in real-time social interaction
Authors: Julia R Yurkovic: Indiana University; Daniel P Kennedy: Indiana University; Chen Yu: University of Texas at Austin

15:20-17:00 **09:20-11:00**

IP16: Humans & other animals

Chair: Friederike Range, University of Veterinary Medicine Vienna

Technical chair: Patrick Melichair, University of Vienna

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1823 Computational challenges in explaining communication: How deep the rabbit hole goes
Authors: Laura D. van de Braak: Donders Institute for Brain, Cognition and Behaviour, Radboud University; Mark Dingemanse: Radboud University; Ivan Toni: Radboud University; Iris van Rooij: Radboud University; Mark Blokpoel: Donders Institute for Brain, Cognition and Behaviour

2131 A conceptual framework for empathy and its application to investigate nonhuman animals
Authors: Albert Newen: Ruhr-Universität Bochum; Maja Griem: Ruhr-Universität Bochum

2043 Cognitive and cultural diversity in human evolution
Authors: Larissa Mendoza Straffon: University of Bergen

1260 Sharing is not needed: Modeling animal coordinated hunting with reinforcement learning
Authors: Minglu Zhao: University of California, Los Angeles; Ning Tang: University of California, Los Angeles; Annya L. Dahmani: University of California, Los Angeles; Ross Richard Perry: University of California, Los Angeles; Yixin Zhu: University of California, Los Angeles; Federico Rossano: University of California, San Diego; Tao Gao: University of California, Los Angeles

1892 The emergence of cultural attractors: an agent-based model of collective perceptual alignment
Authors: James Benjamin Falandays: University of California, Merced; Paul Smaldino: University of California, Merced

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15:20-17:00 09:20-11:00

IP17: Judgements & decisions

Chair: Doug Markant, University of North Carolina at Charlotte

Technical chair: Raphael Gustavo Aybar Valdivia, University of Vienna

2240 Preference reversals between intertemporal choice and pricing
Authors: Peter Kvam: University of Florida; Konstantina Sokratous: University of Florida; Gabriela Johnson: University of Florida; Shu Ting Lin: University of Florida; Emily Unruh: University of Florida

1886 Deciding to be authentic: Intuition is favored over deliberation for self-reflective decisions
Authors: Kerem Oktar: Princeton University; Tania Lombrozo: Princeton University

2356 People adjust recency adaptively to environment structure
Authors: Mahi K Luthra: Indiana University; Peter M. Todd: Indiana University, Bloomington

1930 Possibility judgments may depend on assessments of similarity to known events
Authors: Brandon W Goulding: University of Waterloo; Ori Friedman: University of Waterloo

1056 Evaluating information and misinformation during the COVID-19 pandemic: Evidence for epistemic vigilance
Authors: Nadya Vasilyeva: University of California, Los Angeles; Kristopher M Smith: University of

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Pennsylvania; Kelli Barr: University of Pittsburgh; Jordan Kiper: University of Alabama at Birmingham; Stephen Stich: Rutgers University; Edouard Machery: University of Pittsburgh; H. Clark Barrett: University of California, Los Angeles

15:20-17:00 **09:20-11:00**

IP18: Movement & action

Chair: Michael Richardson, Macquarie University

Technical chair: Alexander Schneider, University of Vienna

1127 Aesthetic experience is influenced by causality in biological movements
Authors: Yi-Chia Chen: University of California, Los Angeles; Frank Pollick: University of Glasgow; Hongjing Lu: University of California, Los Angeles

2400 Shared temporal expectation across higher and lower-level cognition
Authors: Muzhi Wang: Peking University; Hang Zhang: Peking University

2177 Mental representations of objects reflect the ways in which we interact with them
Authors: Ka Chun Lam: NIMH; Francisco Pereira: NIMH; Maryam Vaziri-Pashkam: NIMH; Kristin Woodard: NIMH; Emalie McMahon: Johns Hopkins University

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1299 Measuring more to learn more from the block design test: A literature review
Authors: Avery C Dunn: Vanderbilt University; Alice Qiao: Vanderbilt University; Maya R Johnson: Vanderbilt University; Maithilee Kunda: Vanderbilt University

2138 How the mind creates structure: Hierarchical learning of action sequences
Authors: Maria K Eckstein: University of California, Berkeley; Anne GE Collins: University of California, Berkeley

15:20-17:00 **09:20-11:00**

IP19: Reasonings & predictions

Chair: Todd Gureckis, New York University

Technical chair: Raihyung Lee, University of California, Los Angeles

1590 Behavioral interference or facilitation does not distinguish between competitive and noncompetitive accounts of lexical selection in word production
Authors: Gary M. Oppenheim: Bangor University; Nazbanou Nozari: Carnegie Mellon University

2219 Predicting learning and knowledge transfer in two early mathematical equivalence interventions
Authors: Kristen Johannes: WestEd; Nicole M McNeil: University of Notre Dame; Yvonne Kao: WestEd; Jodi Davenport: WestEd

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1542 Distraction in semantic analogies and their relationship with abstract reasoning
Authors: Hanna Kucwaj: Jagiellonian University; Michał Ociepka: Jagiellonian University; Adam Chuderski: Jagiellonian University

2250 Searching for the cause: Search behavior in explanation of causal chains
Authors: Daniel W Czarnowski: Lehigh University; Jessecae Marsh: Lehigh University

1581 Testing a process model of causal reasoning with inhibitory causal links
Authors: Bob Rehder: New York University; Zachary J Davis: Standford University

15:20-17:20 **09:20-11:20**

IP20: Trends in cognitive science

Chair: Martin Lochner, University of Waterloo

Technical chair: Philipp Kral, University of Vienna

1345 The burgeoning reach of social learning and culture in animals' lives
Authors: Andrew Whiten: University of St Andrews

1458 Unfolding conscious awareness from non-conscious perception in non-human animals
Authors: Moshe Shay Ben-Haim: Yale University; Olga Dal Monte: Yale University; Nicholas A. Fagan: Yale

University; Yarrow Dunham: Yale University; Ran R. Hassin: The Hebrew University; Steve W. C. Chang: Yale University; Laurie Santos: Yale University

1525 Cross-language structural priming in recurrent neural network language models
Authors: Stefan Frank: Radboud University

1669 How does the chimpanzee mind represent its cultures?
Authors: Thibaud Gruber: University of Geneva

1973 Studying the evolution of cooperation and prosociality in birds
Authors: Jorg J.M. Massen: Utrecht University

1615 Are people still smarter than machines? If so, why?
Authors: Jay McClelland: Stanford University

17:20–19:00 **11:20-13:00**

Poster & exhibitor session #2

Poster videos and associated documents are available to review in the Underline platform and participate in live discussion with Poster Session #2 presenters in Gather.town. Follow the link in the poster session to access the Gather.town platform.

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19:00-19:20	**13:00-13:20**	**Break**
19:20-20:20	**13:20-14:20**	**Heineken prize plenary: Robert Zatorre** McGill University Chair: Tecumseh Fitch, University of Vienna **Why do we love music? A view from cognitive neuroscience**
20:20-20:40	**14:20-14:40**	**Break**
20:40-21:40	**14:40-15:40**	**Plenary speaker: Erich Jarvis** Rockefeller University Chair: Kristin Tessmar-Raible, University of Vienna **Brain pathways for vocal learning and spoken language**

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22:00-23:40 **16:00-17:40**

Discussion group: The New Human: A cross-disciplinary and cross-cultural inquiry of the human mind

Learn more

22:00-23:00 **16:00-17:00**

Discussion group: Trajectories in cognitive science

Learn more

22:00-23:00 **16:00-17:00**

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DAY 4: JULY 29

VIENNA	NEW YORK	
14:00-15:00	08:00-09:00	**Plenary speaker: Julia Fischer** DPZ Göttingen Chair: Claus Lamm, University of Vienna **Social and cognitive aging in nonhuman primates** Sponsored by Duolingo
15:00-15:20	09:00-09:20	**Break**
15:20-17:00	09:20-11:00	**Invited panel: Towards comparative aesthetics** Chairs: Leonida Fusani, University of Vienna

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Helmut Leder, University of Vienna

Technical chair: Patrick Smela, University of Vienna

Selective attention during courtship
Jessica Yorzinski, Texas A&M University

Sensory deception and mate choice in nonhuman animals
Laura Kelley, University of Exeter

First impressions from faces and voices
Mila Mileva, University of Plymouth

Moving, mundane, beautiful, troubling, enlightening, sublime—network modeling and latent class analyses of what makes aesthetic experiences unique or universal for humans… and beyond?
Matthew Pelowski, University of Vienna

15:20-17:00 **09:20-11:00**

Symposium 8: Comparative approaches to memory development

Symposium chair: Dr. Zoe T. Ngo, Max Planck Institute for Human Development

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Technical chair: Alon Hafri, Johns Hopkins University

Presenters: Zoe T. Ngo: Max Planck Institute for Human Development; Elisa S. Buchberger: Max Planck Institute for Human Development; Nora Newcombe: Temple U; Ulman Lindenberger: Max Planck Institute for Human Development; Markus Werkle-Bergner: Max Planck Institute for Human Development; Attila Keresztes: Research Centre for Natural Sciences; Flavio Donato: Biozentrum of the University of Basel; Sarah D Power: Trinity College; Erika Stewart: Trinity College; James O'Leary: Trinity College; Tomás Ryan: Trinity College

Memories for events experienced during infancy and early childhood are rarely recollected later in life—a phenomenon termed infantile and childhood amnesia. The formation and retrieval of such episodic memories relies, in part, on the hippocampus. Characterizing the role of hippocampal development in offsetting infantile and childhood amnesia is key to understanding (i) why infantile and childhood amnesia occur and (ii) how episodic memory capacities develop in early ontogeny. Comparative research is necessary for this enterprise because many paradigms and techniques work better with humans or with non-human animals. The four papers in this symposium gather current work in developmental psychology, developmental cognitive neuroscience, and behavioral neuroscience that characterizes the complex and heterogenous developmental profile of behavioral gains in component processes underlying episodic memory capacity in humans and work on the mammalian hippocampus and how it accompanies development. By leveraging and triangulating multiple levels of analyses, we can gain insights that are unavailable using a siloed approach. This collection of work helps delineate clear future directions for a comparative approach in memory development.

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15:20-17:00 **09:20-11:00**

Symposium 9: Music cognition: The complexity of musical structure

Symposium chair: Dr Daniel Harasim, École Polytechnique Fédérale de Lausanne

Technical chair: Lei Chen, University of Pennsylvania

Presenters: Daniel Harasim: École Polytechnique Fédérale de Lausanne; Christoph Finkensiep: École Polytechnique Fédérale de Lausanne; Louis Bigo: Université de Lille; Mathieu Giraud: CNRS, Université de Lille; Florence Levé: Université de Picardie Jules Verne; David R. W. Sears: Texas Tech University; Daniel Shanahan: Ohio State University; Martin Alois Rohrmeier: École Polytechnique Fédérale de Lausanne

Music is highly complex and provides a rich variety of insights into the human mind, its mental structures, and processes. Experienced musicians are able to create complex structures in real time effortlessly, yet there is at present no successful model of full musical structure. The integration of different musical aspects such as melody, rhythm, voice leading, and form as well as the representation of long-term structure are particularly challenging. To open new possibilities for the study of higher-order structure in music and its perceptual correlates, cognitive music research would benefit from further mutual integration of theoretical, mathematical, computational, and psychological research, similar to advancements in linguistics. This symposium therefore focuses on the formal understanding and empirical investigation of music-theoretically motivated research questions in music cognition. It connects perspectives from music theory, behavioral research, corpus research, and computational modeling, and aims to initiate interdisciplinary discussions about the currently most challenging topics related to the cognition of higher-order structures in music.

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15:20-17:00 **09:20-11:00**

Symposium 10: Conceptual foundations of sustainability

Symposium chair: Dr. Barbara C. Malt, Lehigh University

Technical chair: Josephine Bowerman, University College London

Presenters: Barbara C. Malt: Lehigh University; Asifa Majid: University of York; Yoshihisa Kashima: ; Gale Sinatra:

Threats to the health of our environment are numerous, ranging from air and water pollution to deforestation, overpopulation, and climate change. Much research in fields such as biology, earth science, and engineering is devoted to documenting, understanding, and attempting to mitigate the harm. The root cause of all such problems, however, is human behavior. As such, changes to human behavior—and the internal processes that drive them—are essential to solutions. Cognitive scientists therefore have a critical role to play in sustainability research and interventions (e.g., Jaipal, 2014; Weir, 2018, 2019).

15:20-17:00 **09:20-11:00**

IP21: Language development 2

Chair: Jennifer Culbertson, University of Edinburgh

Technical chair: Ece Yucer, University of Toronto

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2023 Spatial language use predicts spatial memory of children: Evidence from sign, speech, and speech-plus-gesture
Authors: Dilay Z. Karadoller: Max Planck Institute for Psycholinguistics; Beyza Sumer: University of Amsterdam; Ercenur Ünal: Özyeğin University; Asli Ozyurek: Donders Institute

2038 A crosslinguistic study of the acquisition of time words in English and German-speaking children
Authors: Katherine Williams: University of Texas at Austin; Anna Bánki: University of Vienna; Gabriela Markova: University of Vienna; Stefanie Hoehl: University of Vienna; Katharine A Tillman: University of Texas at Austin

2218 Large-scale study of speech acts' development using automatic labelling
Authors: Mitja Nikolaus: Aix-Marseille University; Juliette Maes: Aix Marseille University; Jeremy Auguste: Aix-Marseille University; Laurent Prévot: Aix-Marseille University; Abdellah Fourtassi: Aix-Marseille University

2325 Learning communicative acts in children’s conversations: A hidden topic Markov model analysis of the CHILDES corpus
Authors: Claire Augusta Bergey: The University of Chicago; Zoe Marshall: Carnegie Mellon University; Simon DeDeo: Carnegie Mellon University; Dan Yurovsky: Carnegie Mellon University

1820 Chaining and the formation of spatial semantic categories in childhood
Authors: Aotao Xu: University of Toronto; Yang Xu: University of Toronto

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15:20-17:00 **09:20-11:00**

IP22: Moral & choices

Chair: Martin Butz, University of Tübingen

Technical chair: Daiki Kondo

1369 A model of selection history in visual attention
Authors: Neda Meibodi: Philipps-University of Marburg; Hossein Abbasi: Philipps-University of Marburg; Anna Schubö: Philipps-University of Marburg; Dominik M Endres Philipps-University of Marburg

1882 Macaques preferentially attend to intermediately surprising information
Authors: Shengyi Wu: University of California, Berkeley; Tommy Blanchard: Klaviyo; Emily Meschke: University of California, Berkeley; Richard N. Aslin: Yale University; Benjamin Y Hayden: University of Minnesota; Celeste Kidd: University of California, Berkeley

1797 Embodied morality: Repetitive motor actions change moral decision-making
Authors: Pablo Solana: University of Granada; Omar Escámez: University of Granada; Angel Ayala: University of Granada; Julio Santiago: University of Granada

1053 Parent-child conversation about negative aspects of the biological world
Authors: Andrew Shtulman: Occidental College; Andrea Villalobos: Occidental College; Devin Ziel: Occidental College

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1799 Dimensions of moral status
Authors: Matan Mazor: University College London; Arianna Risoli: University College London; Anna Eberhardt: University College London; Stephen M Fleming: University College London

15:20-17:00 **09:20-11:00**

IP23: Perception 1

Chair: Jozsef Fiser, Central European University

Technical chair: Raphael Gustavo Aybar Valdivia, University of Vienna

2163 Chunks are not "content-free": Hierarchical representations preserve perceptual detail within chunks
Authors: Michael G Allen: University of California, San Diego; Isabella Destefano: University of California, San Diego; Timothy F. Brady: University of California, San Diego

1309 Perceptual processes of face recognition: Single feature orientation and holistic information contribute to the face inversion effect
Authors: Siobhan McCourt: University of Exeter; IPL McLaren: University of Exeter; Ciro Civile: University of Exeter

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2378 Jointly perceiving physics and mind: Motion, force and intention
Authors: Ning Tang: Zhejiang University; Siyi Gong: University of California, Los Angeles; Ziqian Liao: University of California; Haokui Xu: Zhejiang University; Jifan Zhou: Zhejiang University; Mowei Shen: Zhejiang University; Tao Gao: University of California, Los Angeles

2231 Automatic computation of navigational affordances explains selective processing of geometry in scene perception: Behavioral and computational evidence
Authors: Mario Belledonne: Yale University; Ilker Yildirim: Yale University

2343 Perception of soft materials relies on physics-based object representations: Behavioral and computational evidence
Authors: Wenyan Bi: Yale University; Aalap D Shah: Yale University; Kimberly W Wong: Yale University; Brian Scholl: Yale University; Ilker Yildirim: Yale University

15:20-17:00 **09:20-11:00**

IP24: Pragmatics 1

Chair: Daphna Heller, University of Toronto

Technical chair: Alexander Schneider, University of Vienna

1673 The shape of modified Numerals
Authors: Fausto Carcassi: University of Amsterdam; Jakub Szymanik: University of Amsterdam

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1677 A bathtub by any other name: The reduction of German compounds in predictive contexts
Authors: Alessandra Zarcone: Fraunhofer Institute for Integrated Circuits IIS; Vera Demberg: Saarland University

1731 Quantifiers satisfying semantic universals are simpler
Authors: Iris van de Pol: University of Amsterdam; Paul Lodder: University of Amsterdam; Leendert van Maanen: Utrecht University; Shane Steinert-Threlkeld: University of Washington; Jakub Szymanik: University of Amsterdam

1851 Listeners evaluate native and non-native speakers differently (but not in the way you think)
Authors: Martin Ho Kwan Ip: University of Pennsylvania; Anna Papafragou: University of Pennsylvania

2106 Coin it up: Generalization of creative constructions in the wild
Authors: Julia Watson: University of Toronto; Farhan Samir: University of Toronto; Suzanne Stevenson: University of Toronto; Barend Beekhuizen: University of Toronto, Mississauga

15:20-17:00 **09:20-11:00**

IP25: Social & judgements

Chair: Antonia Hamilton, University College London

Technical chair: Tiffany Doan, University of Waterloo

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2100 Categorical belief updating under uncertainty
Authors: Stephen H Dewitt: University College London; Carmen Li: University College London; Daniel Koh: University College London; Norman Fenton: Queen Mary University of London; David Lagnado: University College London

1932 How people make causal judgments about unprecedented societal events
Authors: Jamie Amemiya: University of California, San Diego; Gail D. Heyman: University of California, San Diego; Caren M. Walker: University of California, San Diego

1801 Lies are crafted to the audience
Authors: Lauren A Oey: University of California, San Diego; Ed Vul: University of California, San Diego

1816 What we ought to do is…': Are we more willing to defer to experts who provide descriptive facts than those who offer prescriptive advice?
Authors: Ethan Harris: University of Wisconsin-Miwaukee; Chris Lawson: Department of Educational Psychology

2124 I can tell you know a lot, although I'm not sure what: Modeling broad epistemic inference from minimal action
Authors: Rosie Aboody: Yale University; Isaac Davis: Yale University; Yarrow Dunham: Yale University; Julian Jara-Ettinger: Yale University

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17:00-17:20 **11:00-11:20**

Break

17:20-19:00 **11:20-13:00**

Poster & exhibitor session #3

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19:00-21:00 **13:00-15:00**

Glushko dissertation talks

Chair: Nick Chater, Warwick Business School

Technical chair: Bryce Linford, University of California, Los Angeles

Towards an ecologically valid neurobiology of multilingualism
Esti Blanco-Elorrieta, Harvard University

Towards a mechanistic account of speech comprehension
Laura Gwilliams, University of California, San Francisco

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A computational framework for learning and transforming task representations
Andrew Lampinen, DeepMind

Nature and origins of intuitive psychology in human infants
Shari Liu, Harvard University

Resource depletion and recovery in human memory
Vencislav Popov, Carnegie Mellon University

Generalisation in the hippocampal formation
James Whittington, University of Oxford

19:00-20:40 **13:00-14:40**

Symposium 11: Animal consciousness in comparison to human consciousness

Symposium chair: Albert Newen, Ruhr-Universität Bochum

Technical chair:

Presenters: Albert Newen: Ruhr-Universität Bochum; Colin Allen: University of Pittsburgh; Carlos Montemayor: San Francisco State University; Eva Jablonka: Tel-Aviv University

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Do some species of nonhuman animals (hereafter “animals”) enjoy consciousness and to which degree? This is a notoriously difficult question for at least two reasons, namely first we need a sufficiently clear concept of consciousness and second it remains difficult to characterize convincing strategies of access to conscious experiences in other species since we then have to rely on third-person access and mostly on behavioral data. Lacking a communicative access to animal minds, it is difficult to justify an analogy argument. Let us characterize central open question guiding the symposium: (1) Concerning the scientific access: How can we develop a nonverbal access to conscious experiences in animals? (2) Are there behavioral markers of consciousness in animals? (3) What is the main functional role of consciousness from an evolutionary perspective? (4) Can we offer a conceptual framework which allows us to adequately characterize evolutionary old basic forms of consciousness and its relation to standard consciousness experiences in humans? The symposium is arranged with four talks which together aim at outlining answers to these questions.

19:00-20:40 **13:00-14:40**

Symposium 12: Similarity-based influences in judgment and decision making

Symposium chair: Jana Jarecki, University of Basel

Technical chair: Josephine Bowerman, University College London

Presenters: Jana Jarecki: University of Basel; Janina A Hoffmann: University of Bath; Helge Giese: University of Konstanz; Florian I Seitz: University of Basel

Psychological similarity—the subjective distance between objects in the world or memory—is a highly influential concept in many areas of cognitive psychology, such as learning, memory, categorization,

judgment, and preferential choice. The contributions within this symposium will evaluate the fundamental role that similarity plays in human judgment and decision making. We bring together experts from distinct subdisciplines of psychology, who examine the influence of similarity on categorization, consumer choice, risky choice, social norms, and in memory-based choices. Specifically, the contributions elaborate on three key questions repeatedly pursued within cognitive psychology: 1) how does similarity activate previous experiences and renders them available within a given choice context? 2) how does similarity interact with feature or knowledge abstraction processes? 3) how is similarity represented psychologically? To reach this goal, the contributions within this symposium focus on reinstating similarity-based processes within formal cognitive models and test their predictions experimentally.

19:00-20:40 **13:00-14:40**

IP26: Social – groups, norms, culture

Chair: Kenny Smith, University of Edinburgh

Technical chair: Merle Kortendieck, University of Vienna

1644 The structure of team search behaviors with varying access to information

Authors: Matthew James Prants: Macquarie University; James Simpson: Macquarie University; Patrick Nalepka: Macquarie University; Rachel W. Kallen: Macquarie University; Mark Dras: Macquarie University; Erik D Reichle: Macquarie University; Simon Hosking: Defence Science and Technology Group; Christopher J Best: Defence Science and Technology Group; Michael J Richardson: Macquarie University

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1668 Investigating cross-cultural differences in reasoning, vision, and social cognition through replication
Authors: Alexandra Carstensen: Stanford University; Anjie Cao: Stanford; Shan Gao: University of California, Berkeley; Michael C. Frank: Stanford University

1921 Cognitive properties of norm representations
Authors: Bertram F. Malle: Brown University; Joseph Larry Austerweil: University of Wisconsin - Madison; Vivienne Bihe Chi: Brown University; Yoed Kenett: Technion - Israel Institute of Technology; Emorie D Beck: Northwestern University Feinberg School of Medicine; Stuti Thapa: Purdue University; Mowafak Allaham: Northwestern University

2099 Tolerance to failure unleashes the benefits of cognitive diversity in collective problem solving
Authors: Justin Sulik: Ludwig Maximillian University; Bahador Bahrami: Ludwig Maximillian University; Ophelia Deroy: Ludwig Maximillian University

2276 Social meta-inference and the evidentiary value of consensus
Authors: Keith James Ransom: University of Melbourne; Andrew Perfors: University of Melbourne; Rachel Stephens: University of Adelaide

19:00-21:00 **13:00-15:00**

IP27: Language development 2

Chair: Ercenur Ünal, Ozyegin University

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Technical chair: Lei Chen, University of Pennsylvania

2399 Frequency vs. salience in first language acquisition: The acquisition of aspect marking in Chintang
Authors: Jekaterina Mazara: University of Zurich; Sabine Stoll: University of Zurich

1815 Children know what words other children know
Authors: Ashley C Leung: University of Chicago; Benjamin C Morris: University of Chicago; Dan Yurovsky: Carnegie Mellon University

2353 Child-directed Listening: How caregiver inference enables children's early verbal communication
Authors: Stephan C. Meylan: Massachusetts Institute of Technology; Ruthe Foushee: University of Chicago; Elika Bergelson: Duke University; Roger Levy: Massachusetts Institute of Technology

2368 Quantifying lexical ambiguity in speech to and from english-learning children
Authors: Stephan C. Meylan: Massachusetts Institute of Technology; Jessica Mankewitz: Stanford University; Sammy Floyd: Princeton University; Hugh Rabagliati: University of Edinburgh; Mahesh Srinivasan: University of California, Berkeley

1268 Modelling the development of counting with memory-augmented neural networks
Authors: Zack Dulberg: Princeton University; Taylor Webb: University of California Los Angeles; Jonathan Cohen: Princeton University

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1295 Expectation violation leads to generalization: The effect of prediction error on the acquisition of new syntactic structures
Authors: Giulia Bovolenta: University of York; Emma Marsden: University of York

19:00-20:20 **13:00-14:20**

IP28: Perception 2

Chair: Vikranth Bejjanki, Hamilton College

Technical chair: Abby Clements, University of Pennsylvania

1367 Where word and world meet: Intuitive correspondence between visual and linguistic symmetry
Authors: Alon Hafri: Johns Hopkins University; Lila Gleitman: University of Pennsylvania; Barbara Landau: Johns Hopkins University; John Trueswell: University of Pennsylvania

2247 Visual scoping operations for physical assembly
Authors: Felix Jedidja Binder: University of California, San Diego; Marcelo G Mattar: University of California, San Diego; David Kirsh: University of California, San Diego; Judith E. Fan: University of California, San Diego

1082 The psychophysics of number arise from resource-limited spatial memory
Authors: Samuel J. Cheyette: University of California, Berkeley; Shengyi Wu: University of California, Berkeley; Steven Piantadosi: University of California, Berkeley

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1963 Hierarchical syntactic structure predicts listeners' sequence completion in music
Authors: Steffen A Herff: École Polytechnique Fédérale de Lausanne; Daniel Harasim: École Polytechnique Fédérale de Lausanne; Gabriele Cecchetti: École Polytechnique Fédérale de Lausanne; Christoph Finkensiep: École Polytechnique Fédérale de Lausanne; Martin Alois Rohrmeier: École Polytechnique Fédérale de Lausanne

19:00-20:40 **13:00-14:40**

IP29: Pragmatics 2

Chair: Judith Degen, Stanford University

Technical chair: Jennifer Hu, Massachusetts Institute of Technology

2128 Come together: Integrating perspective taking and perspectival expressions
Authors: Julia Watson: University of Toronto; Anna Kapron-King: University of Toronto; Jai Aggarwal: University of Toronto; Barend Beekhuizen: University of Toronto; Daphna Heller: University of Toronto; Suzanne Stevenson: University of Toronto

2160 Pragmatic factors can explain variation in interpretation preferences for quantifier-negation utterances: A computational approach
Authors: Noa Attali: University of California, Irvine; Gregory Scontras: University of California, Irvine; Lisa S Pearl: University of California, Irvine

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2409 Arguing with experts: Subjective disagreements on matters of taste
Authors: Elsi Kaiser: University of Southern California; Deniz Rudin: University of Southern California

2123 Coherence-building in multiple document comprehension
Authors: Laura Kristen Allen: University of New Hampshire; Joe P Magliano Magliano: Georgia State University; Kathryn S McCarthy: Georgia State University; Allison N. Sonia: University of New Hampshire; Sarah Creer: University of New Hampshire; Danielle McNamara: Arizona State University

2384 Let's talk (efficiently) about us: Person systems achieve near-optimal compression
Authors: Noga Zaslavsky: Massachusetts Institute of Technology; Mora Maldonado: University of Edinburgh; Jennifer Culbertson: University of Edinburgh

19:00-20:40 **13:00-14:40**

IP30: Social cognition

Chair: Stephanie Denison, University of Waterloo

Technical chair: Tiffany Doan, University of Waterloo

2090 Modeling joint attention from egocentric vision
Authors: Ryan E Peters: The University of Texas at Austin; Andrei Amatuni: The University of Texas at Austin;

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Sara E Schroer: The University of Texas at Austin; Shujon Naha: Indiana University; David Crandall: Indiana University; Chen Yu: University of Texas at Austin

1401 Who went fishing? Inferences from social evaluations
Authors: Zachary Davis: Stanford University; Kelsey R Allen: Massachusetts Institute of Technology; Tobias Gerstenberg: Stanford University

1641 Towards a cognitive model of collaborative memory
Authors: Willa Mannering: Indiana University; Suparna Rajaram Rajaram: Stony Brook University; Michael N. Jones: Indiana University

2273 Reasoning about social attitudes with uncertain beliefs
Authors: Isaac Davis: Yale University; Ryan Carlson: Yale University; Yarrow Dunham: Yale University; Julian Jara-Ettinger: Yale University

2291 Causation by ignorance
Authors: Lara Kirfel: University College London; David Lagnado: University College London

19:00-20:40 **13:00-14:40**

IP31: Risk & decision making

Chair: Caren Walker, University of California, San Diego

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Technical chair: Jonathan Kominsky, Harvard Graduate School of Education

2159 Evaluating transformative decisions
Authors: Vladimir Chituc: Yale University; Laurie Paul: Yale University; Molly Crockett: Yale University

2317 Measuring and predicting variation in the interestingness of physical structures
Authors: Cameron Holdaway: University of California, San Diego; Daniel M Bear: Stanford University; Samaher F Radwan: Stanford University; Michael C. Frank: Stanford University; Daniel L. K. Yamins: Stanford; Judith E. Fan: University of California, San Diego

2285 Risk-taking in adversarial games: What can 1 billion online chess games tell us?
Authors: Cameron Holdaway: University of California, San Diego; Ed Vul: University of California, San Diego

1706 How goals erase framing effects in risky decision making
Authors: Laura Marbacher: University of Basel; Jana Jarecki: University of Basel; Jörg Rieskamp: University of Basel

2072 Information sampling for contingency planning
Authors: Ili Ma: Leiden University; Wei Ji Ma: New York University; Todd M Gureckis: New York University

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21:00-21:20 **15:00-15:20**

Closing remarks

Join us for closing remarks from the incoming chair, Kenny Smith, along with information regarding the 2022 meeting in Toronto, Canada.

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Poster Session 1

Tuesday, July 27, 2021: 17:20 – 19:00

A - AI, Computer science and Computer models

1-A-1 **Structural inductive biases in emergent communication**
Agnieszka Slowik: University of Cambridge; Abhinav Gupta: Mila; William Hamilton: McGill University; Mateja Jamnik: University of Cambridge; Sean Holden: University of Cambridge; Chris Pal: Polytechnique Montréal

1-A-2 **Intrinsic rewards in human curiosity-driven exploration: An empirical study**
Alexandr Ten: Inria; Jacqueline Gottlieb: Columbia University; Pierre-Yves Oudeyer: Inria

1-A-3 **A layered bridge from sound to meaning: Investigating cross-linguistic phonosemantic correspondences**
Andrea Gregor de Varda: University of Trento; Carlo Strapparava: FBK-Irst

1-A-4 **A theory of algorithms and implementations and their relevance to cognitive science**
Anja Meunier: University of Vienna; Alex Markham: University of Vienna; Moritz Grosse-Wentrup: University of Vienna

1-A-5 **An observer-oriented theory of creativity and aesthetic measure**
Chris Miller: North Carolina State University; Arnav Jhala: North Carolina State University

1-A-6 **Multiversionality: Considering multiple possibilities in the processing of narrative**
Benjamin Hiskes: Indiana University-Bloomington; Fritz Breithaupt: Indiana University; Samuel Evola: Indiana University; Milo M Hicks: Indiana University; Cameron Kincaid: Indiana University

1-A-7 **Falling through the gaps: Neural architectures as models of morphological rule learning**
Deniz Beser: University of Southern California

1-A-8 **Meaning in brains and machines: Internal activation update in large-scale language model partially reflects the N400 brain potential**
Alma Lindborg: Potsdam University; Milena Rabovsky: Potsdam University

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1-A-9 **Inferring actions, intentions, and causal relations in a deep neural network**
Keno Juechems: University of Oxford; Andrew Saxe: University of Oxford

1-A-10 **Predicting the N400 ERP component using the Sentence Gestalt model trained on a large scale corpus**
Alessandro Lopopolo Lopopolo: University of Potsdam; Milena Rabovsky: University of Potsdam

1-A-11 **Biologically plausible spiking neural networks for perceptual filling-in**
Hadar Cohen Duwek: Open University of Israel; Elishai Ezra Tsur: The Open University

1-A-12 **Application of machine learning to signal entrainment identifies predictive processing in sign language**
Sean Borneman: Independent Scholar; Julia Krebs: University of Salzburg; Ronnie B Wilbur Wilbur: Purdue University; Evie Malaia: University of Alabama

1-A-13 **Perceptual sensitivity to an artificial co-actor in competitive 2D Pong**
Gaurav Patil: Macquarie University; Lillian Marie Rigoli: Macquarie University; Christopher Wahlin: Macquarie University; Patrick Nalepka: Macquarie University; Rachel W. Kallen: Macquarie University; Michael J Richardson: Macquarie University

1-A-14 **Knowledge-gap awareness as mediating cognitive mechanism in tool-mediated learning in computer science: a multi-method experimental study**
Tobias Moritz Halbherr: ETH Zurich

1-A-15 **Predicting learning and retention of a complex task using a cognitive architecture**
Farnaz Tehranchi: Pennsylvanian State University; Jacob David Oury: The Pennsylvania State University; Frank E. Ritter: Pennsylvania State University

1-A-16 **Comparing Markov and quantum random walk models of categorization decisions**
Gunnar Epping: Indiana University Bloomington; Jerome Busemeyer: Indiana University

1-A-17 **Seeing in the dark: Testing deep neural network and analysis-by-synthesis accounts of 3D shape perception with highly degraded images**
Hakan Yilmaz: Yale University; Gargi Singh: Indian Institute of Technology, Kanpur; Bernhard Egger: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology; Ilker Yildirim: Yale University

1-A-18 **Learning part-based abstractions for visual object concepts**
Haoliang Wang: University of California, San Diego; Nadia Polikarpova: University of California, San Diego; Judith E. Fan: University of California, San Diego

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1-A-19 Investigating novice and expert programmers' problem solving via protocol analysis
Maria Vorobeva: Carleton University; Kasia Muldner: Carleton University

1-A-20 Computational modelling of the cross-cultural differences in face perception
Mario Fific: Grand Valley State University; Cheng-Ta Yang: National Cheng Kung University

1-A-21 Transfer of learned opponent models in repeated games
Ismail Guennouni: University College London; Maarten Speekenbrink: University College London

1-A-22 Know your network: Sensitivity to structure in social learning
Jan-Philipp Fränken: University of Edinburgh; Simon Valentin: University of Edinburgh; Chris Lucas: University of Edinburgh; Neil R Bramley: University of Edinburgh

1-A-23 Modeling capacity-limit decision making using a variational autoencoder
Tyler J Malloy: Rensselaer Polytechnic Institute; Tim Klinger: IBM; Miao Liu: IBM; Gerald Tesauro: IBM; Matthew Riemer: IBM; Chris R Sims: Rensselaer Polytechnic Institute

1-A-24 Modelling the sense-making of diagrams using image schemas
Dimitra Anna Bourou: IIIA-CSIC; Marco Schorlemmer: IIIA-CSIC; Enric Plaza: IIIA-CSIC

1-A-25 Inferring structural constraints in musical sequences via multiple self-alignment
Paul Mark Bodily: Idaho State University; Dan Ventura: Brigham Young University

1-A-26 Intention beyond desire: Humans spontaneously commmit to future actions
Shaozhe Cheng: Zhejiang University; Ning Tang: Zhejiang University; Wei An: Zhejiang University; Yang Zhao: Zhejiang University; Jifan Zhou: Zhejiang University; Mowei Shen: Zhejiang University; Tao Gao: UCLA

1-A-27 Invariance of information seeking across reward magnitudes
Shi Xian Liew: University of New South Wales; Ben Newell: University of New South Wales

1-A-28 Emotion-color association in biologically inspired deep neural networks
Shivi Gupta: Indian Institute of Technology; Shashi Kant Gupta: Indian Institute of Technology Kanpur

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1-A-29 Body image during quarantine; generational effects of social media pressure on body appearance perception
Sofia Abrevaya: National Scientific and Technical Research Council; Trinidad Belén Speranza: National Scientific and Technical Research Council; Maria de Guadalupe Perez Cano: Universidad Catolica Argentina ; Verónica Ramenzoni: National Scientific and Te

1-A-30 A formal operational model of ACT-R: Structure and behaviour
Vincent Langenfeld: Albert-Ludwigs-Universitat Freiburg; Bernd Westphal: Albert-Ludwigs-Universitat Freiburg; Andreas Podelski: Albert-Ludwigs-Universitat Freiburg

1-A-31 Why and how to study the impact of perception on language emergence in artificial agents
Xenia Ohmer: University of Osnabrück; Michael Marino: University of Osnabrück; Michael Franke: University of Osnabrück; Peter König: University of Osnabrück

1-A-32 Flexible compositional learning of structured visual concepts
Yanli Zhou: New York University; Brenden Lake: New York University

1-A-33 A computational model of comprehension in manga style visual narratives
Yi-Chun Chen: North Carolina State University, Computer Science; Arnav Jhala: North Carolina State University

1-A-34 Using machine teaching to investigate human assumptions when teaching reinforcement learners
Yun-Shiuan Chuang: University of Wisconsin - Madison; Xuezhou Zhang: University of Wisconsin-Madison; Yuzhe Ma: University of Wisconsin-Madison; Mark K Ho: Princeton University; Joseph Larry Austerweil: University of Wisconsin - Madison; Jerry Zhu: University of Wisconsin-Madison

1-A-35 Visual representation of negation: Real world data analysis on comic image design
Yuri Sato: The University of Tokyo; Koji Mineshima: Keio University; Kazuhiro Ueda: The University of Tokyo

1-A-36 Mutual exclusivity as competition in cross-situational word learning
Zahra Shekarchi: University of Toronto; Aida Nematzadeh: DeepMind; Tom Griffiths: Princeton University ; Suzanne Stevenson: University of Toronto

1-A-37 A computational model for simulating the future using a memory timeline
Zoran Tiganj: Indiana University Bloomington; Wei Tang: Indiana University Bloomington; Marc Howard: Boston University

B - Animal cognition and communication

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1-B-38 **Kea show three signatures of domain-general inference**
Amalia Bastos: University of Auckland; Alex H Taylor: University of Auckland

1-B-39 **Increasing the duration of working-memory in dogs with visual cues**
Atilla Volga Sengul: İTÜ; Pinar Sengul: Acibadem University

1-B-40 **Exploring the effects of disgust-related images on cognition in chimpanzees**
Cécile Sarabian: Kyoto University Primate Research Institute; Andrew MacIntosh: Kyoto University Primate Research Institute; Ikuma Adachi: Kyoto University Primate Research Institute

1-B-41 **Bonobos' (Pan paniscus) and chimpanzees' (Pan troglodytes) understanding of, and pupillary responses to, others' needs**
Christopher Krupenye: University of Durham; Moritz Köster: Freie Universität Berlin; Zanna Clay: University of Durham

1-B-42 **Categorical perception as a combination of nature and nurture**
Qing Zhang: Sun Yat-Sen University; Li Lei: Radboud University; Tao Gong: Educational Testing Service

1-B-43 **Maternal behaviors that mediate skill development in Sumatran orangutans**
Gabriela-Alina Sauciuc: Lund University, Cognitive Science; Adriana Luna: Lund University ; Anna Zara Louise Wester: Radboud University; Tora Hellgren: Lund University ; Tomas Persson: Lund University

1-B-44 **Learning to be attractive: A test of the skills hypothesis in spotted bowerbirds (Ptilonorhynchus maculatus)**
Giovanni Spezie: University of Veterinary Medicine Vienna; Cliodhna Quigley: University of Vienna; Dan C. Mann: University of Veterinary Medicine, Vienna; Leonida Fusani: University of Vienna

1-B-45 **Affordances in the wild: Anthropological contributions to embodied cognitive science**
Guilherme Sanches de Oliveira: Technische Universität Berlin

1-B-46 **Common origins of social interaction of different species: The model of coherent intelligence linking physics to social sciences**
Igor Val. Danilov: Academic Center for Coherent Intelligence ; Sandra Mihailova: Riga Stradins University

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1-B-47 Great apes' understanding of others' beliefs in two manual search tasks
Ildiko Kiraly: Eötvös Loránd University; Dora Kampis: University of Copenhagen; Gyorgy Gergely: Central European University; Agnes Kovacs: Central European University; Africa de Las Heras: University of St Andrews; Christopher Krupenye: University of Durh

1-B-48 Evolutionary influences in learned bird communication signals
Jozsef Arato PhD: University of Vienna; Tecumseh Fitch: University of Vienna

1-B-49 No evidence for attraction to consonance in budgerigars (Melopsittacus undulatus) from a place preference paradigm
Bernhard Wagner: Acoustic Research Institute - Austrian Academy of Sciences; Daniel Bowling: Stanford university ; Marisa Hoeschele: Acoustics Research Institute, Austrian Academy of Sciences

1-B-50 Assessing prosocial tendencies of parrots in food sharing situations
Penny Kuijer: Wageningen University & Research; Anastasia Krasheninnikova: Max-Planck-Institute for Ornithology; Desiree Brucks: Animal Husbandry, Behaviour and Welfare; Antonia Lamprecht: Max-Planck-Institute for Ornithology; Auguste M.P. von Bayern: Max Planck Institute of Ornithology

1-B-51 Serial reversal learning using a colour discrimination task in two Ara species
Alexandra Koch: University of Regensburg; Simon Jakob Steiger: Universität Mannheim; Pizza Ka Yee Chow: Max Planck Institute for Ornithology; Auguste M.P. von Bayern: Max-Planck-Institute of Ornithology

1-B-52 Knowledge transfer for tool use in the Goffin's cockatoo
Paula Ibáñez de Aldecoa: Universität Wien; Alice Auersperg: University of Veterinary Medicine Vienna; Andrea Griffin: University of Newcastle; Sabine Tebbich: University of Vienna

1-B-245 Face, body and object representations in the human and dog brain
Magdalena Boch: University of Vienna; Isabella Wagner: University of Vienna; Sabrina Karl: Messerli Research Institute, University of Veterinary Medicine, Vienna; Claus Lamm: University of Vienna

C - Cognitive science

1-C-53 Labels, even arbitrary ones, facilitate categorization
Aja Marie Altenhof: University of Pennsylvania; Gareth Roberts: University of Pennsylvania

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1-C-54 Cultural differences in analogical reasoning
Amritpal M.P. Singh: Cornell University; Shikun Su: Cornell University; Luyang Jiang: Cornell University; Daniel Casasanto: Cornell University

1-C-55 Can losses help attenuate learning traps?
Amy X. Li: University of New South Wales; Todd M Gureckis: New York University; Brett Hayes: University of New South Wales

1-C-56 A unified, resource-rational account of the allais and ellsberg paradoxes
Ardavan S. Nobandegani: McGill University; Thomas Shultz: McGill University; Laurette Dubé: McGill University

1-C-57 The influence of pitch manipulation in female speakers on perceived voice and face attractiveness
Karsan Ameen: University of Vienna; Cliodhna Quigley: University of Vienna; Leonida Fusani: University of Vienna; Helmut Leder: University of Vienna; Christina Krumpholz: University of Veterinary Medicine Vienna

1-C-58 Sensorimotor similarity: A fully grounded and efficient measure of semantic similarity
Cai Wingfield: Lancaster University; Louise Connell: University of Lancaster

1-C-59 Do you see what I see? A meta-analysis of the Dot Perspective Task
Catherine Holland: Dartmouth College ; Steven M Shin: Dartmouth College; Jonathan Phillips: Dartmouth College

1-C-60 Exploring causal overhypotheses in active learning
Chentian Jiang: University of Edinburgh; Chris Lucas: University of Edinburgh

1-C-61 I see where you are going: Perception of persuasion goals in moral narratives influences character impressions
Clara Colombatto: Yale University; Judy Kim: Yale University; Danny Rodriguez: Yale University; Molly Crockett: Yale University

1-C-62 What happened here? Children integrate physical reasoning to infer actions from indirect evidence
Colin Jacobs: Yale University; Michael Lopez-Brau: Yale University; Julian Jara-Ettinger: Yale University

1-C-63 Effects of articulatory suppression on the homophone judgments of Chinese-character words
Da Ma: Hiroshima University; Aiko Morita: Hiroshima University

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1-C-64 **Differences in implicit vs. explicit grammar processing as revealed by drift-diffusion modeling of reaction times**
David Abugaber: University of Illinois at Chicago; Kara Morgan-Short: University of Illinois at Chicago

1-C-65 **Using prototype-defined checkerboards to investigate the mechanisms contributing to the Composite Face Effect**
Emika Waguri: University of Exeter; R.P. McLaren: University of Exeter; IPL McLaren: University of Exeter; Ciro Civile: University of Exeter

1-C-66 **Investigating the effect of distance entropy on semantic priming**
Cynthia S.Q. Siew: National University of Singapore

1-C-67 **Regression, encoding, control: An integrated approach to shared representations with distributed coding**
Gregory Henselman-Petrusek: Princeton University; Tyler Giallanza: Princeton University; Sebastian Musslick: Princeton University; Jonathan Cohen: Princeton University

1-C-68 **In touch with causation: Understanding the impact of kinesthetic haptics on causality**
Elyse D. Z. Chase: Stanford University; Phillip Wolff: Emory University; Tobias Gerstenberg: Stanford University; Sean Follmer: Stanford University

1-C-69 **Action speaks louder than words and gaze: The relative importance of modalities in deictic reference**
Gozdem Arikan: University of East Anglia; Peter Boddy: University of East Anglia; Kenny R Coventry: University of East Anglia

1-C-70 **Promoting relational responding: The role of prior exposure to the sample**
Mercury K Mason: Binghamton University; Kenneth Kurtz: Binghamton University

1-C-71 **A model-based analysis of changes in the semantic structure of free recall due to cognitive impairment**
Holly A Westfall: University of California, Irvine; Michael Lee: University of California, Irvine

1-C-72 **Impact of living environment on the development of cognitive navigation strategy in chinese urban and rural children**
Hongmei Xia: United International College; Xinyu Li: United International College; Raine Chen: United International College

1-C-73 **Empirical support for a rate-distortion account of pragmatic reasoning**
Irene Zhou: Massachusetts Institute of Technology; Jennifer Hu: Massachusetts Institute of Technology; Roger Levy: Massachusetts Institute of Technology; Noga Zaslavsky: Massachusetts Institute of Technology

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1-C-74 **Variability in causal judgments**
Ivar R Kolvoort: University of Amsterdam; Zachary J Davis: Stanford University; Leendert van Maanen: Utrecht University; Bob Rehder: New York University

1-C-75 **The effect of uncertainty and reward probability on information seeking behaviour**
Jake Ryan Embrey: The University of New South Wales; Shi Xian Liew: University of New South Wales; Ishaan Ghai: University of New South Wales; Ben Newell: University of New South Wales

1-C-76 **Less egocentric biases in theory of mind when observing agents in unbalanced decision problems**
Jan Poeppel: Bielefeld University; Stefan Kopp: Bielefeld University; Stacy Marsella: Glasgow University

1-C-77 **Calibration information reduces bias during estimation of factorials: A (partial) replication and extension of Tversky and Kahneman (1973)**
Jeffrey K. Bye: University of Minnesota; Vijay Marupudi: Georgia Tech; Jimin Park: University of Minnesota; Sashank Varma: Georgia Tech

1-C-78 **SpeakEasy pronunciation trainer: Personalized multimodal pronunciation training**
Jeramey Tyler: Rensselaer Polytechnic Institute; Jonas Braasch: Rensselaer Polytechnic Institute; Mei Si: Rensselaer Polytechnic Institute

1-C-80 **The lure of the self: How we misattribute our lesser likes to the “other” in perspective-taking and decision-making**
Joan Danielle K. Ongchoco: Yale University; Marco Inchingolo: ENS-EHESS-CNRS; L.A. Paul: Yale University

1-C-81 **Epistemic and aleatory uncertainty in decisions from experience**
Joel Holwerda: University of New South Wales; Ben Newell: University of New South Wales

1-C-82 **The influence of the ability to rely on an external store on value-directed remembering**
Joyce S Park: University of Waterloo; Megan O. Kelly: University of Waterloo; Evan Risko: University of Waterloo

1-C-83 **Understanding others' roles based on perspective taking in coordinated group behavior**
Jun Ichikawa: Kanagawa University; Keisuke Fujii: Nagoya University

1-C-84 **Temporal explanations help resolve temporal conflicts**
Laura J Kelly: Naval Research Laboratory; Sangeet Khemlani: Naval Research Laboratory

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1-C-85 **Can early birds … fly? Awakening conventional metaphors further down the maze**
Laura Pissani: Concordia University; Roberto G. de Almeida: Concordia University

1-C-86 **Confidence in control: Metacognitive computations for information search**
Lion Schulz: Max Planck Institute For Biological Cybernetics; Stephen M Fleming: University College London; Peter Dayan: Max Planck Institute for Biological Cybernetics

1-C-87 **Contextual diversity and the lexical organization of multiword expressions**
Marco Silvio Giuseppe Senaldi: McGill University; Debra Titone: McGill University; Brendan Johns: McGill University

1-C-88 **Who is motivating? Students evaluate encouragement based on speaker's knowledge**
Mika Asaba: Stanford University; Amanda Nerenberg: University of Pennsylvania; Julia Anne Leonard: Yale University

1-C-89 **Humans violate Occam's razor in learning Gaussian mixture models**
Tianyuan Teng: Peking University; Hang Zhang: Peking University

1-C-90 **Moderators of acquiescing to intuition: Strength of intuition, task characteristics and individual differences**
Cathy Gagnon: University of Surrey; Adrian Banks: University of Surrey; Patrice Rusconi: University of Surrey

1-C-91 **Vienna talking faces: A multimodal database of synchronized videos (ViTaFa)**
Christina Krumpholz: University of Veterinary Medicine Vienna; Patrick Smela: University Vienna; Cliodhna Quigley: University of Vienna; Leonida Fusani: University of Vienna; Helmut Leder: University of Vienna

1-C-92 **"It Depends": How children reason about stable and unstable causes**
Nadya Vasilyeva: University of California Los Angeles; Mei Murphy: University of California Berkeley; Oce Bohra: University of California Berkeley; Jenny Chen: University of California Berkeley; Selena Xandra Cuevas: University of California Berkeley; Samhita Katteri: University of California

1-C-94 **Deciding to be wrong: Optimism and pessimism in motivated information search**
Nathan E Wheeler: University of Toronto; William Cunningham: University of Toronto

1-C-95 **Tracking the unknown: Modeling long-term implicit skill acquisition as non-parametric bayesian sequence learning**
Noemi Elteto: Max Planck Institute for Biological Cybernetics; Dezso Nemeth: Université de Lyon; Karolina Janacsek: University of Greenwich; Peter Dayan: Max Planck Institute for Biological Cybernetics

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1-C-96 **Designing a behavioral experiment to study the factors underlying procrastination**
Peiyuan Zhang: New York University; Wei Ji Ma: New York University

1-C-97 **Task strategies mediate the interaction between working memory and other cognitive systems**
Philip Newlin: Mississippi State University; Jarrod Moss: Mississippi State University

1-C-98 **Impacts of colors and container types on predicted and perceived flavor of non-alcoholic beverages**
Jurgis Skilters: University of Latvia; Liga Zarina: University Of Latvia; Agnija Vintiša: King's College; Anna Zaremba: University of Latvia; Laura Keisa: University of Latvia; Jānis Auders: University of Latvia

1-C-99 **Arc length as a geometric constraint for psychological spaces**
Robert Ralston: The Ohio State University; Vladimir Sloutsky: The Ohio State University

1-C-100 **Effects of scaling shoulder width on passability affordance in virtual reality**
Safa Andaç: Boğaziçi University; Bora Can Sezer: Architecture and Design; Inci Ayhan: Bogazici University; Emre Ugur: Bogazici University; Erhan Oztop: Osaka University

1-C-101 **Appreciating interleaved benefits: The effect of metacognitive activities on the selection of learning strategy**
Sejin Kim: Yonsei University; Hee Seung Lee: Yonsei University

1-C-102 **Illusory bimodality in repeated reconstructions of probability distributions**
Shaozhi Nie: Peking University; Muzhi Wang: Peking University; Hang Zhang: Peking University

1-C-103 **Supervised category learning: When do participants use a partially diagnostic feature?**
Sujith Thomas: Birla Institute of Technology Goa Campus; Aditya Kapoor: Birla Institute of Technology Goa Campus; Narayanan Srinivasan: Indian Institute of Technology

1-C-104 **Transfer of knowledge in a semantic navigation task without the accurate map: Model-based analysis of knowledge transfer**
Takuma Torii: Japan Advanced Institute of Science and Technology; Shohei Hidaka: Japan Advanced Institute of Science and Technology

1-C-105 **Compositional generalization in multi-armed bandits**
Tankred Saanum: Max Planck Institute for Biological Cybernetics; Eric Schulz: Max Planck Institute for Biological Cybernetics; Maarten Speekenbrink: University College London

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1-C-106 The role of period correction and continuous input from a co-performer in joint rushing
Thomas Wolf: CEU; Natalie Sebanz: Central European University; Günther Knoblich: Central European University

1-C-107 A rational account of anchor effects in hindsight bias
Samarie A Wilson: Princeton University; Somya Arora: Princeton University; Qiong Zhang: Princeton University ; Tom Griffiths: Princeton University

1-C-108 Effects of perceptual and emotional imageries of food names to word recognition memories: four behavioral experiments
Toshimune Kambara: Hiroshima University; Aiko Morita: Hiroshima University; Yan Yan: Hiroshima University; Yutao Yang: Hiroshima University; Kazuya Ishizaki: Hiroshima University; Ayana Sano: Hiroshima University; Hiromasa Yoshimatsu: Hiroshima University

1-C-109 If you think your action was erroneous, you will reject the outcome you actually wanted: a case of reverse choice blindness
Vogel Gabriel: Lund University; Lars Hall: Lund University; Petter Johansson: Department of Philosphy and Cognitive Science

1-C-110 Causal learning with interrupted time series
Yiwen Zhang: University of Pittsburgh; Benjamin Rottman: University of Pittsburgh

1-C-111 A computationally rational model of human reinforcment learning
Zeming Fang: Rensselaer Polytechnic Institute; Chris R Sims: Rensselaer Polytechnic Institute

1-C-112 Preschoolers' spontaneous gesture production predicts analogical transfer
Minju Kim: University of California, San Diego; Caren M. Walker: University of California San Diego

D - Education, development and perspectives in cognitive science

1-D-113 Enhancing preschool readiness: Evidence from a home-based game to improve 5-year-old children's mastery of symbolic numbers and concepts
Akshita Srinivasan: Harvard University; Laura Mullertz: Harvard University; Chrissie F Carvalho: Universidade Federal de Santa Catarina; Elizabeth Spelke: Harvard University

1-D-114 The funny thing about algorithm aversion: Investigating bias toward AI humor
Alexander H Bower: University of California, Irvine; Mark Steyvers: University of California, Irvine

1-D-115 Characterizing the development of relational reasoning in India
Alexandra Carstensen: Stanford University; Tania Dhaliwal: Stanford University; Michael C. Frank: Stanford University

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1-D-116 Mutual exclusivity inferences in 12-to-15-month-olds: An online looking-while-listening study
Barbara Pomiechowska: Central European University; Barbu Revencu: Central European University; Iulia Savos: Central European University; Gergely Csibra: Central European University; Gergely Csibra: Birkbeck, University of London

1-D-117 Perspective taking in virtual reality: Addressing gender bias in STEM
Cassandra L. Crone: Macquarie University; Meredith Porte: Macquarie University; Lynden K. Miles: University of Western Australia; Michael J Richardson: Macquarie University; Rachel W. Kallen: Macquarie University

1-D-118 Does cognitive dissonance depend on self-concept? 2-year-old children, but not 1-year-olds, show blind choice-induced preferences
Charlotte Grosse Wiesmann: Max Planck Institute for Human Cognitive and Brain Sciences; Dora Kampis: University of Copenhagen; Emilie Poulsen: University of Copenhagen; Clara Schueler: Max Planck Institute for Human Cognitive and Brain Sciences; Victoria Southgate: University of Copenhagen

1-D-119 Concept mapping produces delayed benefits in online learning.
Christopher Sanchez: Oregon State University

1-D-120 Mental models of illness in the COVID-19 era
Emma Wood: College of the Holy Cross; Mary Grace Harris: College of the Holy Cross; Florencia K Anggoro: College of the Holy Cross

1-D-121 Adult intuitions about mechanistic content in elementary school science lessons
Nicole Betz: Yale University; Amanda McCarthy: Yale University; Frank Keil: Yale University

1-D-122 Knowing the shape of the solution: Causal structure constrains evaluation of possible causes
Elizabeth Lapidow: University of California, San Diego; Junyi Chu: Massachusetts Institute of Technology; Caren M. Walker: University of California San Diego

1-D-123 Developmental change in what elicits curiosity
Emily G Liquin: Princeton Univerisity; Frederick Callaway: Princeton University; Tania Lombrozo: Princeton University

1-D-125 The role of hand gestures in emotion communication
Esma Asalioglu: Koç University; Tilbe Göksun: Koç University

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1-D-126 Cognitive cost and information gain trade off in a large-scale number guessing game
Felix Jedidja Binder: University of California San Diego; Cameron R Jones: University of California San Diego; Robert A Kaufman: University of California, San Diego; Naomi T Lin: University of California San Diego; Crystal R Poole: University of California San Diego; Ed Vul: University of California, San Diego

1-D-127 Core knowledge objects in reasoning and language use for highly abstract inductive tasks
Gabrielle Ecanow: Massachussetts Institute of Technology; Catherine Wong: Massachusetts Institute of Technology; Sam Acquaviva: Massachusetts Institute of Technology; Yewen Pu: Autodesk Inc; Marta Kryven: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

1-D-128 Evaluating infants' reasoning about agents using the Baby Intuitions Benchmark (BIB)
Gala Stojnic: New York University; Kanishk Gandhi: New York University; Brenden Lake: New York Univeristy; Moira Rose Dillon: New York University

1-D-129 Modeling the anticipatory remapping of spatial body representations: A free energy approach
Patrick Weigert: University of Amsterdam; Johannes Lohmann: University of Tübingen; Martin V. Butz: University of Tuebingen

1-D-130 Additional acquisition sessions monotonically benefit retention and relearning
Joshua Fiechter: Ball Aerospace & Technologies; Florian Sense: University of Groningen; Michael Gordon Collins: Wright State University; Michael Krusmark: Wright-Patterson Air Force Base; Tiffany Jastrzembski: Wright-Patterson Air Force Base

1-D-131 Investigating the nature of infants' lexical speed of processing
Julia Egger: Max Planck Institute for Psycholinguistics; Caroline F Rowland: Max Planck Institute for Psycholinguistics; Christina Bergmann: Max Planck Institute for Psycholinguistics

1-D-132 Mapping between numerical and non-numerical magnitude information: An observational study of the integration and interconversion between magnitudes and formats in Colombian children
Maria Y Arevalo-Jaimes: Universidad de La Sabana; Sara García-Sanz: Universidad de La Sabana; Nicolas Muñoz Aguilar Muñoz Aguilar: Universidad de La Sabana

1-D-133 Emotion words may connect complex emotional events and facial expressions in early childhood
Marissa Ogren: University of California, Los Angeles; Catherine Sandhofer: University of California, Los Angeles

1-D-134 Detecting the involvement of agents through physical reasoning
Michael Lopez-Brau: Yale University; Joseph Kwon: Yale University; Breanna McBean: University of Michigan; Ilker Yildirim: Yale University; Julian Jara-Ettinger: Yale University

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1-D-135 Using recurrent neural networks to understand human reward learning
Mingyu Song: Princeton University; Yael Niv: Princeton University; Mingbo Cai: University of Tokyo

1-D-136 Can retrieval practice of the testing effect increase self-efficacy in tests and reduce test anxiety, in 10- to 11-year-olds?
Helen Barsham: University of Cambridge; Michelle Ellefson: University of Cambridge

1-D-137 Cyclic reactivation of internal working memory representations of distinct feature dimensions
Rebecca R Schmid: University of Vienna; Ulrich Pomper: University of Vienna; Ulrich Ansorge: University of Vienna

1-D-138 Sampling heuristics for active function learning
Rebekah Gelpi: University of Toronto; Nayan Saxena: University of Toronto; George Lifchits: University of Toronto; Daphna Buchsbaum: Brown University; Chris Lucas: University of Edinburgh

1-D-139 Epistemic verbs produce spatial models
Sangeet Khemlani: Naval Research Laboratory

1-D-140 Evaluating general versus singular causal prevention
Simon Stephan: University of Göttingen ; Sarah Placì: Center for Mind/Brain Sciences; Michael R. Waldmann: University of Göttingen

1-D-141 Who's stopping you? – Using microanalysis to explore the impact of science anxiety on self-regulated learning operations
Stephen Hutt: University of Pennsylvania; Jaclyn Ocumpaugh: University of Pennsylvania; Juliana Ma. Alexandra L Andres: University of Pennsylvania; Anabil Munshi: Vanderbilt University; Nigel Bosch: University of Illinois at Urbana-Champaign; Ryan S. Baker: University of Pennsylvania; Yingbin Zhang: University of Illinois Urbana–Champaign; Luc Paquette: University of Illinois at Urbana-Champaign; Stefan Slater: University of Pennsylvania; Gautam Biswas: Vanderbilt University

1-D-142 The association between preschool teacher-child relationship and children's kindergarten outcomes
Tanya M Paes: Purdue University; Robert Duncan: Purdue University; David Purpura: Purdue University; Sara Schmitt: Purdue University

1-D-143 Naive Utility Calculus underlies the reproduction of disparities in social groups
Yuan Meng: University of California, Berkeley; Fei Xu: University of California, Berkeley

E - Linguistics

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1-E-144 **Pragmatics of metaphor revisited: Formalizing the role of typicality and alternative utterances in metaphor understanding**
Alexandra Mayn: Saarland University; Vera Demberg: Saarland University

1-E-145 **We are what we say: Pragmatic violations have social costs**
Andrea Beltrama: University of Pennsylvania; Anna Papafragou: University of Pennsylvania

1-E-146 **Bilinguals infer in l2 similarly, but not in dual-language**
Aslı Yurtsever: Koç University; Tilbe Göksun: Koç University; Sami Gulgoz: Koç University

1-E-147 **The anatomy of discourse: Linguistic predictors of narrative and argument quality**
Sheridan Feucht: Brown University; Babak Hemmatian: Brown University; Rachel Avram: Brown University; Alex Wey: Brown University; Kate Spitalnic: University of Sussex; Muskaan Garg: Brown University; Carsten Eickhoff: Brown University; Ellie Pavlick: Brown University; Björn Sandstede: Brown University; Steven Sloman: Brown University

1-E-148 **Variation in spatial concepts: Different frames of reference on different axes**
Benjamin Pitt: University of California, Berkeley; Alexandra Carstensen: Stanford University; Edward Gibson: Massachusetts Institute of Technology; Steven Piantadosi: University of California, Berkeley

1-E-149 **Exploring whether physical distance engenders differences in concept meaning**
Charles P Davis: University of Connecticut; Qi Xia: University of Connecticut; Eiling Yee: University of Connecticut

1-E-150 **Verbs are more metaphoric than nouns: Evidence from the lexicon**
Daniel C King: Northwestern University; Dedre Gentner: Northwestern University; Fanyi Mo: Colgate University

1-E-151 **Distributional learning of recursive structures**
Daoxin Li: University of Pennsylvania; Kathryn Schuler: University of Pennsylvania

1-E-152 **Native perception of non-native speech: Speaker accent mitigates penalization for language errors in non-native speech unless the listener is conscientious**
Hui Sun: University of Birmingham; Petar Milin: University of Birmingham; Dagmar Divjak: University of Birmingham

1-E-153 **Can losing the sense of smell affect odor language?**
Laura Speed: Radboud University; Behzad Iravani: Karolinska Institutet; Johan N Lundstrom: Karolinska Institutet; Asifa Majid: University of York

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1-E-154 **The impact of child-directed language on children's lexical development**
Shiyu Dong: Tsinghua University; Yan Gu: University College London; Gabriella Vigliocco: University College London

1-E-155 **Regularisation, systematicity and naturalness in a silent gesture learning task**
Yasamin Motamedi: The University of Edinburgh; Lucie Wolters: The University of Edinburgh; Danielle Naegeli: Tilburg University; Marieke Schouwstra: University of Amsterdam; Simon Kirby: The University of Edinburgh

1-E-156 **Keep calm and move on: Interplay between morphological cue occurrence and frequency-based heuristics for sentence comprehension in Korean**
Chanyoung Lee: Yonsei University; Gyu-Ho Shin: Palacký University Olomouc

1-E-157 **Speak before you listen: Pragmatic reasoning in multi-trial language games**
Les Sikos: Saarland University; Noortje J. Venhuizen: Saarland University; Heiner Drenhaus: Saarland University; Matthew W. Crocker: Saarland University

1-E-158 **Temporal gestures in Turkish metaphor explanations**
Emir Akbuga: Koç University; Tilbe Göksun: Koç University

1-E-159 **Effects of global discourse coherence on local contextual predictions**
Georgia-Ann Carter: University of Edinburgh; Paul Hoffman: University of Edinburgh

1-E-160 **Racial bias in emotion inference: An experimental study using a word embedding method**
Jae Eun Park: Seoul National University; Yoon Kyung Lee: Seoul National University; Sowon Hahn: Seoul National University

1-E-161 **Slovaks in Czechia: L1 Attrition and L2 acquisition in two mutually intelligible languages**
Adam Kříž: Faculty of Arts, Charles University; Jan Chromý: Faculty of Arts, Charles University

1-E-162 **Parents adaptively use anaphora during parent-child social interaction**
Jasmine J Falk: Tufts University; Yayun Zhang: University of Texas at Austin; Matthias Scheutz: Tufts University; Chen Yu: University of Texas at Austin

1-E-163 **Los Angeles reading corpus of individual differences: Pilot distribution and analysis**
Jesse Harris: University of California Los Angeles; Stephanie Rich: Univeristy of California Santa Cruz

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1-E-164 **Extent of bilingual experience in modulating young adults' processing of social-communicative cues in a cue integration task: An eye-tracking study**
Jia Wen Lee: Singapore University of Technology and Design; Xiaoqian Li: Singapore University of Technology and Design; Wei Quin Yow: Singapore University of Technology and Design

1-E-165 **Syntactic satiation is driven by speaker-specific adaptation**
Jiayi Lu: Stanford University; Daniel Lassiter: Stanford University; Judith Degen: Stanford University

1-E-166 **Now or later: Representational convergence in simulated simultaneous and sequential bilingual learning contexts**
John D. Patterson: The Pennsylvania State University; Elisabeth A. Karuza: The Pennsylvania State University

1-E-167 **Vertical directionality ratings as lexical norms for English verbs**
John Hollander: University of Memphis; Andrew Olney: University of Memphis

1-E-168 **Seeing is believing: Testing an explicit linking assumption for visual world eye-tracking in psycholinguistics**
Judith Degen: Stanford University; Leyla Kursat: Stanford University; Daisy Dorothy Leigh: Stanford University

1-E-169 **Using machine learning to predict bilingual language proficiency from reaction time priming data**
Laura Matzen: Sandia National Laboratories; Christina Ting: Sandia National Laboratories; Mallory C Stites: Sandia National Laboratories

1-E-170 **Do you speak 'kid'? The role of experience in comprehending child speech**
Madeleine Yu: University of Toronto; Angela Cooper: University of Toronto; Elizabeth Johnson: University of Toronto

1-E-171 **Exploring the influence of semantics on the German plural system: A wug study**
Maria Heitmeier: Eberhard-Karls-Universität; Stella Frank: University of Trento

1-E-172 **Oh, the Irony!: Interpersonal variation in the processing of foreign-accented and native irony**
Veranika Puhacheuskaya: University of Alberta; Juhani Järvikivi: University of Alberta

1-E-173 **Evidential meaning of English clause-embedding verbs**
Natalia Talmina: Johns Hopkins University; Kyle Rawlins: Johns Hopkins University

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1-E-174 War language in tweets of politicians, reporters, and medical experts: A focus on Covid-19
Paul Thibodeau: Oberlin College

1-E-175 Using the interpolated maze task to assess incremental processing in english relative clauses
Pranali Vani: Massachusetts Institute of Technology; Ethan Gotlieb Wilcox: Harvard University; Roger Levy: Massachusetts Institute of Technology

1-E-176 Regularization of nouns due to drift, not selection: An artificial-language experiment
Rafael Ventura: University of Pennsylvania; Joshua Plotkin: University of Pennsylvania; Gareth Roberts: University of Pennsylvania

1-E-177 Semantic networks of space and time between deaf signers and Spanish listeners
Roberto Aguirre: Universidad de la República; María Noel Macedo: Universidad de la República; Mauricio Castillo: Universidad de la República; Alejandro Fojo: Universidad de la República; Jorge Ricardo Vivas Dr.: Universidad Nacional del Mar del Plata

1-E-178 They is changing: Pragmatic and grammatical factors that license singular they
Sadie Camilliere: Swarthmore College; Amanda Izes: Swarthmore College; Olivia Leventhal: Swarthmore College; Daniel Grodner: Swarthmore College

1-E-179 Effects of syntactic and semantic predictability on sentence comprehension: A comparison between native and non-native speakers
Shaohua Fang: University of Pittsburgh; Enas Albasiri: CUNY Graduate Center

1-E-180 Associative learning of new word forms in a first language and gustatory stimuli
Yan Yan: Hiroshima University; Yutao Yang: Hiroshima University; Misa Ando: HIroshima University; Xinyi Liu: Hiroshima University; Toshimune Kambara: Hiroshima University

1-E-181 Does surprisal affect word learning? Evidence from seven languages
Yuguang Duan: University of Wisconsin-Madison; Gary Lupyan: University of Wisconsin - Madison

1-E-182 The use of co-speech gestures in conveying Japanese phrases with verbs
Yuki Handa: Graduate School of Tokyo Denki University; Tetsuya Yasuda: Tokyo Denki University; Harumi Kobayashi: Tokyo Denki University

1-E-183 The influence of media exposure on children's evaluations of non-local accents
Thomas St. Pierre: University of Toronto Mississauga; Elizabeth Johnson: University of Toronto

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F - Neuroscience

1-F-184 The N400 event-related potential component reflects a learning signal
Alice Hodapp: University of Potsdam; Milena Rabovsky: University of Potsdam

1-F-185 Biological motion perception in perceptual decision-making framework: ERP evidence in humans
Berfin Aydın: Bilkent University; Burcu A. Urgen: Bilkent University

1-F-186 'Kindergarten' versus 'Gartenkinder': EEG-evidence on the effects of familiarity and semantic transparency on German compounds
Carsten Eulitz: University of Konstanz; Eva Smolka: University of Vienna

1-F-187 Spectrotemporal cues and attention modulate neural networks for speech and music
Felix Haiduk: University of Vienna; Lucas Benjamin: CEA; Benjamin Morillon: Aix-Mareille University; Philippe Albouy: Université Laval

1-F-188 Complementary structure-learning neural networks for relational reasoning
Jacob Russin: University of California, Davis; Maryam Zolfaghar: University of California, Davis; Seongmin Park: University of California, Davis; Erie D. Boorman: University of California, Davis; Randall C. O'Reilly: University of California, Davis

1-F-189 White matter tract properties and mathematics skills: A longitudinal study of children born preterm and full-term
Julia Anna Adrian: University of California, San Diego; Carolyn Sawyer: University of California, San Diego; Natacha Akshoomoff: University of California, San Diego

1-F-190 Identifying local cognitive representations in the brain across age spans through voxel searchlights and representational similarity analysis
Laura G Reno: Fordham University; Christian G Habeck: Columbia University; Yaakov Stern: Columbia University Irving Medical Center; Daniel D Leeds: Fordham University

1-F-191 A neural dynamic process model of combined bottom-up and top-down guidance in triple conjunction visual search
Raul Grieben: Ruhr-Universität Bochum; Gregor Schöner: Ruhr-Universität Bochum

1-F-192 Hand constraint affects semantic processing of hand-manipulable objects: An fNIRS study
Sae Onishi: Osaka Prefecture University; Kunihito Tobita: Osaka Prefecture University; Shogo Makioka: Osaka Prefecture University

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1-F-193 A task-optimized neural network model of decision confidence
Taylor Webb: University of California Los Angeles; Kiyofumi Miyoshi: University of California Los Angeles; Tsz Yan So: The University of Hong Kong; Hakwan Lau: University of California Los Angeles

1-F-194 Multiple items in working memory are cyclically activated at a theta-rhythm
Ulrich Pomper: University of Vienna; Ulrich Ansorge: Faculty of Psychology, University of Vienna

1-F-195 Distributed brain connectivity predicts individual differences in forgetting: A neurocomputational analysis of resting-state fMRI
Yinan Xu: University of Washington; Chantel Prat: University of Washington; Florian Sense: University of Groningen; Hedderik van Rijn: University of Groningen; Andrea Stocco: University of Washington

G - Philosophy

1-G-196 Cognitive argumentation and the selection task
Emmanuelle Dietz: TU Dresden; Antonis Kakas: University of Cyprus

1-G-197 The impact of ignorance beyond causation: An experimental meta-analysis
Lara Kirfel: University College London; Jonathan Phillips: Dartmouth College

1-G-198 Moral judgments and triage principles related to COVID-19 Pandemic
Evgeniya Hristova: New Bulgarian University; Maurice Grinberg: New Bulgarian University

1-G-199 What is a 'mechanism'? A distinction between two sub-types of mechanistic explanations
Sehrang Joo: Yale University; Sami R Yousif: Yale University; Frank Keil: Yale University

H - Psychological science

1-H-200 The impact of interface alignment structure on aesthetic appreciation and usability rating
Aisha Futura Tüchler: University of Latvia; Liga Zarina: University Of Latvia; Jurgis Skilters: University of Latvia

1-H-201 The role of categories in the formation of liking evaluations
Alexander Kentaro Moore: University of Chicago Booth School of Business; Daniel Bartels: University of Chicago

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1-H-202 Children's use of causal structure when making similarity judgments
Alexandra Rett: University of California, San Diego; Jamie Amemiya: University of California, San Diego; Micah Goldwater: University of Sydney; Caren M. Walker: University of California, San Diego

1-H-203 Am I tone-deaf? Assessing pitch discrimination in 700,000 people
Courtney B Hilton: Harvard University; Joshua Fiechter: Ball Aerospace & Technologies; Aaron S Benjamin: University of Illinois at Urbana-Champaign; Samuel Mehr: Harvard University

1-H-204 Children's reasoning about hypothetical interventions to complex and dynamic causal systems
Angela Nyhout: University of Kent; Hilary Sweatman: McGill University; Patricia Ganea: University of Toronto

1-H-205 Malleability of intelligence through chess training-a two year empirical study
Ebenezer Joseph: Emmanuel Chess Centre; Veena Easvaradoss: WCC; David Chandran: Emmanuel Chess Centre; Suneera Abraham: Emmanuel Chess Centre; Sweta Vaddadi: Emmanuel Chess Centre

1-H-206 Dynamics of counterfactual retrieval
Feiyi Wang: University of Pennsylvania; Ada Aka: University of Pennsylvania; Sudeep Bhatia: University of Pennsylvania

1-H-207 Toward a comprehensive developmental theory for symbolic magnitude understanding
Hyekyung Park: The Ohio State University; John Opfer: The Ohio State University

1-H-208 East-west revisited: Is holistic thinking relational thinking?
Junhao Zhang: Development of Psychology; Stella Christie: Tsinghua University

1-H-209 Disgraced professionals: Revelation of immorality decreases evaluations of professionals' competence and contribution
Junho Lee: University of California, Los Angeles; John Priniski: University of California, Los Angeles; Sebastian Valderrama: University of California, Los Angeles; Keith Holyoak: University of California, Los Angeles

1-H-210 The effects of dyadic conversations on coronavirus-related belief change
Madalina Vlasceanu: Princeton University; Alin Coman: Princeton University

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1-H-211 Structural comparisons of noun and verb networks in the mental lexicon
Mengyang Qiu: University at Buffalo; Nichol Castro: University at Buffalo; Brendan Johns: McGill University

1-H-212 Try smarter, not harder: Exploration and strategy diversity are related to infant persistence
Mia Radovanovic: University of Toronto; Hannah Solby: University of Toronto; Antonia Soldovieri: University of Toronto; Jessica Sommerville: University of Toronto

1-H-213 A unifying model of grapheme-color associations in synesthetes and controls
Nicholas Root: University of Amsterdam; Romke Rouw: University of Amsterdam

1-H-214 The mental representation of integers: Further evidence for the negative number line as a reflection of the natural number line
Nicholas Vest: University of Wisconsin- Madison; Martha W Alibali: University of Wisconsin-Madison

1-H-215 Verbal working memory capacity modulates category representation.
Qianqian Wan: Ohio State University; Mengcun Gao: Ohio State University; Vladimir Sloutsky: Ohio State University

1-H-216 Revising core beliefs in young children
Rongzhi Liu: University of California, Berkeley; Fei Xu: University of California, Berkeley

1-H-217 Association knowledge guides conjunctive predictions in novel situations
Ru Qi Yu: the University of British Columbia; Jiaying Zhao: University of British Columbia

1-H-218 Using causality to map difficulties in a qualitative physics problem
Sara Jaramillo: University of Pittsburgh; Eric Kuo: University of Illinois Urbana-Champaign; Timothy Nokes-Malach: University of Pittsburgh; Benjamin Rottman: University of Pittsburgh

1-H-219 Attentional strategies during category learning: an eye-tracking study
Valentina A Bachurina: Higher School of Economics National Research University; Alexey Kotov: Higher School of Economics; Maria Zherdeva: Higher School of Economics

1-H-220 A deep gaze into social and referential interaction
Vidya Somashekarappa: University of Gothenburg; Christine Howes: University of Gothenburg; Asad Sayeed: University of Gothenburg

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1-H-221 The effect of semantic categorization on object location memory
Xinyi Lu: University of Waterloo; Mona Zhu: University of Waterloo; Evan Risko: University of Waterloo

1-H-222 Effects of interim testing and feature highlighting on natural category learning
Yewon Kang: Yonsei University; Hyorim Ha: Yonsei University; Hee Seung Lee: Yonsei University

1-H-223 Lay theories of manipulation: do consumers believe they are susceptible to marketers' trickery?
Zarema Khon: University of Bath; Samuel Johnson: University of Bath; Haiming Hang: University of Bath

1-H-224 Gender differences in face-based trait perception and social decision making
Zoe W He: University of California, San Diego; Angela J Yu: University of California, San Diego

Poster Session 2

Wednesday, July 28, 2021: 17:20 – 19:00

A - AI, Computer science and Computer models

2-A-1 Machine learning models for predicting, understanding, and influencing health perception
Ada Aka: University of Pennsylvania; Sudeep Bhatia: University of Pennsylvania

2-A-2 Explaining machine learned relational concepts in visual domains - effects of perceived accuracy on joint performance and trust
Anna Magdalena Thaler: Cognitive Systems Group, University of Bamberg; Ute Schmid: University of Bamberg

2-A-3 Can computers tell a story? Discourse structure in computer-generated text and humans
Alex Wey: Brown University; Babak Hemmatian: Brown University; Rachel Avram: Brown University; Sheridan Feucht: Brown University; Kate Spitalnic: University of Sussex; Muskaan Garg: Brown University; Carsten Eickhoff: Brown Univeristy; Ellie Pavlick: Brown University; Björn Sandstede: Brown University; Steven Sloman: Brown University

2-A-4 Communicating uncertain beliefs with conditionals: Probabilistic modeling and experimental data
Britta Grusdt: Institute of Cognitive Science; Michael Franke: University of Osnabrück

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2-A-5 **Phonological interactions, process types, and minimum description length principles**
Christopher Yang: Massachusetts Institute of TechnologY; Kevin Elllis: Cornell University

2-A-6 **Latent event-predictive encodings through counterfactual regularization**
Dania Humaidan: University of Tübingen; Sebastian Otte: University of Tübingen; Christian Gumbsch: University of Tübingen; Charley M Wu: University of Tübingen; Martin V. Butz: University of Tübingen

2-A-7 **Capturing uncertainty in relational learning: A Bayesian model of discrimination-based transitive inference**
Doug Markant: University of North Carolina at Charlotte

2-A-8 **Learning ecological and artificial visual categories: rhesus macaques, humans, and machines**
Drew Altschul: The University of Edinburgh; Gregory Jensen PhD: Columbia University; Herbert Terrace: Columbia University

2-A-9 **Computational-neuroscientific correspondence of oscillating-TN SOM neural networks**
Spyridon Revithis: University of New South Wales

2-A-10 **What interventions can decrease or increase belief polarisation in a population of rational agents?**
Piers Douglas Howe: University of Melbourne; Andrew Perfors: University of Melbourne; Keith James Ransom: University of Adelaide

2-A-11 **Humans fail to outwit adaptive rock, paper, scissors opponents**
Erik Brockbank: University of California, San Diego; Ed Vul: University of California, San Diego

2-A-12 **Encouraging far-sightedness with automatically generated descriptions of optimal planning strategies: Potentials and Limitations**
Frederic Becker: Max Planck Institute for Intelligent Systems; Julian Mateusz Skirzynski: Max Planck Institute for Intelligent Systems; Bas van Opheusden: Princeton University; Falk Lieder: Max Planck Institute for Intelligent Systems

2-A-13 **Can deep convolutional neural networks learn same-different relations?**
Guillermo Puebla: University of Edinburgh; Jeff Bowers: University of Bristol

2-A-14 **Characterize artistic style based on the entropy rate of the imaginary stroke sequences**
Ruimin Lyu: Jiangnan University; Hongcha Xing: Jiangnan University; Tianqin Zhang: Jiangnan University

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2-A-15 **Rise of QAnon: A mental model of good and evil stews in an echochamber**
John Priniski: University of California, Los Angeles; Mason McClay: University of California, Los Angeles; Keith Holyoak: University of California, Los Angeles

2-A-16 **Predicting memory errors with a bayesian model of concept generalization**
Isabella Destefano: University of California San Diego ; Timothy F. Brady: University of California, San Diego; Ed Vul: University of California, San Diego

2-A-17 **Compositional processing emerges in neural networks solving math problems**
Jacob Russin: University of California, Davis; Roland Fernandez: Microsoft Research; Hamid Palangi: Microsoft Research; Eric Robert Rosen: Johns Hopkins Univesity; Nebojsa Jojic: Microsoft Research; Paul Smolensky: Microsoft; Jianfeng Gao: Microsoft Research

2-A-19 **Synchronising the emergence of institutions and value systems: a model of opinion dynamics mediated by proportional representation**
Jose Segovia: CNRS

2-A-20 **Which acoustic features support the language-cognition link in infancy: A machine-learning approach**
Joseph C.Y. Lau: Northwestern University; Alona Fyshe: University of Alberta; Sandra Waxman: Northwestern University

2-A-21 **Individual vs. Joint Perception: A pragmatic model of pointing as Smithian Helping**
Kaiwen Jiang: University of California, Los Angeles; Stephanie Stacy: University of California, Los Angeles; Adelpha Chan: University of California, Los Angeles; Chuyu Wei: University of California, Los Angeles; Federico Rossano: University of California

2-A-22 **A sequential sampling account of semantic relatedness decisions**
Peter M Kraemer: University of Basel; Dirk Wulff: University of Basel; Sebastian Gluth: University of Hamburg

2-A-23 **Human learning from artificial intelligence: Evidence from human go players' decisions after alphago**
Minkyu Shin: Yale University; Jin Kim: Yale University; Minkyung Kim: University of North Carolina Chapel Hill

2-A-24 **Utilizing ACT-R to investigate interactions between working memory and visuospatial attention while driving**
Moritz Held: Rijksuniversiteit Groningen; Jelmer Borst: Rijksuniversiteit Groningen; Anirudh Unni: Carl von Ossietzky Universität; Jochem Rieger: Carl von Ossietzky Universität

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2-A-25 Rewiring the wisdom of the crowd
Jason W Burton: Birkbeck, University of London; Abdullah Almaatouq: Massachusetts Institute of Technology; M. Amin Rahimian: University of Pittsburgh; Ulrike Hahn: Birkbeck, University of London

2-A-26 Modelling human communication as a rejection game
Artemis A. Çapari BSc: University of Amsterdam; Giorgio Sbardolini: ILLC, University of Amsterdam

2-A-27 Givenness hierarchy theoretic referential choice in situated contexts
Poulomi Pal: Colorado School of Mines; Grace Clark: Colorado School of Mines; Tom Williams: Colorado School of Mines

2-A-28 Younger and older speakers' use of linguistic redundancy with a social robot
Raheleh Saryazdi: University of Toronto; Joanne Nuque: University of Toronto Mississauga; Craig Chambers: University of Toronto

2-A-29 LARC: Language annotated Abstraction and Reasoning Corpus
Sam Acquaviva: Massachusetts Institute of Technology; Yewen Pu: Autodesk Inc; Maxwell Nye: Massachusetts Institute of Technology; Catherine Wong: Massachusetts Institute of Technology; Michael Henry Tessler: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

2-A-30 Modeling rules and similarity in colexification
Sammy Floyd: Princeton University; Kavindya Dalawella: Princeton University; Adele Goldberg: Princeton University; Casey Lew-Williams: Princeton University; Tom Griffiths: Princeton University

2-A-31 Inferring knowledge from behavior in search-and-rescue tasks
Scott Cheng-Hsin Yang: Rutgers University; Sean Anderson: Rutgers University; Pei Wang: Rutgers University; Chirag Rank: Rutgers University; Tomas Folke: Rutgers University; Patrick Shafto: Rutgers University

2-A-32 Recovering quantitative models of human information processing with differentiable architecture search
Sebastian Musslick: Princeton University

2-A-33 Are convolutional neural networks or transformers more like human vision?
Shikhar Tuli: Princeton University; Ishita Dasgupta: DeepMind; Erin Grant: U.C. Berkeley; Tom Griffiths: Princeton University

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2-A-34 Modeling communication to coordinate perspectives in cooperation
Stephanie Stacy: University of California - Los Angeles; Chenfei Li: University of California - Los Angeles; Minglu Zhao: University of California - Los Angeles; Yiling Yun: University of California - Los Angeles; Qingyi Zhao: University of California - Los Angeles; Max Kleiman-Weiner: Massachusetts Institute of Technology; Tao Gao: University of California - Los Angeles

2-A-35 Scaffolded self-explanation with visual representations promotes efficient learning in early algebra
Tomohiro Nagashima: Carnegie Mellon University; Anna N. Bartel: University of Wisconsin, Madison; Stephanie Tseng: Carnegie Mellon University; Nicholas Vest: University of Wisconsin- Madison; Elena Marie Silla: University of Wisconsin-Madison; Martha W Alibali: University of Wisconsin-Madison; Vincent Aleven: Carnegie Mellon University

2-A-36 The role of clustering in the efficient solution of small Traveling Salesperson Problems
Vijay Marupudi: Georgia Institute of Technology; Rina Harsch: University of Minnesota; V. N. Vimal Rao: University of Minnesota-Twin Cities; Jeffrey K. Bye: University of Minnesota; Jimin Park: University of Minnesota; Sashank Varma: Georgia Tech

2-A-37 Making heads or tails of it: A competition–compensation account of morphological deficits in language impairment
Zara Harmon: University of Maryland; Libby Barak: Rutgers University; Patrick Shafto: Rutgers University - Newark; Jan Edwards: University of Maryland; Naomi H Feldman: University of Maryland

2-A-38 An emotional cognitive architecture in action
Alexei V Samsonovich: National Research Nuclear University "MEPhI"

B - Animal cognition and communication

2-B-39 Primates evolved spectrally complex calls in compensation for reduction in olfactory cognition
David M. Schruth Ph.D.: University of Washington

2-B-40 Phylogenitic map of vocal learning in parrots
Anastasia Krasheninnikova: Max-Planck-Institute for Ornithology; Merel Snijders: Wageningen University; Julie Carpenter: University of Vienna; Esha Haldar: Max Planck Institute for Ornithology; Auguste M.P. von Bayern: Max-Planck-Institute of Ornithology

2-B-41 Chimpanzees seek help, but not strategically
Hanna Schleihauf: University of California, Berkeley; Esther Herrmann: University of Portsmouth; Julia Fischer: German Primate Center; Jan Engelmann: University of California, Berkeley

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2-B-42 **Ritualized commitment displays in humans and non-human primates**
Martin Lang: Masaryk University; Radek Kundt: Masaryk University

2-B-43 **Testing the 'inherent superiority hypothesis' in behavioural flexibility of grey squirrels**
Pizza Ka Yee Chow: University of Exeter

2-B-44 **The octopus: Implications for cognitive science**
Sidney Carls-Diamante: University of Konstanz

2-B-45 **Displacement and evolution: A neurocognitive and comparative perspective**
Edward Ruoyang Shi: University of Barcelona; Qing Zhang: Sun Yat-Sen University

2-B-46 **How do chimpanzees explore their environment prior to a risky decision?**
Lou Marie Haux: Adaptive Rationality, Max Planck Institute for Human Development; Jan Engelmann: University of California, Berkeley; Esther Herrmann: University of Portsmouth; Ralph Hertwig: Max Planck Institute for Human Development

2-B-47 **Speechless Reader Model: A neurocognitive model for human reading reveals cognitive underpinnings of baboon lexical decision behavior**
Benjamin Gagl: University of Vienna; Ivonne Weyers: University of Vienna; Jutta L. Mueller: University of Vienna

2-B-48 **More than nothing: Behavioural and neuronal correlates of numerosity zero in the carrion crow**
Maximilian E Kirschhock: Institute of Neurobiology, University of Tübingen; Helen M Ditz: Institute of Neurobiology, University of Tübingen; Andreas Nieder: Institute of Neurobiology, University of Tübingen

2-B-50 **Using videos and animations to study zebra finch social behaviors**
Nikhil Phaniraj: Indian Institute of Science Education and Research Pune; Sanjana Joshi: Indian Institute of Science Education and Research Pune; Raghav Rajan: Indian Institute of Science Education and Research Pune

2-B-52 **Sound production of Asian elephant high-frequency vocalisations**
Veronika Christine Beeck: University of Vienna; Angela Stoeger: University of Vienna

C - Cognitive science

Searchable CogSci 2021 Program

2-C-53 Student collaboration during code tracing activities
Ronessa Dass: Carleton University; Kasia Muldner: Carleton University

2-C-54 New exposure, no constraints: Semantic restrictions on novel nouns do not constrain adults' subsequent referent selections
Alexander S LaTourrette: University of Pennsylvania; Charles Yang: U Penn; John Trueswell: University of Pennsylvania

2-C-55 Distinctive features of emotion concepts
Alexandra E. Kelly: Drexel University; Evangelia G. Chrysikou: Drexel University

2-C-56 The subjective value of creative outputs: appropriate or original?
Alizée Lopez-Persem: Institut du Cerveau (ICM), Sorbonne Université; Sarah Moreno-Rodriguez: Institut du Cerveau (ICM), Sorbonne University; Stella Guiet: Institut du Cerveau (ICM), Sorbonne University; Emmanuelle Volle: Sorbonne Université

2-C-57 Selection, engagement, & enhancement: A framework for modeling visual attention
Andrew Lovett: US Naval Research Laboratory; Will Bridewell: US Naval Research Laboratory; Paul Bello: US Naval Research Laboratory

2-C-58 Distinct rhythms of joint and individual action: Evidence from an auditory sequence production paradigm
Anna Zamm: Central European University; Stefan Debener: University of Oldenburg; Natalie Sebanz: Central European University

2-C-59 In the blink of an eye? Evidence for a reduced attentional blink for eyes
Laura Schmitz: Leibniz Universität Hannover; Basil Wahn: Leibniz Universität Hannover; Melanie Krüger: Leibniz Universität Hannover; Anne Böckler-Raettig: Leibniz Universität Hannover

2-C-60 Modelling recognition in human puzzle solving
Ben Prystawski: University of Toronto; Rebekah Gelpi: University of Toronto; Chris Lucas: University of Edinburgh; Daphna Buchsbaum: Brown University

2-C-61 Limits to early mental state reasoning: Fourteen- to 15-month-old infants appreciate whether others can see objects, but not others' experiences of objects
Brandon Matthew Woo: Harvard University; Elizabeth Spelke: Harvard University

2-C-62 Interpretations of meaningful and ambiguous hand gestures from individuals with and without Autism Spectrum Disorder (ASD)
Brianna E Cairney: Louisiana State University; Stan West: Louisiana State University ; Eileen Haebig: Louisiana State University; Heather D Lucas: Louisiana State University

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2-C-63 Specialization and selective social attention establishes the balance between individual and social learning
Charley M Wu: University of Tübingen; Mark K Ho: Princeton University; Benjamin Kahl: Max Planck Institute for Human Development; Christina Leuker: Max Planck Institute for Human Development; Bjoern Meder: Health and Medical University Potsdam; Ralf Kurvers: MPI for Human Development

2-C-64 Digitally training graph viewers against misleading bar charts
Claudia Ramly: University of Wisconsin Madison; Ayon Sen: University of Wisconsin Madison; Ved Kale: University of Wisconsin Madison; Martina A. Rau: University of Wisconsin Madison; Jerry Zhu: University of Wisconsin Madison

2-C-65 Individual differences in causal learning
Laila Johnston: University of Central Florida; Noah Hillman: St. Olaf College; David Danks: Carnegie Mellon University

2-C-66 Fifty shades of social cognition. How to capture the varieties of socio-cognitive abilities?
Anna Strasser: Ludwig-Maximilians-Universität München

2-C-67 Pointing north online: Using photographs of known environments to evaluate north pointing accuracy
Tanvi Deshpande: Texas A&M University; Sungjoon Park: Texas A&M University; Heather Burte: Texas A&M University

2-C-68 Learning rate and success as a function of code-switching strategies in the input
Margreet Vogelzang: Univeristy of Cambridge; Ianthi M. Tsimpli: University of Cambridge; John Williams: University of Cambridge

2-C-69 Gesture dynamics and therapeutic success in patient-therapist dyads
Codrin Mironiuc: Tilburg University; Travis J. Wiltshire: Tilburg University; Aaron Likens: University of Nebraska at Omaha; Stine Steen Høgenhaug: Department of Anxiety and Personality Disorders; Marie Skaalum Bloch: Psychiatry Clinic North

2-C-70 Creative foraging: Examining relations between foraging styles, semantic memory structure, and creative thinking
Yoed Kenett: Technion - Israel Institute of Technology; Brendan Baker: Pennsylvania State University; Thomas Hills: University of Warwick; Yuval Hart: The Hebrew University of Jerusalem; Roger Beaty: Pennsylvania State University

2-C-71 The role of attention in learning through overheard speech
Emily M Neer: University of California, Los Angeles; Catherine Sandhofer: University of California, Los Angeles

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2-C-72 **Causal reasoning under time pressure: testing theories of systematic non-normative reasoning patterns**
Ivar R Kolvoort: University of Amsterdam; Leendert van Maanen: Utrecht University

2-C-73 **Inherence bias in explanation increases with age and cognitive impairment**
Jeffrey Zemla: Syracuse University; Blake H Chambers: University of Wisconsin-Madison; Joseph Larry Austerweil: University of Wisconsin - Madison; Andrei Cimpian: New York University

2-C-74 **A cognitive bias for cross-category word order harmony**
Fang Wang: University of Edinburgh; Simon Kirby: The University of Edinburgh; Jennifer Culbertson: University of Edinburgh

2-C-75 **Can action bias the perception of ambiguous auditory stimuli?**
Johannes Lohmann: University of Tübingen; Martin V. Butz: University of Tuebingen

2-C-76 **Explore, exploit, create: Inventing goals in play**
Sophia Diggs-Galligan: Massachusetts Institute of Technology; Junyi Chu: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology; Laura Schulz: Massachusetts Institute of Technology

2-C-77 **Pragmatic reasoning ability predicts syntactic framing effects on social judgments**
Sarah H. Wu: Reed College; Nan L Elpers: Reed College; Evan M Doherty: Colorado College; Stephen Flusberg: Purchase College, SUNY; Kevin J. Holmes: Reed College

2-C-78 **The effect of investment position on belief formation and trading behavior**
Kevin Trutmann: University of Basel; Steve Heinke: U Basel; Jörg Rieskamp: University of Basel

2-C-79 **A systematic investigation into team coordination breakdowns**
Kyana van Eijndhoven: Tilburg University; Travis J. Wiltshire: Tilburg University; Josette M.P. Gevers: Eindhoven University of Technology; Elwira A. Halgas: Eindhoven University of Technology

2-C-80 **Local sampling with momentum accounts for human random sequence generation**
Lucas Castillo: University of Warwick; Pablo Leon Villagra: University of Warwick; Nicholas Chater: University of Warwick; Adam Sanborn: University of Warwick

2-C-81 **Belief change triggers behavioral change**
Madalina Vlasceanu: Princeton University; Jay Van Bavel: New York University; Alin Coman: Princeton University

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2-C-82 Do left-right and back-front mental timelines activate simultaneously?
María Noel Macedo: Universidad de la República; Mauricio Castillo: Universidad de la República; Jordi Villoro Armengol: Escuela de Negocios ESIC - Campus Barcelona; Roberto Aguirre: Universidad de la República

2-C-83 Categories affect color perception of only some simultaneously present objects
Marina Dubova: Indiana University; Robert Goldstone: Indiana University

2-C-84 The 'know-what' and the 'know-how': importance of declarative and procedural memory systems in the L2 learning of morphology, syntax and semantics
Marta Gasiorowska: University of Birmingham; Dagmar Divjak: University of Birmingham; Petar Milin: University of Birmingham

2-C-85 Modelling the production effect in recognition memory
Megan O. Kelly: University of Waterloo; Tyler M Ensor: California State University; Colin M. MacLeod: University of Waterloo; Evan Risko: University of Waterloo

2-C-86 Cognitive effort and preference: A curious case of rotated words
Michael J Shehan: University of Waterloo; Joyce S Park: University of Waterloo; Timothy L Dunn: Naval Health Research Center; Evan Risko: University of Waterloo

2-C-87 Semantic and phonological false memory: A review of theory and data
Minyu Chang: Cornell University; Charles Brainerd: Cornell University

2-C-88 More is not necessarily better – how different aspects of sensorimotor experience affect recognition memory for words
Agata Dymarska: Lancaster University; Louise Connell: University of Lancaster; Briony Banks: Lancaster University

2-C-89 Characterizing variability in shared meaning through millions of sketches
Molly Lewis: Carnegie Mellon University; Anjali Balamurugan: Carnegie Mellon University; Bin Zheng: Carnegie Mellon University; Gary Lupyan: University of Wisconsin - Madison

2-C-90 Exploring online goal inference in real world environments
Michael Gordon Collins: Air Force Research Laboratory; Alexander Hough: Air Force Research Laboratory; Michael Lee: University of California, Irvine; Jayde King: Air Force Research Laboratory

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2-C-91 **Impact of socio-economic status on cognitive processing**
Rakhi Gupta: O.P. Jindal Global University; Mohita Junnarkar: O. P. Jindal Global University ; Divya Bhatia: O.P. Jindal Global University

2-C-92 **Computational analysis of social cues in the response to joint attention, the more the better**
Diana Nohelí Sinsún-Medina: UNAM; Angel Eugenio Tovar: UNAM

2-C-93 **Overcoming error: Association between attentional reorientation and vocabulary size**
Katherine D Snelling: Queen's University; Stanka A. Fitneva: Queen's University

2-C-94 **Visual processing of biological motion in the periphery under attentional load**
Murat Batu Tunca: Bilkent University; Hilal Nizamoglu: Bilkent University; Ada Dilek Rezaki: Bilkent University; Ece Tuğlacı: Bilkent University; Sebnem Ture: Bilkent University; Faruk Tayyip Yalçın: Bilkent University; Burcu A. Urgen: Bilkent University

2-C-95 **Categorization of robot animacy using implicit visual cues**
Vanessa Mondry: Tilburg University; Neil Cohn: Tilburg University

2-C-96 **Behind the bar: Coordinated collision avoidance in a goal-directed joint action task**
Olivia Soesanto: Macquarie University; Michael J Richardson: Macquarie University; Rachel W. Kallen: Macquarie University

2-C-97 **How are spatial distance, temporal distance and temporal valuation related?**
Julio Santiago: University of Granada; Omar Escámez: University of Granada; Carmen Callizo: University of Granada; Tilbe Göksun: Koç University; Alexander Kranjec: Duquesne University

2-C-98 **Sampling associations with (un)related suggestions**
Pablo Leon Villagra: University of Warwick; Nicholas Chater: University of Warwick; Adam Sanborn: University of Warwick

2-C-100 **Stereotypes as bayesian judgements of social groups**
Prachi Solanki: Michigan State University; Joseph Cesario: Michigan State University

2-C-101 **Providing explanations shifts preschoolers' metaphor preferences**
Rebecca Zhu: University of California, Berkeley; Mariel K. Goddu: University of California, Berkeley; Alison Gopnik: University of California, Berkeley

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2-C-102 Pragmatic impacts on children's understanding of exact equality
Rose M. Schneider: University of California, San Diego; Roman Feiman: Brown University; Madeleine A Mendes: Cardiff University; David Barner: University of California, San Diego

2-C-103 Impact of performing a secondary task on recall
RuoChong Zhang: University of Nottingham; Christopher R Madan: University of Nottingham; Edward Wilding: University of Birmingham

2-C-104 The computer judge: Expectations about algorithmic decision-making
Sarah English: University of Waterloo; Stephanie Denison: University of Waterloo ; Ori Friedman: University of Waterloo

2-C-105 Making progress on the effort paradox: Progress information moderates cognitive demand avoidance
Sean Devine: McGill University; A. Ross Otto: McGill University

2-C-106 Modeling procrastination as rational metareasoning about task effort
Shobhit Jagga: Indian Institute of Technology; Narayanan Srinivasan: Indian Institute of Technology; Nisheeth Srivastava: Indian Institute of Technology

2-C-107 A computational model of counting along a mental line
Stephanie Chouteau: University Grenoble Alpes; Karine Mazens: University Grenoble Alpes; Catherine Thevenot: University of Lausanne; Jasinta Dewi: University of Lausanne; Benoit Lemaire: University Grenoble Alpes

2-C-108 What's in a role? The effects of personality and political differences on gender stereotype processing
Stephanie J Hammond-Thrasher: University of Alberta ; Juhani Järvikivi: University of Alberta

2-C-109 Visuo-locomotive update in the wild: The role of (un)familiarity in choice of navigation strategy, and its application in computational spatial design
Vasiliki Kondyli: Örebro University School of Science and Technology AASS; Mehul Bhatt: School of Science and Technology

2-C-110 Investigating the impact of metacognition on working memory and procedural learning mechanisms
Xiaochen Wu: University of Washington ; Theodros Haile: University of Washington; Chantel Prat: University of Washington

2-C-111 The differential effect of explicit and implicit instructions on response execution: a hypnosis study
Yeganeh Farahzadi: ELTE, Institute of Psychology,; Zoltan Kekecs: ELTE, Institute of Psychology

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2-C-112 Probing the mental representation of relation-defined categories
Yuhui Du: Ohio State University; John E. Hummel: University of Illinois; Alexander Alexandrov Petrov: Ohio State University

2-C-113 Complexity of processing to activate magnitude representation for common fractions and precision of their magnitude representations in fraction magnitude comparison
Yuki Tanida: Osaka Prefecture University; Masahiko Okamoto: Osaka Prefecture University

D - Education, development and perspectives in cognitive science

2-D-114 Mechanistic learning goals enhance elementary student understanding and enjoyment of heart lessons.
Nicole Betz: Yale University; Frank Keil: Yale University

2-D-115 The effects of messages about intellectual ability on children's activity preferences
Amalia Ionescu: University of California, Los Angeles; Christina M Tworek: University of Illinois Urbana-Champaign; Catherine Sandhofer: University of California, Los Angeles; Andrei Cimpian: New York University

2-D-116 Students prefer to learn from figures that include spatial supports for comparison
Bryan Matlen: WestEd; Dedre Gentner: Northwestern University; Nina Simms: Northwestern University; Yinyuan Zheng: Northwestern University ; Benjamin Jee: Worcester State University

2-D-117 Testing an interference-based model of working memory in children with developmental language disorder and their typically developing peers
Caroline Larson: University of Wisconsin-Madison; Kimberly Crespo: University of Wisconsin-Madison; Susan Ellis Weismer: University of Wisconsin-Madison

2-D-118 Children's use of reasoning by exclusion to track identities of occluded objects
Chen Cheng: Boston University; Melissa M. Kibbe: Boston University

2-D-119 I see where this is going: Modeling the development of infants' goal-predictive gaze
Christian Gumbsch: University of Tübingen; Maurits Adam: University of Potsdam; Birgit Elsner: University of Potsdam; Martin V. Butz: University of Tübingen

2-D-120 Revisiting the role of uncertainty-driven exploration in a (perceived) non-stationary world
Dalin Guo: University of California, San Diego; Angela J Yu: University of California, San Diego

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2-D-121 We have nothing to fear but everything: A surprising effect of training set diversity on the generalization of learned fear
David A. Bosch: New York University; Joseph Dunsmoor: University of Texas at Austin; Gregory Murphy: New York University

2-D-122 Humans start out altercentric: the ontogenetic development of other-centered cognition
Dora Kampis: University of Copenhagen; Charlotte Grosse Wiesmann: Max Planck Institute for Human Cognitive and Brain Sciences; Victoria Southgate: University of Copenhagen

2-D-123 Can algorithms learn from babies? Exploring how infant learning can inform and inspire unsupervised learning algorithms
Jelena Sucevic: University of Oxford; Jovana Massachusetts Institute of Technologyrovic: DeepMind

2-D-124 Category learning is shaped by the multifaceted development of selective attention
Layla Unger: The Ohio State University; Vladimir Sloutsky: The Ohio State University

2-D-125 Acquiring the meaning of conditionals
Myrto Grigoroglou: University of Toronto; Patricia Ganea: University of Toronto

2-D-126 Promoting thinking in terms of causal structures: Impact on performance in solving complex problems
Franziska Kessler: Technische Universität Dresden ; Antje Proske: TU Dresden; Micah Goldwater: University of Sydney; Leon Urbas: Technische Universität Dresden, Chair of Process Control Systems; Samuel Greiff: University of Luxembourg; Susanne Narciss: Technical University of Dresden

2-D-127 Musical syntactic structure improves memory for melody: evidence from the processing of ambiguous melodies
Gabriele Cecchetti: École Polytechnique Fédérale de Lausanne; Steffen A Herff: École polytechnique Fédérale de Lausanne; Martin Alois Rohrmeier: École Polytechnique Fédérale de Lausanne

2-D-128 A large-scale comparison of cross-situational word learning models
George Kachergis: Stanford University; Michael C. Frank: Stanford University

2-D-129 The relationship between intelligence mindset and test anxiety as mediated by effort regulation
Avital Pelakh: University of Pittsburgh; Melanie L Good: University of Illinois at Urbana-Champaign; Eric Kuo: University of Pittsburgh; Timothy Nokes-Malach: University of Pittsburgh; Michael J Tumminia: University of Pittsburgh ; Nabila Jamal-Orozco: University of Pittsburgh; Michael S. Diamond: University of Pittsburgh; Amy Adelman: University of Pittsburgh; Brian Galla: University of Pittsburgh

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2-D-130 Effects on word learning from spacing and category variability
Gwendolyn F Price: University of California, Los Angeles; Catherine Sandhofer: University of California, Los Angeles

2-D-131 How do the semantic properties of visual explanations guide causal inference?
Holly Huey: University of California, San Diego; Caren M. Walker: University of California, San Diego; Judith E. Fan: University of California, San Diego

2-D-132 Utilizing dynamic and embodied visualization to facilitate understanding of normal probability distributions
Icy(Yunyi) Zhang: University of California, Los Angeles; Ji Son: Cal State University, Los Angeles; Idan Blank: University of California, Los Angeles; James Stigler: University of California, Los Angeles

2-D-133 Visuospatial skills and the workforce: A brief review
Israel Flores: Vanderbilt University; Carson Fallon: Vanderbilt University; Maithilee Kunda: Vanderbilt University

2-D-134 The decorated learning environment: Simply noise or an opportunity for incidental learning?
Karrie E. Godwin: University of Maryland Baltimore County; Freya Kaur: University of Maryland Baltimore County

2-D-135 Experience with equations in sequence promotes procedural fluency
Lauren E Anthony: University of Wisconsin-Madison; C. Shawn Green: University of Wisconsin-Madison; Martha W Alibali: University of Wisconsin-Madison

2-D-136 The role of verbal and visuospatial working memory in supporting mathematics learning with and without hand gesture
Mary Aldugom: University of Iowa; Kimberly Fenn: Michigan State University; Alison Day: Michigan State University ; Susan Wagner Cook: University of Iowa

2-D-137 Certainly strange: A probabilistic perspective on ignorance
Erwin J. de Wolff: Donders Centre for Cognition; Iris van Rooij: Radboud University; Johan Kwisthout: Donders Institute

2-D-138 Language proficiency impacts the benefits of co-speech gesture for narrative understanding through a visual attention mechanism
Natalia Zielinski: Loyola University Chicago; Elizabeth M Wakefield: Loyola University Chicago

2-D-139 Planning and action organization in ill-defined tasks: The case of everyday activities
Petra Wenzl: University of Bremen; Holger Schultheis: University of Bremen

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2-D-140 Vocabulary growth in infancy and toddlerhood: The impact of COVID-19
Priscilla Fung: University of Toronto ; Momina Raja: University of Toronto; Elizabeth Johnson: University of Toronto

2-D-141 A metric of children's inference-making difficulty during language comprehension
Rina Miyata Harsch: University of Minnesota; Panayiota Kendeou: University of Minnesota

2-D-142 Category learning in preschool and primary school children: The use of rule-based and similarity-based strategies
Roman Tikhonov: HSE University; Arsenii Moskvichev: University of California, Irvine; Alexey Kotov: Higher School of Economics

2-D-143 Interpreting data tables: can variable symmetry scaffold performance?
Rui Meng: University of Wisconsin Madison; Martha W Alibali: University of Wisconsin Madison

2-D-144 Improvised numerals rely on 1-to-1 correspondence
Sebastian Holt: University of California, San Diego; David Barner: University of California, San Diego; Judith E. Fan: University of California, San Diego

2-D-146 How does mental sorting scale?
Susanne Haridi: Max Planck School of Cognition; Charley M Wu: University of Tübingen; Ishita Dasgupta: Princeton University; Eric Schulz: Max Planck Institute for Biological Cybernetics

2-D-147 Connecting perceptual and procedural abstractions in physical construction
William P McCarthy: University of California, San Diego; Marcelo G Mattar: University of California, San Diego; David Kirsh: University of California, San Diego; Judith E. Fan: University of California, San Diego

E - Linguistics

2-E-148 The emergence of indexicality in an artificial language
Aini Li: University of Pennsylvania; Gareth Roberts: University of Pennsylvania

2-E-149 A cognitive bias for Zipfian distributions? Uniform distributions become more skewed via cultural transmission
Amir Shufaniya: The Hebrew University of Jerusalem; Inbal Arnon: Hebrew University

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2-E-150 **Directionality effects and exceptions in learning phonological alternations**
Anqi Wang: Pacific Lutheran University

2-E-151 **It's not so simple: morphosyntactically simpler languages are not always easier to learn**
Arturs Semenuks: University of California, San Diego

2-E-152 **More than the sum of its parts: Acquiring semantically complex quantifiers**
Cindy Torma: Massachusetts Institute of Technology; Gabor Brody: Brown University; Athulya Aravind: Massachusetts Institute of Technology

2-E-153 **Effects of lifetime knowledge on language processing in German and English**
Daniela Palleschi: Humboldt-Universität zu Berlin; Pia Knoeferle: Humboldt University of Berlin; Camilo Rodriguez Ronderos: Humboldt Universität zu Berlin

2-E-154 **Revising the scope of linguistic relativity: Language influences perception in non-linguistic tasks**
Diane Baier: Austrian Academy of Sciences; Soonja Choi: San Diego State University; Florian Goller: Austrian Marketing University of Applied Sciences; Yunju Nam: Konkuk University; Ulrich Ansorge: University of Vienna

2-E-155 **Priming implicatures in young children**
Alice Rees: University of Edinburgh; Eleanor D E Carter Carter: Cardiff University; Lewis Bott: Cardiff University

2-E-156 **Do scalar implicatures prime? The case of exclusive 'or'**
Edward Matthew Husband: University of Oxford; Nikole Patson: Ohio State University at Marion

2-E-157 **"The parrot next to the hamster (and) next to the bunny" Sheds light on recursion in child romanian**
Adina Camelia Bleotu: ISDS

2-E-158 **Variation in linguistic complexity and its cognitive underpinning**
Anastasia Smirnova: San Francisco State University

2-E-159 **Two languages, one mind: the effects of language learning on motion event processing in early Cantonese-English bilinguals**
YI WANG: University College London; Li Wei: University College London

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2-E-160 **Augmenting linguistic intelligence through chess training - an empirical study**
Ebenezer Joseph: Emmanuel Chess Centre; Jenith Jebasingh: CSI Ewart College; Swaminathan V D: Madras University; Sweta Vaddadi: Emmanuel Chess Centre

2-E-161 **Statistical properties of the speed-accuracy trade-off (SAT) paradigm in sentence processing**
Elizabeth Pankratz: Universität Potsdam; Himanshu Yadav: University of Potsdam; Garrett SMassachusetts Institute of Technologyh: Universität Potsdam; Shravan Vasishth: Potsdam

2-E-162 **Syntactic adaptation and word learning in French and English**
Elizabeth Swanson: Stanford University; Michael C. Frank: Stanford University; Judith Degen: Stanford University

2-E-163 **The asymmetry between descriptions of vertical and horizontal spatial relations**
Feyza Nur Dik: Koç University; Demet Özer: Koç University; Altuğ Eskioğlu: Koç University; Alexander Kranjec: Duquesne University; Tilbe Göksun: Koç University

2-E-164 **8-10 months old infants extract non-adjacent dependencies from segmental information**
Ivonne Weyers: University of Vienna; Jutta L. Mueller: University of Vienna; Claudia Männel: Charité–Universitätsmedizin Berlin

2-E-165 **Zipf's law of abbreviation and common ground: Past communicative success hampers the re-optimization of language**
Jacob C Kuek: University of Melbourne; Vanessa Ferdinand: University of Melbourne

2-E-166 **Verb learning in young children: Are types of comparisons important?**
Jane B. Childers: Trinity University; Rayna Lynn Webb: Trinity University

2-E-167 **Emotion expression captured by utterances in acting and underpinning internal changes in actors**
Jingyan Sun: The University of Tokyo; Takeshi Okada: The University of Tokyo

2-E-168 **Of pieces and patterns: Modeling poetic devices**
Jordan A Ackerman: University of California, Merced

2-E-169 **Simulating the factors that correct the erroneous process of phonological generation in Japanese**
Jumpei Nishikawa: Shizuoka University; Junya Morita: Shizuoka University

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2-E-170 **Modeling a direct role of vocabulary size in driving cross-accent word identification**
Karen E. Mulak: University of Maryland; Damien J. Smith: MedStar Washington Hospital Center

2-E-171 **Vector autoregression, cross-correlation, and cross-recurrence quantification analysis: A case study in social cohesion and collective action**
Megan Chiovaro: University of Connecticut; Leah C. Windsor: University of Memphis; Alexandra Paxton: University of Connecticut

2-E-172 **A preregistered study exploring language-specific distributional learning advantages in English-Mandarin bilingual adults**
Hannah L. Goh: Nanyang Technological University; Suzy J. Styles: Nanyang Technological University

2-E-173 **Subitizing abilities of bilingual subset-knowers**
Nina Schoener: University of California, San Diego; Elisabeth Marchand: University of California San Diego; Kelly Kendro: University of California, San Diego; David Barner: University of California, San Diego

2-E-174 **Statistical power in response signal paradigm experiments**
Pavel Logacev: Bogazici University; M. İlteriş Bozkurt: Middle East Technical University

2-E-175 **What transformers might know about the physical world: t5 and the origins of knowledge**
Haohan Shi: Emory University; Phillip Wolff: Emory University

2-E-176 **Infinite use of finite means? Evaluating the generalization of center embedding learned from an artificial grammar**
Richard Thomas McCoy: Johns Hopkins University; Jennifer Culbertson: University of Edinburgh; Paul Smolensky: Microsoft; Geraldine Legendre: Johns Hopkins University

2-E-177 **Respect the code: Speakers expect novel conventions to generalize within but not across social group boundaries**
Robert Hawkins: Princeton University; Irina Liu: Princeton University; Adele Goldberg: Princeton University; Tom Griffiths: Princeton University

2-E-178 **Exploring the variable effects of frequency and semantic diversity as predictors for a word's ease of acquisition in different word classes**
Serene Siow: University of Oxford; Kim Plunkett: University of Oxford

2-E-179 **Unexpected guests: When disconfirmed predictions linger**
Stephanie Rich: Univeristy of California Santa Cruz; Jesse Harris: University of California Los Angeles

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2-E-180 Long-range sequential dependencies precede complex syntactic production in language acquisition
Tim Sainburg: University of California, San Diego; Anna Mai: UCSD; Timothy Gentner: University of California, San Diego

2-E-181 The role of eye movement pattern and global-local information processing abilities in isolated English word reading
Weiyan Liao: University of Hong Kong; Janet Hsiao: University of Hong Kong

2-E-182 Integrating emotional expressions with utterances in pragmatic inference
Yang Wu: Stanford University; Michael Henry Tessler: Massachusetts Institute of Technology; Mika Asaba: Stanford University; Peter Zhu: Johns Hopkins University; Hyowon Gweon: Stanford University; Michael C. Frank: Stanford University

2-E-183 Human learners integrate visual and linguistic information cross-situational verb learning
Yayun Zhang: University of Texas - Austin; Andrei Amatuni: The University of Texas at Austin; Ellis Cain: Indiana University; Xizi Wang: Indiana University - Bloomington; David Crandall: Indiana University; Chen Yu: University of Texas at Austin

2-E-184 Web-scraping the Expression of Loneliness during COVID-19
Yoonwon Jung: Seoul National University; Yoon Kyung Lee: Seoul National University; Sowon Hahn: Seoul National University

2-E-185 Embodied metaphor in communication about experiences of COVID-19 Pandemic
Yu Deng: Sichuan International Studies University; Jixue Yang: Sichuan International Studies University; Wan Wan: Huaqiao University

2-E-186 How do the concepts of native language influence second language learning? : Evidence from the reconstruction of word semantic domain
Akiko Zhao: Keio University

F - Neuroscience

2-F-187 Eye-tracking multi-modal inference
Ari Beller: Stanford University; Yingchen Xu: Stanford University; Tobias Gerstenberg: Stanford University

2-F-188 A nonlinear dynamical systems approach to emotional attractor states during media viewing
Jingjing Han: Fudan University; Mary Jean Amon: University of Central Florida

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2-F-189 Uncovering the metricity of representational spaces in the brain: Evidence from colors and letters
Leyla Caglar: Carnegie Mellon University; Catherine Hanson: Rutgers; Stephen Jose Hanson: Rutgers

2-F-190 Biologically constrained large-scale model of the wisconsin card sorting test
Ivana Kajić: DeepMind; Terrence C Stewart: National Research Council of Canada

2-F-191 Early analogical extensions: An ERP study on preschoolers' semantic approximations
Lucas Raynal: CY Cergy Paris University; Evelyne Clément: CY Cergy Paris University; Emmanuel Sander: University of Geneva; Pia Rämä: CNRS, Integrative Neuroscience and Cognition Center (UMR 8002); Louise Goyet: Paris 8 University

2-F-192 A neural network model of referent identification in the inter-modal preference looking task
Mihaela Duta: University of Oxford; Kim Plunkett: University of Oxford

2-F-193 EEG reveals familiarity by controlling confidence in memory retrieval
Kueida Liao: University of California, San Diego; Matthew Mollison: University of Colorado Boulder; Tim Curran: University of Colorado Boulder; Virginia de Sa: University of California, San Diego

2-F-194 Brain connectivity-based prediction of semantic network properties related to creativity
Marcela Ovando Tellez: Institut du cerveau(ICM); Yoed N. Kenett: Technion - Israel Institute of Technology; Mathias Benedek: University of Graz; Emmanuelle Volle: Institut du cerveau(ICM)

2-F-195 A neurocomputational model of prospective and retrospective timing
Joost de Jong: University of Groningen; Aaron R Voelker: University of Waterloo; Terrence C Stewart: University of Waterloo; Chris EliasMassachusetts Institute of Technologyh: University of Waterloo; Elkan Akyürek: University of Groningen; Hedderik van Rijn: University of Groningen

2-F-196 Exploring learning trajectories with dynamic infinite hidden Markov models
Sebastian Bruijns: Max Planck Institute for Biological Cybernetics; International Brain Laboratory: University College London; Peter Dayan: Max Planck Institute for Biological Cybernetics

2-F-197 Stone tools and trained brains: Comparing anatomical connectivity in expert toolmakers versus naïve subjects using Diffusion Tensor Imaging
Zara Anwarzai: Indiana University; Louis A van der Elst: Indiana University; Shelby S. J. Putt: Illinois State University; Lana M Ruck: Indiana University; P. Thomas Schoenemann: Indiana University

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G - Philosophy

2-G-198 The role of causal models in evaluating simple and complex legal explanations
Alice Liefgreen: University College London; David Lagnado: University College London

2-G-199 Navigating by narratives: Cognitive maps encode engagement with physical and fictional worlds
Binyan Li: Indiana University

2-G-200 Blame blocking and expertise effects revisited
Karolina Prochownik: Ruhr-University Bochum; Alex Wiegmann: Ruhr University Bochum; Joachim Horvath: Institute for Philosophy II

2-G-201 A causal proximity effect in moral judgment
Neele Engelmann: University of Göttingen; Michael R. Waldmann: University of Göttingen

2-G-202 When are humans reasoning with modus tollens?
Marcos Cramer: TU Dresden; Steffen Hölldobler: TU Dresden; Marco Ragni: South Denmark University

2-H-203 Readers text skimming behavior changes with variation in working memory capacity
Christopher Sanchez: Oregon State University; Lena Hildenbrand: University of Illinois at Chicago; Courtney Powell: Oregon State University

H - Psychological science

2-H-204 A bilingual inhibitory control advantage in mandarin-english speaking high school students in china: An internet-based study
Adam John Privitera: The University of Hong Kong; Mohammad Momenian: The Hong Kong Polytechnic University; Brendan Weekes: University of Cambridge

2-H-205 Broken telephone: Children's judgments of messages delivered by non-native speakers are influenced by processing fluency
Ashley Avarino: University of Waterloo; Rachel Thorburn: University of Toronto; Katherine White: University of Waterloo

2-H-206 Why do people criticize others for suffering irrationally?
Corey Cusimano: Princeton University; Geoffrey Goodwin: University of Pennsylvania

2-H-207 Extrapolation under caricatured representations
Daniel Silliman: Binghamton University; Kenneth Kurtz: Binghamton University

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2-H-208 "If only Santa had one more present": Exploring the development of near-miss counterfactual reasoning
Desmond Ong: National University of Singapore; Mika Asaba: Stanford University; Hui Yan Lim: National University of Singapore; Patricia Chen: National University of Singapore; Hyowon Gweon: Stanford University

2-H-209 The impact of readability on trust in information
Amanda Withall: University of St. Francis; Eyal Sagi: University of St. Francis

2-H-210 If it works we didn't need it: Intuitive judgments of 'overreaction'
Jonathan F. Kominsky: Rutgers University - Newark; Daniel J Reardon: Rutgers University - Newark; Elizabeth Bonawitz: Rutgers University - Newark

2-H-211 Modelling characters' mental depth in stories told by children aged 4-10
Bram Dijk van: Leiden University; Max van Duijn: Leiden University

2-H-212 Recollection & traumatic growth: Unique mediational pathways through traumatic stress components
Emine Şeyma Kurtulmuş: Kadir Has University; Serap Özlü: Boğaziçi University; Sude Aydemir: MEF University; Sezin Oner: Kadir Has University

2-H-213 'Hello! *What your name?' Children's evaluations of ungrammatical speakers after live interaction
Thomas St. Pierre: University of Toronto Mississauga; Katherine White: University of Waterloo; Elizabeth Johnson: University of Toronto

2-H-214 Suboptimal deployment of object-mediated space-based attention during a flanker task
Ema Shamasdin Bidiwala: Texas Tech University; Miranda Scolari: Texas Tech University

2-H-215 The influence of the self-perspective in infant theory of mind
Emanuela Yeung: University of Copenhagen; DiMassachusetts Institute of Technologyrios Askitis: University of Copenhagen; Velisar Manea: University of Copenhagen; Victoria Southgate: Copenhagen University

2-H-216 Effects of memory organization on credit assignment in human reinforcement learning
Euan Prentis: University of Pennsylvania; Sharon L. Thompson-Schill: University of Pennsylvania

2-H-217 Fatal errors in the food domain: Children's categorization performance and strategy depend on both food processing and neophobic dispositions.
Foinant Damien: Université Bourgogne Franche Comté; Lafraire Jérémie: Institut Paul Bocuse Research Center; Jean-Pierre Thibaut: Université Bourgogne Franche Comté

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2-H-218 Top-down effects on anthropomorphism of a robot
Hailey Scherer: Dartmouth College; Jonathan Phillips: Dartmouth College

2-H-219 Learning how to use the verb 'want': A corpus study
Hillary Harner: US Naval Research Laboratory; Sangeet Khemlani: Naval Research Laboratory

2-H-220 Can children use numerical reasoning to compare odds in games?
Julianna Lu: University of Waterloo; Tiffany Doan: University of Waterloo; Stephanie Denison: University of Waterloo

2-H-221 From music to animacy: Causal reasoning links animate agents with musical sounds
Minju Kim: University of California, San Diego; Adena Schachner: University of California, San Diego

2-H-222 Explaining the Gestalt principle of common fate as amortized inference
Yoni Friedman: Massachusetts Institute of Technology; Tuan Anh Le: Massachusetts Institute of Technology; Bernhard Egger: Massachusetts Institute of Technology; Max Siegel: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

2-H-223 Effect of morphine administration on human social motivation during stress
Claudia Massaccesi: University of Vienna; Matthäus Willeit: Medical University of Vienna; Boris B. Quednow: University of Zurich; Gheorghe L. Preda: Medical University of Vienna; Carina Bum: Medical University of Vienna; Urs M. Nater: University of Vienna

2-H-224 Is convenient secure? Exploring the impact of metacognitive beliefs in password selection
Mukund Choudhary: International institute of information technology Hyderabad; K V Aditya Srivatsa: International Institute of Information Technology, Hyderabad; Ishan Sanjeev Upadhyay: International Institute of Information Technology, Hyderabad; Priyanka Srivastava: International Institute of Information Technology, Hyd

2-H-225 Social media spillover: Attitude-inconsistent tweets reduce memory for subsequent information
Reese Butterfuss: Arizona State University; Tracy Arner: Arizona State University; Laura Kristen Allen: University of New Hampshire; Danielle McNamara: Arizona State University

2-H-226 Children consider the probability of random success when evaluating knowledge
Rosie Aboody: Yale University; Stephanie Denison: University of Waterloo ; Julian Jara-Ettinger: Yale University

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2-H-227 **It's complicated: Improving decisions on causally complex topics**
Samantha Kleinberg: Stevens Institute of Technology; Jessecae Marsh: Lehigh University

2-H-228 **What is the cooperative behavior of moving in shared spaces?**
Shota Matsubayashi: Nagoya University; Kazuhisa Miwa: Nagoya University; Hitoshi Terai: Kindai University; Asaya Shimojo: Nagoya University; Yuki Ninomiya: Nagoya University

2-H-229 **Cognitive supports for objective numeracy**
Shuyuan Yu: the Ohio State University; John Opfer: The Ohio State University

Poster Session 3

Thursday, July 29, 2021: 17:20 – 19:00

A - AI, Computer science and Computer models

3-A-1 **A grounded approach to modeling generic knowledge acquisition**
Deniz Beser: University of Southern California; Joe Cecil: USC Information Sciences Institute; Marjorie Freedman: University of Southern California Information Sciences Institute; Jacob A Lichtefeld: University of Southern California; Massachusetts Institute of Technologych Marcus: University of Pennsylvania; Sarah R B Payne: University of Pennsylvania; Charles Yang: University of Pennsylvania

3-A-2 **Language as a bootstrap for compositional visual reasoning**
Catherine Wong: Massachusetts Institute of Technology; Yoni Friedman: Massachusetts Institute of Technology; Jacob Andreas: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

3-A-3 **Contextual flexibility guides communication in a cooperative language Game**
Abhilasha Ashok Kumar: Washington University in St Louis; Ketika Garg: UC Merced; Robert Hawkins: Princeton University

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3-A-4 **Modeling artificial category learning from pixels: Revisiting Shepard, Hovland, and Jenkins (1961) with deep neural networks**
Alexa R. Tartaglini: New York University; Wai Keen Vong: New York University; Brenden Lake: New York University

3-A-5 **A virtual actor with socially emotional behavior**
Alexei V Samsonovich: National Research Nuclear University MEPhI; Vladimir Tsarkov: National Research Nuclear University MEPhI; Vladislav Yenikeyev: National Research Nuclear University MEPhI

3-A-6 **Fast and flexible: Human program induction in abstract reasoning tasks**
Aysja Johnson: New York University; Wai Keen Vong: New York University; Brenden Lake: New York University; Todd M Gureckis: New York University

3-A-7 **Narratives of consensus: A decade of reddit discourse on Marijuana legalization**
Babak Hemmatian: Brown University; Nathaniel Goodman: Brown Univeristy; Jonathan Lee: Brown Univeristy; Carsten Eickhoff: Brown Univeristy; Steven Sloman: Brown University

3-A-8 **Learning from agentic actions: Modelling causal inference from intention**
Dennis W.H. Teo: National University of Singapore; Desmond Ong: National University of Singapore

3-A-9 **Order effects in bayesian updates**
Catarina Moreira: Queensland University of Technology; José Acácio de Barros: San Francisco State University

3-A-10 **Discretisation and continuity: Simulating the emergence of symbols in communication games**
Robert Lieck: École Polytechnique Fédérale de Lausanne; Leona Wall: École Polytechnique Fédérale de Lausanne; Martin Alois Rohrmeier: École Polytechnique Fédérale de Lausanne

3-A-11 **Toward transformer-based NLP for extracting psychosocial indicators of moral disengagement**
Scott E Friedman: SIFT; Ian Magnusson: SIFT; Sonja Schmer-Galunder: SIFT; Ruta Wheelock: SIFT; Jeremy Gottlieb: SIFT; pooja patel: SIFT; Christopher Miller: SIFT

3-A-12 **A computational evaluation of gender asymmetry in semantic change**
Eric Schnell: University of Toronto; Yang Xu: University of Toronto

3-A-13 **Are explicit frequency counters necessary in computational models of early word segmentation?**
Francesco Cabiddu: Cardiff University; Lewis Bott: Cardiff University; Gary Jones: Nottingham Trent University; Chiara Gambi: Cardiff University

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3-A-14 Theory acquisition as constraint-based program synthesis
Haoliang Wang: University of California, San Diego; Ed Vul: University of California, San Diego; Nadia Polikarpova: University of California, San Diego; Judith E. Fan: University of California, San Diego

3-A-15 Cumulative frequency can explain cognate facilitation in language models
Irene Elisabeth Winther: University of Edinburgh; Yevgen Matusevych: University of Edinburgh ; Martin J. Pickering: University of Edinburgh

3-A-16 One and known: Incidental probability judgments from very few samples
Ishan Singhal: Indian Institute of Technology Kanpur; Narayanan Srinivasan: Indian Institute of Technology Kanpur; Nisheeth Srivastava: Indian Institute of Technology Kanpur

3-A-17 Discovering computational principles in models and brains
Christian Brodbeck: University of Connecticut; Sahil Luthra: University of Connecticut; Phoebe Gaston: University of Connecticut; James Magnuson: University of Connecticut

3-A-18 Eye movement consistency in global-local perceptual processing predicts schizotypy
Janet Hsiao: University of Hong Kong; Sherry Kit Wa Chan: University of Hong Kong; Antoni B. Chan: City University of Hong Kong; Yueyuan Zheng: University of Hong Kong; Kam Man Lau: University of Hong Kong; Hei Lam Michelle Tsang: University of Hong Kong

3-A-19 Categorization in the wild: Category and feature learning across languages
Lea Frermann: University of Melbourne; Mirella Lapata: University of Edinburgh

3-A-20 Predicting social reopening following COVID-19 lockdown using bounded rationality and threshold models
Jessica B Sithebe: Simon Fraser University

3-A-21 Analyzing contingent interactions in R with `chattr`
Marisa Casillas: University of Chicago; Camila Scaff: University of Zurich

3-A-22 Preparing unprepared students for future learning
Mark Abdelshiheed: North Carolina State University; Mehak Maniktala: North Carolina State University; Song Ju: North Carolina State Univeristy; Ayush Jain: North Carolina State University; Tiffany Barnes: North Carolina State University; Min Chi: North Carolina State University

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3-A-23 Learning evolved combinatorial symbols with a neuro-symbolic generative model
Matthias Hofer: Massachusetts Institute of Technology;; Tuan Anh Le: Massachusetts Institute of Technology;; Roger Levy: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology;

3-A-24 A self-supervised and predictive processing-based model of event segmentation and learning
Hamit Basgol: Bogazici University; Inci Ayhan: Bogazici University; Emre Ugur: Bogazici University

3-A-25 Diachronic entropy rate in language evolution: A case study of 2500 years of historical Chinese
Hao Sun: Pearson; Yanwei Jin: University at Buffalo

3-A-26 Visual analogy: deep learning versus compositional models
Nicholas Ichien: University of California, Los Angeles; Qing Liu: John Hopkins University; Shuhao Fu: UCLA; Keith Holyoak: University of California, Los Angeles; Alan Yuille: Johns Hopkins University; Hongjing Lu: University of California ,Los Angeles

3-A-27 Model-based foraging using latent-cause inference
Nora C Harhen: University of California, Irvine; Catherine Hartley: New York University; Aaron Bornstein: university of california, irvine

3-A-28 Recovering human category structure across development using sparse judgments
Pablo Leon Villagra: University of Warwick; Isaac Ehrlich: University of Toronto; Chris Lucas: University of Edinburgh; Daphna Buchsbaum: Brown University

3-A-29 Aging and social robots: How overspecification affects real-time language processing
Raheleh Saryazdi: University of Toronto; Joanne Nuque: University of Toronto Mississauga; Craig Chambers: University of Toronto

3-A-30 The sensorimotor dynamics of joint attention
Sara E Schroer: University of Texas at Austin; Chen Yu: University of Texas at Austin

3-A-31 Chunking as a rational solution to the speed-accuracy trade-off in a serial reaction time task
Shuchen Wu: Max Planck Institute for Biological Cybernetics; Noemi Elteto: Max Planck Institute for Biological Cybernetics; Ishita Dasgupta: Harvard University; Eric Schulz: Max Planck Institute for Biological Cybernetics

3-A-32 Causal judgment in the wild
tadeg quillien: University of California Santa Barbera; Michael Barlev: Arizona State University

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3-A-33 Learning new categories for natural objects
Wanling Zou: University of Pennsylvania; Sudeep Bhatia: University of Pennsylvania

3-A-34 Modeling "spatial purport of perceptual experience": egocentric space perception in a semi-realistic 3D virtual environment
Wiktor Rorot: University of Warsaw

3-A-35 Building a psychological ground truth dataset with empathy and theory-of-mind during the COVID-19 pandemic
Yoon Kyung Lee: Seoul National University; Yoonwon Jung: Seoul National University; Inju Lee: Seoul National University; Jae Eun Park: Seoul National University; Sowon Hahn: Seoul National University

3-A-36 Does Amy know Ben knows you know your cards? A computational model of higher-order epistemic reasoning
Zhang Cedegao: University of California, Berkeley; Huang Ham: University of Pennsylvania; Wesley H. Holliday: University of California, Berkeley

3-A-37 Language representations in L2 learners: Toward neural models
Zixin Tang: The Pennsylvania State University; Michael Putnam: The Pennsylvania State University; David T Reitter: Google

3-A-38 Modeling question asking using neural program generation
Ziyun Wang: Tencent; Brenden Lake: New York University

B - Animal cognition and communication

3-B-39 Expectancy violations about physical properties of animated objects in dogs
Christoph J. Völter: University of Veterinary Medicine Vienna; Ludwig Huber: University of Veterinary Medicine Vienna

3-B-40 Using playback to investigate multimodal signalling of attractiveness in ring doves (Streptopelia risoria)
Daniela Biegler: University of Vienna; Silvia Colombo: University of Vienna; Darja Čepon: University of Vienna; Adele Tuozzi: University of Vienna; Virginie Canoine: University of Vienna; Leonida Fusani: University of Vienna; Cliodhna Quigley: University of Vienna

3-B-41 Comparative aesthetics: A novel approach to investigate multimodal attractiveness in humans and animals
Cliodhna Quigley: University of Vienna; Christina Krumpholz: University of Veterinary Medicine, Vienna; Helmut Leder: University of Vienna; Leonida Fusani: University of Vienna

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3-B-42 Beware of strangers: Dogs' empathetic response to unfamiliar humans
Julia E Manor Manor: Ripon College; Micaela Rivera: Ripon College

3-B-44 Do chimpanzees represent the actions of a co-ordination partner?
Merryn D Constable: Northumbria University; Emma McEwen: University of St Andrews; Günther Knoblich: Central European University; Josep Call: University of St Andrews

3-B-45 Cognitive linguistics support for the evolution of language from animal cognition
Jenny Amphaeris: Bangor University; Graeme Shannon: Bangor University; Thora Tenbrink: Bangor University

3-B-46 Domestic dogs' gaze and behaviour in 2-alternative choice tasks
Julia Espinosa: University of Toronto; Liyuzhi Dong: University of Toronto; Daphna Buchsbaum: Brown University

3-B-47 Songbirds can learn flexible contextual control over syllable sequencing
Lena Veit: Uni Tübingen; Lucas Yanan Tian: Rockefeller University; Christian Hernandez: Washington University; Michael Brainard: University of California, San Francisco

3-B-48 Primates watching primates watching primates: Why do we anthropomorphise?
Margarita Artemis Milidakis: University of Vienna; Donata Baronesse von Bistram: University of Vienna; Michelle Spierings: University of Vienna; Palmyre H Boucherie: University of Vienna; Cliodhna Quigley: University of Vienna

3-B-49 Sensitivity to geometric shape regularity in humans and baboons: A putative signature of human singularity
Mathias Sablé-Meyer: NeuroSpin center, CEA DRF/I2BM, INSERM, Université Paris-Sud, Université Paris-Saclay; Joel Fagot: Aix Marseille University; Serge Caparos: CNRS & Aix-Marseille Université; Timo van Kerkoerle: Université Paris-Saclay; Marie Amalric: Carnegie Mellon University; Stanislas Dehaene: NeuroSpin Center, CEA DRF/I2BM, INSERM, Unicersité Paris-Sud, Université Paris-Saclay

3-B-50 Investigating indirect and direct reputation formation in dogs and wolves
Hoi-Lam Jim MSc: University of Veterinary Medicine Vienna; Marina Plohovich: University of Veterinary Medicine Vienna; Sarah Marshall-Pescini: University of Veterinary Medicine Vienna; Friederike Range: University of Veterinary Medicine Vienna

3-B-51 Androgen responsiveness to simulated territorial intrusions in Allobates femoralis males: evidence supporting the challenge hypothesis in a territorial frog
Camilo Rodriguez: University of Vienna; Leonida Fusani: University of Vienna; Gaëlle Raboisson: University of Vienna; Walter Hödl: University of Vienna; Eva Ringler: University of Bern; Virginie Canoine: University of Vienna

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3-B-52 Chimpanzees utilize video information when facing its referent later in another room
Shenwen Xu: Kyoto University Primate Research Institute; Masaki Tomonaga: Freelance; Ikuma Adachi: Primate Research Institute

3-B-53 Impairment effect of infantile coloration on face discrimination in chimpanzees
Yuri Kawaguchi: University of Veterinary Medicine Vienna; Koyo Nakamura: University of Vienna; Masaki Tomonaga: Freelance; Ikuma Adachi: Primate Research Institute

C - Cognitive science

3-C-54 When and why do reasoners generalize causal integration functions? Causal invariance as generalizable causal knowledge
Jeffrey K. Bye: University of Minnesota; Pei-Jung Chuang: University of California, Los Angeles; Patricia Cheng: University of California, Los Angele

3-C-55 Preschool-aged children can use communicators' influence on others to infer what they know
Aaron Chuey: Stanford University; Hyowon Gweon: Stanford University

3-C-56 Reflected boundary drift diffusion model: A double responding framework for Go/No-Go paradigm
Amir Hosein Hadian Rasanan: Shahid Beheshti University; Jamal Amani Rad: Shahid Beheshti University

3-C-57 Long-term effects of valence, concreteness, and arousal on lexical reproduction
Andreas Baumann: University of Vienna

3-C-58 The perception of reduced reliability in an external store reduces vulnerability to its manipulation
April Emily Pereira: University of Waterloo; Megan O. Kelly: University of Waterloo; Xinyi Lu: University of Waterloo; Evan Risko: University of Waterloo

3-C-59 Emotions in games: Toward a unified process-level account
Myriam Lizotte: McGill University; Ardavan S. Nobandegani: McGill University; Thomas Shultz: McGill University

3-C-60 On the gradual construction of complex abstract representations in spatial problem solving
Benjamin Angerer: University of Osnabrück

3-C-61 Who needs more help? Sixteen-month-old infants prefer to look at and reach for helpers who help with harder tasks
Brandon Matthew Woo: Harvard University; Shari Liu: Massachusetts Institute of Technology; Hyowon Gweon: Stanford University; Elizabeth Spelke: Harvard University

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3-C-62 The proceduralization of metacognitive skills
Brendan Conway-Smith: Carleton University; Robert West: Carleton University

3-C-63 Interaction between action and cognition in creativity: Perception and Action-based Imagination (PAI) Framework
Daichi Shimizu: Graduate School of Education; Takeshi Okada: The University of Tokyo

3-C-64 Is it for all? Spatial abilities matter in processing gestures during the comprehension of spatial language
Demet Özer: Koç University; Asli Ozyurek: Donders Institute ; Tilbe Göksun: Koç University

3-C-65 Pragmatic bias and the learnability of semantic distinctions
Dionysia Saratsli: University of Delaware; Anna Papafragou: Unversity of Pennsylvania

3-C-66 Pre-training leads to a structural novelty effect in spatial visual statistical learning
Dominik Garber: Central European University; Jozsef Fiser: Central European University

3-C-67 Children infer the behavioral contexts of unfamiliar foreign songs
Courtney B Hilton: Harvard University; Liam Crowley-de Thierry: Victoria University of Wellington; Rachel Yan: SMassachusetts Institute of Technologyh College; Alia Martin: Victoria University of Wellington; Samuel Mehr: Harvard University

3-C-68 The learnability of goal-directedness in jazz music
Daniel Harasim: École Polytechnique Fédérale de Lausanne; Timothy O'Donnell: McGill University; Martin Alois Rohrmeier: École Polytechnique Fédérale de Lausanne

3-C-69 Sustained attention in phonological form preparation: Evidence from highly associated word pairs
Alexandra K Frazer: Muhlenberg College

3-C-70 Pandemic panic: The effect of disaster-related stress on negotiation outcomes
Johnathan Mell: University of Central Florida; Gale Lucas: University of Southern California ; Jonathan Gratch: University of Southern California

3-C-71 Investigating scientific inquiry skills from process data
Tao Gong: Educational Testing Service; Yang Jiang: Educational Testing Service; Burcu Arslan: Educational Testing Service

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3-C-72 Does mental simulation of alternative research outcomes reduce bias in predicted results?
Edward Munnich: University of San Francisco; Megan Schneider: University of San Francisco; Bresh Merino: University of San Francisco; Dana-Lis Bittner: University of California, Santa Cruz; Milo Alexander Martinez: University of San Francisco; Marci Adolfo: University of San Francisco; Erica Divinagracia: University of San Francisco

3-C-73 The function of function: People use teleological information to predict prevalence
Emily Foster-Hanson: Princeton University; Tania Lombrozo: Princeton University

3-C-74 Awareness motor intention and inhibitory control: the role of reactive and proactive components
Viola Benedetti: University of Florence; Giorgio Gronchi: University of Florence; Gioele Gavazzi: University of Florence; Riccardo Bravi: University of Florence; Stefano Grasso: University of Florence; Fabio Giovannelli: University of Florence; Maria Pia Viggiano: University of Florence

3-C-75 Implicit and explicit cognitive processes associated with COVID-19 mask-usage decisions
Grace Murray: Kent State University; Jennifer Roche: Kent State University; Christopher Willer: Kent State University; Bradley Morris: Kent State University

3-C-76 Dynamic action facilitates learning of non-adjacent dependencies in visual sequences
Helen Shiyang Lu: University of Southern California; Toby Mintz: University of Southern California

3-C-77 Effects of combining refutation and self-explanation on student learning
Jacob Salem: University of California San Diego; Emma H Geller: University of California San Diego

3-C-78 Perceptual similarity and learning from sequential statistics.
Jason Zevin: University of Southern California; Wendy Qi: University of Southern California

3-C-79 Visual statistical learning in the reading of unspaced Chinese sentences
Jenn-Yeu Chen: National Taiwan Normal University; Tsanyu Wang: National Taiwan Normal University

3-C-80 How do blind people know that blue is cold? Distributional semantics encode color-adjective associations.
Jeroen van Paridon: University of Wisconsin-Madison; Qiawen Liu: University of Wisconsin-Madison; Gary Lupyan: University of Wisconsin - Madison

3-C-81 How effective is perceptual training? Evaluating two perceptual training methods on a difficult visual categorisation task
Jessica Marris: University of Melbourne; Andrew Perfors: University of Melbourne; David Mitchell: Sligo University Hospital ; Wayland Wang: Royal Melbourne Hospital;

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Mark W McCusker: Royal Melbourne Hospital; Timothy John Haynes Lovell: The Royal Melbourne Hospital ; Robert N Gibson: Royal Melbourne Hospital; Frank Gaillard: University of Melbourne; Piers Douglas Howe: University of Melbourne

3-C-82 Affordances and grounding within concreteness fading when learning proof in STEM's geometry
John D McGinty: University of Wisconsin; Massachusetts Institute of Technologychell Nathan: University of Wisconsin - Madison

3-C-83 Competing goals in the construction and perception of moral narratives
Judy Kim: Yale University; Molly Crockett: Yale University

3-C-84 Leveraging rapid scene perception in attentional learning
Juliana D. Adema: University of Toronto; Shuran Tang: University of Toronto; Nahal Alizadeh Saghati: University of Toronto; Michael L. Mack: University of Toronto

3-C-85 Social structure and lexical uniformiy: A case study of gender differences in the Kata Kolok community
Katie Mudd: Vrije Universiteit Brussel; Hannah Lutzenberger: Radboud University; Connie De Vos: Tilburg University; Bart deBoer: VUB

3-C-86 Fast or efficient? Strategy selection in the game Entropy Mastermind
Lara Bertram: University of Surrey; Florian Elsäßer: Frankfurt School of Finance & Management; Albero Feduzi: University of Cambridge; Zsofia Gyarmathy: Frankfurt School of Finance & Management; Weronika Kowalik: University of Surrey; Aaliyah Onojaife: University of Surrey; Mohab Elkaref: IBM Research; Eloisa Bentivegna: IBM Research; Jonathan D. Nelson: University of Surrey

3-C-87 Exemplar account for category variability effect: Single category based categorization
Lee-Xieng Yang: National Chengchi University; Tai-Lun Huang: National Chengchi University

3-C-88 Mental representation of budgeting categories
Lin Fei: University of Chicago; Daniel Bartels: University of Chicago

3-C-89 "Fringe" beliefs aren't fringe
Louis Marti: UC Berkeley; Celeste Kidd: University of California, Berkeley

3-C-90 Memory performance in special forces: Speedier responses explain improved retrieval performance after physical exertion
Maarten van der Velde: University of Groninngen; Florian Sense: University of Groningen; Jelmer Borst: University of Groningen; Ruud Den Hartigh: University of Groningen; Maurits Baatenburg de Jong: Ministry of Defence; Hedderik van Rijn: University of Groningen

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3-C-91 **Do I trust you more if you speak like me?**
Magdalena Schwarz: University of Vienna ; Theresa Matzinger: University of Vienna; Nikolaus Ritt Ritt: University of Vienna

3-C-92 **Do time constraints re-prioritize attention to shapes during visual photo inspection?**
Yiyuan Yang: Vanderbilt University; Kenneth Li: Vanderbilt University; Fernanda Eliott: Grinnell College; Maithilee Kunda: Vanderbilt University

3-C-93 **Let's talk structure: the positive consequences of structural representations**
Marianna Y. Zhang: Stanford University; Ellen M Markman: Stanford University

3-C-94 **Thinking about thinking through inverse reasoning**
Marlene Berke: Yale University; Julian Jara-Ettinger: Yale University

3-C-95 **Does the spacing effect depend on prior knowledge? Evaluating the role of word familiarity in learning from spaced vs. massed schedules**
Melina Lauryn Knabe: University of Wisconsin-Madison; Haley Vlach: University of Wisconsin-Madison

3-C-96 **Change of body representation in symmetric body parts**
Miki Matsumuro: Ritsumeikan University; Hikari Kobayashi: Ritsumeikan University; Fumihisa Shibata: Ritsumeikan University; Asako Kimura: Ritsumeikan Univ.

3-C-97 **The statistical properties of color and shape of objects in visual categorization**
Marco A. Flores-Coronado: UAEM; Angel Eugenio Tovar: UNAM; David Morales Andrade: UNAM

3-C-98 **Competence assessment by stimulus matching: An application of GOMS to assess chunks in memory**
Hadeel Ismail: University of Sussex; Peter Cheng: University of Sussex

3-C-99 **Episodic memory cues in acquisition of novel visual-phonological associations: A webcam-based eye-tracking study**
Simone L Calabrich: Bangor University; Gary M. Oppenheim: Bangor University; Manon W Jones: Bangor University

3-C-100 **The effectiveness of face-name mnemonics on name recall**
Yashoda Gopi: University of Nottingham; Edward Wilding: University of Birmingham; Christopher R Madan: University of Nottingham

3-C-101 **Do humans recalibrate the confidence of advisers?**
Oana Stanciu: Central European University; Jozsef Fiser: Central European University

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3-C-102 **Solid ground makes solid understandings: does simple comparison paves the way for more complex comparisons?**
Yannick Lagarrigue: Université Bourgogne Franche-Comté; Jean-Pierre Thibaut: University of Bourgogne Franche-Comté

3-C-103 **Linguistic distributional information about object labels affects ultrarapid object categorization**
Rens van Hoef: Lancaster University; Louise Connell: University of Lancaster; Dermot Lynott: Lancaster University

3-C-104 **Need for speed: Applying ex-Gaussian modeling techniques to examine intra-individual reaction time variability in expert Tetris players**
Ropafadzo Denga: Rensselaer Polytechnic Institute

3-C-105 **'Decoding' the locus of spatial representation from simple localization errors**
Sami R Yousif: Yale University; Frank Keil: Yale University

3-C-106 **Dynamic perception revealed by cursor movements and hidden markov modeling**
Samuel Harding: Syracuse University; Richard Shiffrin: Indiana University

3-C-107 **The role of counterfactual reasoning in responsibility judgments**
Sarah Wu: Stanford University; Tobias Gerstenberg: Stanford University

3-C-108 **Is children's norm learning rational? A meta-analysis**
Scott Partington: Cornell University; Shaun Nichols: Cornell University; Tamar Kushnir: Cornell University

3-C-109 **The interplay between local and global strategies in navigational decisions**
Serena DeStefani: Rutgers University; Samuel S Sohn: Rutgers University; Adeeb Kabir: Rutgers University - New Brunswick; Mubbasir Kapadia: Rutgers University; Jacob Feldman: Rutgers University

3-C-110 **Efficient adaptation to listener proficiency: The case of referring expressions**
Shira Tal: Hebrew University of Jeruslaem; Eitan Grossman: Hebrew University of Jerusalem; Hannah Rohde: University of Edinburgh; Inbal Arnon: Hebrew University of Jerusalem

3-C-111 **Deconstructing the Label Advantage Effect**
Teun van Gils: Max Planck Institute for Psycholinguistics; Guillermo Montero-Melis: Max Planck Institute for Psycholinguistics; Peter Hagoort Hagoort: Max Planck Institute for Psycholinguistics; Markus Ostarek: Max Planck Institute for Psycholinguistics

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3-C-112 Are you talking about me? A pilot investigation of how gender modulates the effects of self-relevance and valence on emotional feelings
Madison Marie Lebel: University of Waterloo; Tiffany Doan: University of Waterloo; Sarah D McCrackin: University of Waterloo; Stephanie Denison: University of Waterloo ; Roxane Itier: University of Waterloo

3-C-113 Causal learning with delays up to 21 hours
Yiwen Zhang: University of Pittsburgh; Benjamin Rottman: University of Pittsburgh

3-C-114 Individual differences in deepfake detection: Mindblindness and political orientation
Zachary R Tidler: Georgia Institute of Technology; Richard Catrambone: Georgia Institute of Technology

3-C-115 Understanding image sequences via narrative sensemaking
Zev Battad: Rensselaer Polytechnic Institute; Mei Si: Rensselaer Polytechnic Institute

D - Education, development and perspectives in cognitive science

3-D-116 Productive failure and student emotions
Zachary M. Savelson: Carleton University; Kasia Muldner: Carleton University

3-D-117 Explaining algorithm aversion with metacognitive bandits
Aakriti Kumar: University of California, Irvine; Trisha Patel: University of Illinois at Urbana-Champaign; Aaron S Benjamin: University of Illinois at Urbana-Champaign; Mark Steyvers: University of California, Irvine

3-D-118 Vocal patterns in schizophrenia: toward a cumulative approach
Alberto Parola: Aarhus University; Simonsen Arndis: Aaarhus University; Bliksted Vibeke: Aaarhus University; Yuan Zhou: Chinese Academy of Sciences; Shiho Ubukata: Kyoto University; Katja Koelkebeck: Hospital and Institute of the University of Duisburg-Essen; Riccardo Fusaroli: Aarhus University

3-D-119 State vs. Trait: Examining gaming the system in the context of math perception tasks
Anthony Botelho: Worcester Polytechnic Institute; Jenny Yun-Chen Chan: Worcester Polytechnic Institute; Cindy Trac: Worcester Polytechnic Institute; Avery Harrison Closser: Worcester Polytechnic Institute; Hannah Smith: Worcester Polytechnic Institute; Kathryn C Drzewiecki: Worcester Polytechnic Institute; Erin Ottmar: Worcester Polytechnic Institute

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3-D-120 The construct and criterion validity of a cognitive game-based assessment: Cognitive control, academic achievement, and prefrontal cortex connectivity
Aria S Tsegai-Moore: Stony Brook University; Anna Fisher: Carnegie Mellon University; Cassondra M Eng: Carnegie Mellon University

3-D-121 Joint action in deaf and hearing toddlers: A mobile eye-tracking study
Claire Monroy: The Ohio State University Wexner Medical Center; Derek Houston: Ohio State University Wexner Medical Center; Chen Yu: University of Texas at Austin

3-D-122 Unifying models for belief and syllogistic reasoning
Daniel Brand: University of Freiburg; Nicolas Oliver Riesterer: University of Freiburg; Marco Ragni: University of Freiburg

3-D-123 Do infants infer prosocial goals from disadvantageous payoffs in joint action?
Denis Tatone: Central European University; Barbara Pomiechowska: Central European University; Laura Schlingloff: Central European University; Gergely Csibra: Central European University

3-D-124 Humorous judgments of incongruity in short internet videos
Zachary A. Haines: Kent State University; Jennifer Roche: Kent State University

3-D-125 Effect of formative feedback on the metacognitive debugging strategy using polling technologies
Dalia Patricia Madera: Universidad de Córdoba; Sara Blanco: Universidad de Córdoba

3-D-126 Children's generalization of novel relational nouns in comparison contexts: An eye tracking analysis
Eleanor Stansbury: University Bourgogne Franche-Comté; Arnaud Witt: University of Bourgogne Franche-Comté; Jean-Pierre Thibaut: University of Bourgogne Franche-Comté

3-D-127 The Omniglot Jr. challenge; Can a model achieve child-level character generation and classification?
Eliza Kosoy: University of California, Berkeley ; Masha Belyi: University of California, Berkeley; Charlie Victor Snell: University of California, Berkeley; Brenden Lake: NYU; Josh Tenenbaum: Massachusetts Institute of Technology; Alison Gopnik: University of California, Berkeley

3-D-128 The importance of stability in children's and adults' block-building
Emory Davis: Johns Hopkins University; Jonathan Jones: Johns Hopkins University; Kiley K McKee: Northwestern University; Amy Lynne Shelton: Johns Hopkins University; Barbara Landau: Johns Hopkins University

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3-D-129 You can't trust an angry group: asymmetric evaluations of angry and surprised rhetoric affect confidence in trending opinions
Emory Richardson: Yale University; Frank Keil: Yale University

3-D-130 Beliefs are most swayed by social prevalence under uncertainty
Evan Orticio: University of California, Berkeley; Louis Marti: University of California, Berkeley; Celeste Kidd: University of California, Berkeley

3-D-131 Do judgments of learning and judgments of inference enhance text learning?
Hyorim Ha: Yonsei University; Hee Seung Lee: Yonsei University

3-D-132 Passive versus active: Frameworks of active learning for linking humans to machines
Jaeseo Lim: Seoul National University; Hwiyeol Jo: Seoul National University; Byoung-Tak Zhang: Seoul National University; Jooyong Park: Department of Psychology

3-D-133 Numbers vs. Variables: The effect of symbols on students' math problem-solving
Jenny Yun-Chen Chan: Worcester Polytechnic Institute; Hannah Smith: Worcester Polytechnic Institute; Avery Harrison Closser: Worcester Polytechnic Institute; Kathryn C Drzewiecki: Worcester Polytechnic Institute; Erin Ottmar: Worcester Polytechnic Institute

3-D-134 Unveiling unconscious biases and stereotypes in students: The necessity of self-reflection in Higher Education
Tabea Berberena: University of Stuttgart; Maria Wirzberger: University of Stuttgart

3-D-135 Investigating the utility of prompting novice programmers for self-explanations to improve mental models
Veronica S Chiarelli: Carleton University; Kasia Muldner: Carleton University

3-D-136 Mechanisms of early causal reasoning: Investigating infants' sensitivity to confounded information in a causal reasoning task, using EEG and eyetracking
Katarina Begus: Harvard University; Elizabeth Bonawitz: Harvard University

3-D-137 Creating a safe environment for text donation: towards a truly informed consent
Katarzyna Skowrońska: University of Warsaw; Krzysztof Główka: University of Warsaw; Katarzyna Joanna Koprowska: University of Warsaw; Konrad Zieliński: University of Warsaw; Justyna Śnieżek: University of Warsaw; Anna Boros: University of Warsaw; Joanna Rączaszek-Leonardi: University of Warsaw

3-D-138 Meta-strategy learning in physical problem-solving: the effect of embodied experience
Kelsey R Allen: Massachusetts Institute of Technology; Kevin A SMassachusetts Institute of Technologyh: Massachusetts Institute of Technology; Laura-Ashleigh Bird: Durham University; Josh Tenenbaum: Massachusetts Institute of Technology; Tamar Makin: University College London; Dorothy Cowie: Durham University

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3-D-139 Preschoolers' learning of words with emotional variability in shared book reading
Michelle Lynn Luna: University of California, Los Angeles; Marissa Ogren: University of California, Los Angeles

3-D-140 Bridging executive function and metacognition through post-error slowing
Yiqiong Yang: University of Cambridge; Michelle Ellefson: University of Cambridge

3-D-141 Tracking what matters: A decision-variable account of human behavior in bandit tasks
Vishwajeet Agrawal: Indian Institute of Technology, Delhi; Pradeep Shenoy: Google Research India

3-D-142 Individuals with high kinesthetic intelligence experience an active embodiment illusion assessed with pupil dilation
Sara Falcone: University of Twente; Saket Sachin Pradhan: University of Twente; Jan Van Erp: University of Twente; Dirk Heylen: University of Twente

3-D-143 Bayesian experimental design for intractable models of cognition
Simon Valentin: University of Edinburgh; Steven Kleinegesse: University of Edinburgh; Neil R Bramley: University of Edinburgh; Michael Gutmann: University of Edinburgh; Chris Lucas: University of Edinburgh

3-D-144 Unpacking the computations of human spatial search under uncertainty: noisy utility maximization, discounting, and probability warping
Suhyoun Yu: Massachusetts Institute of Technology; Marta Kryven: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology; Max Kleiman-Weiner: Massachusetts Institute of Technology

3-D-145 Cognitive strategies for parameter estimation in model exploration
Sungeun An: Georgia Institute of Technology; Spencer Rugaber: Georgia Institute of Technology; Emily Weigel: Georgia Institute of Technology; Ashok Goel: Georgia Institute of Technology

3-D-147 Testing the altercentrism hypothesis in young infants
Velisar Manea: University of Copenhagen; Dora Kampis: University of Copenhagen; Charlotte Grosse Wiesmann: Max Planck Institute for Human Cognitive and Brain Sciences; Barbu Revencu: Central European University; Victoria Southgate: Copenhagen University

3-D-148 Development of self and other's body perception; Effects of familiarity and gender on how children perceive adults
Trinidad Belén Speranza: National Scientific and Technical Research Council; Sofia Abrevaya: National Scientific and Technical Research Council; Maria de Guadalupe Perez Cano: Universidad Catolica Argentina ; Verónica Ramenzoni: National Scientific and Technological Council of Argentina

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3-D-149 Modeling human planning in a life-like search-and-rescue mission
Zhutian Yang: Massachusetts Institute of Technology; Marta Kryven: Massachusetts Institute of Technology; Howard Shrobe: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

E - Linguistics

3-E-150 Linguistic metaphors shape attitudes towards immigration
Ana Chkhaidze: University of California, San Diego; Parla Buyruk: University of California, San Diego; Lera Boroditsky: University of California, San Diego

3-E-151 Infants combine kind and quantity concepts
Barbara Pomiechowska: Central European University; Erno Teglas: Central European University; Agnes Kovacs: Central European University

3-E-152 Compositionality, modularity, and the architecture of the language faculty
Bob van Tiel: Radboud University; Mark Blokpoel: Donders Institute for Brain, Cognition and Behaviour; Iris van Rooij: Radboud University; Andrea E Martin: Max Planck Institute for Psycholinguistics

3-E-153 Judgement of political statements are influenced by speaker identity
Brian Bi: University of California, Berkeley; Louis Marti: University of California, Berkeley; David O'Shaughnessy: University of California, Berkeley; Celeste Kidd: University of California, Berkeley

3-E-154 The greedy and recursive search for morphological productivity
Caleb A. Belth: University of Michigan; Sarah R B Payne: University of Pennsylvania; Deniz Beser: University of Southern California; Jordan Kodner: University of Pennsylvania; Charles Yang: University of Pennsylvania

3-E-155 The role of physical inference in pronoun resolution
Cameron R Jones: University of California, San Diego; Benjamin Bergen: Univerity of California, San Diego

3-E-156 The online advantage of repairing metrical structure: Stress shift in pupillometry
Canaan Breiss: Universty of California, Los Angeles; Jesse Harris: University of California, Los Angeles; Amanda Rysling: University of California Santa Cruz

3-E-157 Listeners can use coarticulation cues to predict an upcoming novel word
Charlotte E Moore: Duke University; Elika Bergelson: Duke University

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3-E-158 Speakers use more informative referring expressions to describe surprising events
Christian Stegemann-Philipps: University of Tübingen; Martin V. Butz: University of Tuebingen; Susanne Winkler: University of Tübingen; Asya Achimova: University of Tübingen

3-E-159 Is iconic language more vivid?
David M Sidhu: University College London; Gabriella Vigliocco: University College London

3-E-160 Episodic memory demands modulate novel metaphor use during event narration
Vesna G. Djokic: GoldsMassachusetts Institute of Technologyhs, University of London; Ekaterina Shutova: University of Amsterdam; Verna Dankers: University of Edinburgh

3-E-161 Grounding word learning across situations
Ryan Gabbard: University of Southern California, Information Sciences Institute; Jacob A Lichtefeld: University of Southern California; Deniz Beser: University of Southern California; Joe Cecil: University of Southern California, Information Sciences Institute; Mitch Marcus: University of Pennsylvania; Sarah R B Payne: University of Pennsylvania; Charles Yang: University of Pennsylvania; Marjorie Freedman: University of Southern California, Information Sciences Institute

3-E-162 An information and coding theoretical approach to combinatorial communication
Sabrina Engesser: University of Vienna; Tecumseh Fitch: University of Vienna

3-E-163 Preferences in the quantified description of visual groups
Gordon Briggs: U.S. Naval Research Laboratory; Hillary Harner: US Naval Research Laboratory; Sangeet Khemlani: Naval Research Laboratory

3-E-164 Desires can conflict with intentions; plans cannot
Hillary Harner: US Naval Research Laboratory; Sangeet Khemlani: Naval Research Laboratory

3-E-165 The sound of pedagogical questions
Igor Bascandziev: Rutgers University, Newark; Patrick Shafto: Rutgers University, Newark; Elizabeth Bonawitz: Harvard Graduate School of Education

3-E-166 Competition from novel features drives scalar inferences in reference games
Jennifer Hu: Massachusetts Institute of Technology; Noga Zaslavsky: Massachusetts Institute of Technology; Roger Levy: Massachusetts Institute of Technology

3-E-168 CoViDisgust: Language comprehension at the intersection of a global pandemic and individual disgust sensitivity
Juhani Järvikivi: University of Alberta; Veranika Puhacheuskaya: University of Alberta; Isabell Hubert Lyall: University of Alberta

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3-E-169 Re-examining cross-cultural similarity judgements using lexical co-occurrence
Khuyen Nha Le: Stanford University; Alexandra Carstensen: Stanford University; Michael C. Frank: Stanford University

3-E-170 Lions, tigers and bears: Conveying a superordinate category without a superordinate label
Lilia Rissman: University of Wisconsin – Madison; Gary Lupyan: University of Wisconsin - Madison

3-E-171 Recognition of minimal pairs in (un)predictive sentence contexts in two types of noise
Marjolein van Os: Saarland University; Jutta Kray: Saarland University; Vera Demberg: Saarland University

3-E-172 Peekbank: Exploring children's word recognition through an open, large-scale repository for developmental eye-tracking data
Martin Zettersten: Princeton University; Claire Augusta Bergey: The University of Chicago; Naiti S Bhatt: Scripps College; Veronica Boyce: Stanford University; Mika Braginsky: Massachusetts Institute of Technology; Alexandra Carstensen: Stanford University; Benjamin deMayo: Princeton University; George Kachergis: Stanford University; Molly Lewis: Carnegie Mellon University; Bria Long: Stanford University; Kyle MacDonald: McD Tech Labs; Jessica Mankewitz: Stanford University; Stephan C. Meylan: MIT; Annissa Noor Saleh: University of Texas at Austin; Rose M. Schneider: UC San Diego; Angeline Sin Mei Tsui: Stanford University; Sarp Uner: Duke University; Tian Linger Xu: Indiana University; Dan Yurovsky: Carnegie Mellon University; Michael C. Frank: Stanford University

3-E-173 English negative constructions and communicative functions in child language
Zoey Liu: Boston College; Masoud Jasbi: University of California, Davis

3-E-174 Growing knowledge culturally across generations to solve novel, complex task
Michael Henry Tessler: Massachusetts Institute of Technology; Pedro Tsividis: Massachusetts Institute of Technology; Jason Madeano: Massachusetts Institute of Technology; Brin Harper: Massachusetts Institute of Technology; Josh Tenenbaum: Massachusetts Institute of Technology

3-E-175 Modeling speech act development in early childhood: The role of frequency and linguistic cues
Massachusetts Institute of Technologyja Nikolaus: Aix-Marseille University; Juliette Maes: Aix Marseille University; Abdellah Fourtassi: Aix-Marseille University

3-E-176 Persian collective nouns enhance ensemble size perception
Mohsen Dolatabadi: Tarbiat Modares University Of Tehran; Mehrdad Dowlatabadi: Sharif University of Technology

3-E-177 Who thinks wh-questions are exhaustive?
Morgan Moyer: Stanford University; Judith Degen: Stanford University

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3-E-178 Electrophysiological signatures of multimodal comprehension in second language
Ye Zhang: University College London; Rong Ding: Max Planck Institute for Psycholinguistics; Diego Frassinelli: University of Konstanz; Jyrki Tuomainen: University College London; Sebastian Klavinskis-whiting: Oxford University; Gabriella Vigliocco: University College London

3-E-179 From alien zoo to spy school: A preregistered study of linguistic sound symbolism and its links to reading in 8-year-olds
Fei Ting Woon: Nanyang Technological University; De Fu Yap: Nanyang Technological University; Cai Shirong: Singapore Institute for Clinical Sciences (SICS A*Star); Evelyn C Law: National University Hospital; Lourdes Mary Daniel: KK Women's and Children's Hospital; Suzy J. Styles: Nanyang Technological University

3-E-180 Processing differences among irregular inflection classes
Maya C Watt: McGill University; Mika Braginsky: Massachusetts Institute of Technology; Timothy O'Donnell: McGill University

3-E-181 Anaphoric distance dependencies in the sequential structure of wordless visual narratives
Neil Cohn: Tilburg University

3-E-182 Lightness and darkness are mentally represented during language processing
Oleksandr V. Horchak: Iscte - Instituto Universitário de Lisboa; Margarida V. Garrido: Iscte - Instituto Universitário de Lisboa

3-E-183 Metaphors embedded in Chinese characters bridge dissimilar concepts
Qiawen Liu: University of Wisconsin-Madison; Song Jing: University of Wisconsin-Madison; Gary Lupyan: University of Wisconsin - Madison

3-E-184 Distribution of unidimensional space in the LSU time lexicon
Mauricio Castillo: Universidad de la República; Alejandro Fojo: Universidad de la República; Roberto Aguirre: Universidad de la República

3-E-185 The identity of the partner matters even when naming everyday objects
Si On Yoon: University of Iowa; Breanna Brigitte Pratley Pratley: University of Toronto; Daphna Heller: University of Toronto

3-E-186 Aesthetic perception of prosodic patterns as a factor in speech segmentation
Theresa Matzinger: University of Vienna; Eva Specker: University of Vienna; Nikolaus Ritt Ritt: University of Vienna; Tecumseh Fitch: University of Vienna

3-E-187 Do you hear how BIG it is? Iconic prosody in child directed language supports language acquisition
Viktor Kewenig: University College London; Ricarda Brieke: University College London; Yan Gu: University College London; Gabriella Vigliocco: University College London

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3-E-188 Is there a predictability hierarchy in reference resolution?
Weijie Xu: University of Chicago; Ming Xiang: University of Chicago

3-E-189 Associative learning of new word forms in a first language and haptic features in a single-day experiment
Yutao Yang: Hiroshima University; Yan Yan: Hiroshima University; Misa Ando: HIroshima University; Xinyi Liu: Hiroshima University; Toshimune Kambara: Hiroshima University

3-E-190 Word order affects the frequency of adjective use across languages
Zeinab Kachakeche: UC Irvine; Richard Futrell: UC Irvine; Gregory Scontras: UC Irvine

F - Neuroscience

3-F-191 Gene expression under human self-domestication: an in silico exploration of modern human high-frequency variants
Thomas O'Rourke: University of Barcelona; Pedro Tiago Martins: University of Barcelona; Alejandro M. Andirko: University of Barcelona

3-F-192 The human visual system spontaneously computes approximate number
Che Lucero: Cornell University; Colin T Quirk: The University of Chicago; Susan Goldin-Meadow: University of Chicago; Edward Vogel: University of Chicago; Daniel Casasanto: Cornell University

3-F-193 Distributed semantics in a neural network model of human speech recognition
Kevin Brown: Oregon State University; Nicholas R Monto: University of Connecticut; Jay Rueckl: University of Connecticut; James Magnuson: University of Connecticut

3-F-194 Expertise modulates neural tracking of dance and sign language
Geoffrey Brookshire: University of Birmingham; Heather Harden Mangelsdorf: Elmhurst University; Clara Sava-Segal: Dartmouth College; Katherine Reis: University of Chicago; Howard Nusbaum: University of Chicago; Susan Goldin-Meadow: University of Chicago;

3-F-195 Biological motion perception under attentional load
Hilal Nizamoglu: Bilkent University; Burcu A. Urgen: Bilkent University

3-F-196 network dynamics of scientific knowledge reveal a single conceptual core that declines over time
Kara Kedrick: University of Minnesota; Ekaterina Levitskaya: New York University; Russell Funk: University of Minnesota

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3-F-197 SUSTAIN captures category learning, recognition, and hippocampal activation in a unidimensional vs information-integration task
Lenard Dome: University of Plymouth; Charlotte Edmunds: Queen Mary; Andy J Wills: Plymouth University

3-F-198 AgeNet: A neurobiological model of age-related word retrieval deficits
David Alberto Neville: Donders Institute for Brain, Cognition and Behavior; Hartmut Fitz: Radboud University; Meredith Shafto: Pomona College

3-F-199 Contribution of receptive field center and surround to repetition suppression in macaque visual area V2
Nathaniel Williams: Carnegie Mellon University; Carl Olson: Carnegie Mellon University

3-F-200 Time course of EEG oscillations during creative problem solving
Théophile Bieth: Institut du Cerveau (ICM), Sorbonne Université; Marcela Ovando Tellez: Institut du Cerveau (ICM), Sorbonne Université; Alizée Lopez-Persem: Institut du Cerveau (ICM), Sorbonne Université; Béatrice Garcin: Neurology department, Avicenne ho

3-F-201 Hippocampal replay as context-driven memory reactivation
Zhenglong Zhou: University of Pennsylvania; Michael Kahana: University of Pennsylvania; Anna Schapiro: University of Pennsylvania

G - Philosophy

3-G-202 Do ancient philosophies help us understand modern psychologies?
Amritpal M.P. Singh: Cornell University; Daniel Casasanto: Cornell University

3-G-203 Logic programs as executable experimental task specifications
Can Mekik: Rensselaer Polytechnic Institute

3-G-204 How hard is cognitive science?
Patricia Rich: University of Bayreuth; Ronald de Haan: University of Amsterdam; Todd Wareham: Memorial University of Newfoundland; Iris van Rooij: Radboud University

3-G-205 The role of mindreading in a pluralist framework of social cognition
Julia Wolf: Ruhr University Bochum; Sabrina Coninx: Institute for Philosophy II

3-G-206 Emotions as the product of body and mind: The hierarchical structure of folk concepts of mental life among US adults and children
Kara Weisman: Stanford University; Carol Dweck: Stanford University; Ellen M Markman: Stanford University

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H - Psychological science

3-H-207 The relationship between mental imagery vividness and blind reaching performance
Aaron Necaise: University of Central Florida; John Sermarini: University of Central Florida; Joseph T Kider Jr.: University of Central Florida; Daniel S McConnell: University of Central Florida; Mary Jean Amon: University of Central Florida

3-H-208 Why people err on multiple-choice analogical reasoning tests
Adam Chuderski: Jagiellonian University; Bartłomiej Kroczek: Jagiellonian University

3-H-209 The effect of evidentiality markers on the survival processing effect
Burcu Arslan: Koç University; Tilbe Göksun: Koç University; Çağlar Akçay: Koç University

3-H-210 Perceptual and memory metacognition in children
Carolyn Baer: University of California Berkeley

3-H-211 Why belief in species purpose prompts moral condemnation of individuals who fail to fulfill that purpose
Casey Lewry: Princeton University; Deborah Kelemen: Boston University; Tania Lombrozo: Princeton University

3-H-212 Looking at the pragmatics of laughter
Chiara Mazzocconi: Institute of Language, Communication and the Brain - ILCB; Vladislav Maraev: University of Gothenburg; Vidya Somashekarappa: University of Gothenburg; Christine Howes: University of Gothenburg

3-H-213 Approximate division on multiple visual ensembles
Chuyan Qu: University of Pennsylvania; Elizabeth M Brannon: University of Pennsylvania

3-H-214 Exploring the structure and grounding of concrete and abstract categories
Briony Banks: Lancaster University; Louise Connell: University of Lancaster

3-H-215 Can 1- and 2-year-old toddlers learn causal action sequences?
Emma C Tecwyn: Birmingham City University; Nafisa Mahbub: University of Toronto; Nishat Kazi: University of Toronto; Daphna Buchsbaum: Brown University

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3-H-216 A demonstration of the positive manifold of cognitive test inter-correlations, and how it relates to general intelligence, modularity, and lexical knowledge
Graham Pluck: Nazarbayev University; Antonio Cerone: Nazarbayev University

3-H-217 Does anything predict anchoring bias?
Matthew Brian Welsh: University of Adelaide

3-H-218 A model of timing in simple anticipatory decisions
Alexander Wurm: University of Florida; Konstantina Sokratous: University of Florida; Guy Hawkins: University of Newcastle; Peter Kvam: University of Florida

3-H-219 Blame the player and the game
Drew Walker: University of California, San Diego; Ed Vul: University of California, San Diego

3-H-220 The mystery of early taxonomic development
Hyungwook Yim: Hanyang University; Olivera Savic: The Ohio State University; Alexandria Barkhimer: The Ohio State University; Vladimir Sloutsky: The Ohio State University; Simon Dennis: The University of Melbourne

3-H-221 Does encouraging gesture use help us connect remote associations?: The role of mental imagery
Gyulten Hyusein: Koç University; İrem Türkmen: Koc University; Melek Öyküm Yalçın: Yeditepe University; Sarp Özdemir: Koç University; Tilbe Göksun: Koç University

3-H-222 Experts interpret generalizations differently than novices
Jeff Coon: UC Irvine; Alexander Etz: University of California, Irvine; Gregory Scontras: University of Irvine; Barbara W Sarnecka: University of California-Irvine

3-H-223 Mind over body: investigating cognitive control of cycling performance with dual-task interference
Johanne Nedergaard: Aarhus University; Mikkel Wallentin: Aarhus University

3-H-224 Studying science denial with a complex problem-solving task
Justin Sulik: LMU; Ryan McKay: Royal Holloway, University of London

3-H-225 Auditory, temporal, and visual sensory discrimination advantage of musicians
Maria Kubaszek: Jagiellonian University in Cracow; Jan Jastrzebski: Jagiellonian University; Adam Chuderski: Jagiellonian University

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3-H-226 Temporal continuity and the judgment of actual causation
Aurélien Fermo: École normale supérieure; Charles Kemp: University of Melbourne

3-H-227 Dual processes on dual dimensions: Associative and propositionally-mediated discrimination and peak shift
Toby D Johnson: University of Exeter; R.P. McLaren: University of Exeter; Ciro Civile: University of Exeter; IPL McLaren: University of Exeter

3-H-228 Exploring mental representation with a memory matching game
Paul Thibodeau: Oberlin College; Isaac Levy: Oberlin College; Mikaela de Lemos: Oberlin College

3-H-229 How face mask in COVID-19 pandemic disrupts face learning and recognition in adults with autism spectrum disorder?
Ricky Van-yip Tso: The Education University of Hong Kong; Celine On Hang Chui: The Education University of Hong Kong; Janet Hsiao: University of Hong Kong

3-H-230 Tangled physics: Knots as a challenge for physical scene understanding
Sholei Croom: Johns Hopkins University; Chaz Firestone: Johns Hopkins University

3-H-231 Folk theory of epidemics: Insights from a 14-day diary study during COVID-19
Yilong Lu: Peking University; Yangfan Lu: Peking University; Zhuo Rachel Han: Department of Psychology, Beijing Normal University; Shaozheng Qin: Beijing Normal University; Xin Zhang: Peking University; Li Yi: Peking University; Hang Zhang: Peking University

3-H-232 Is the emotional mapping of lines caused by the motion they imply?
Yuanqi Hu: Jiangnan University; Ruimin Lyu: Jiangnan University; Xinya Liu: Jiangnan University

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