

CNS 2026

VANCOUVER



MARCH 7 – 10, 2026



Program

Cognitive Neuroscience Society

33rd Annual Meeting, March 7 - 10, 2026

JW Marriott Parq Vancouver Hotel, Vancouver, British Columbia, Canada

2026 Annual Meeting Program

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Schedule Overview

Friday, March 6, 2026

8:00 am - 6:00 pm Satellite - The Virtual Brain Node: Personalized Simulations for Cognitive Neuroscience, *Salon D*
8:00 am - 6:00 pm Satellite - International Sleep Replay Workshop, *Salon F*

Saturday, March 7, 2026

9:30 am - 6:30 pm On-site Registration & Pre-Registration Check-In, *Parq Grand Ballroom Foyer*
10:30 am - 12:00 pm **Data Blitz Session 1**, *Salon ABC*
Data Blitz Session 2, *Salon D*
Data Blitz Session 3, *Salon E*
Data Blitz Session 4, *Salon F*
12:00 - 1:00 pm **Workshop** – *Workshop on Cognitive Neuroscience for Foundation Models*, *Salon ABC*
12:00 - 1:00 pm Lunch Break (On your own)
12:00 - 2:00 pm Exhibitor Check-In, *Parq Grand Ballroom Foyer*
12:30 - 1:00 pm Poster Session A Set-Up, *Fairview/Kitsilano Ballrooms*
1:00 - 3:00 pm **Rising Stars Session**, *Salon EF*
3:00 - 5:00 pm **Poster Session A**, *Fairview/Kitsilano Ballrooms*
3:00 - 5:15 pm Exhibits Open, *Kitsilano Ballroom*
3:30 - 4:00 pm Coffee Service, *Kitsilano Ballroom*
5:00 - 5:15 pm Poster Session A Take-Down, *Fairview/Kitsilano Ballrooms*
5:00 - 6:00 pm **Opening Ceremonies & Keynote Address** – Our language-ready brain, **Peter Hagoort, Ph.D.**, Max Planck Institute for Psycholinguistics, Donders Centre for Cognitive Neuroimaging, Nijmegen, The Netherlands, *Parq Grand Ballroom*
Exhibit Hall Closed for the Day – No Entry
5:15 pm - 7:30 am **Welcome Reception**, *Parq Grand Ballroom Foyer*
6:00 - 7:00 pm

Sunday, March 8, 2026

7:30 - 8:00 am Exhibit Hall Access for Exhibitors/Poster Session B Set-Up Only, *Fairview/Kitsilano Ballrooms*
7:30 am - 6:30 pm On-site Registration & Pre-Registration Check-In, *Parq Grand Ballroom Foyer*
8:00 - 8:30 am Continental Breakfast, *Kitsilano Ballroom*
8:00 - 10:00 am **Poster Session B**, *Fairview/Kitsilano Ballrooms*
8:00 am - 7:15 pm Exhibits Open, *Kitsilano Ballroom*
10:00 am - 12:00 pm **Invited Symposium 1** – Cognitive neuroscience in infants, Chair: Nick Turk-Browne, *Salon ABCD*

- **Talk 1:** The Origin of Rich Visual Categories in Early Infancy, Rhodri Cusack
- **Talk 2:** Face Selectivity in the Human Infant Brain, Heather L. Kosakowski
- **Talk 3:** Continuity and Discontinuity in Infant Brain Development: Dense Longitudinal Awake fMRI in the First Year of Life, Cameron Ellis
- **Talk 4:** From Syllables to Sentences: Tracing the Prosodic Hierarchy in the Infant Brain, Ghislaine Dehaene-Lambertz

10:00 am - 12:00 pm **Invited Symposium 2** – Putting the Frontal Lobe into Focus: Precision Mapping of Fine-Scale Functional Organization of Prefrontal Cortex, Chair: Caterina Gratton, *Salon EF*

- **Talk 1:** Precision Neuroimaging Insights into the Network Architecture of Prefrontal Cortex, Caterina Gratton
- **Talk 2:** Category-Biased Patches Encircle Core Domain-General Regions in the Human Lateral Prefrontal Cortex, Moataz Assem

- **Talk 3:** Fine-Grained, Individual Functional Organization in Primate Prefrontal Cortex: Adaptive Across Single Tasks, Stable Across Many, Jinkang (Derrick) Xiang
 - **Talk 4:** Cognitive, Functional, Network, and Clinical Insight from Evolutionarily-New Brain Structures in PFC, Kevin Weiner
- 11:30 - 11:45 pm Poster Session B Take-Down, *Fairview/Kitsilano Ballrooms*
- 12:00 - 1:30 pm Lunch Break (On your own)
- 12:15 - 1:15 pm **Workshop – Sound & Color: Depicting the Synesthetic Mind (screening), Salon ABC**
- 12:15 - 1:15 pm **Workshop – MIND: A New Toolkit for Structuring Brain and Body Research Data, Salon D**
- 12:15 - 1:15 pm **Workshop – Practical Hyperscanning: From Setup to Analysis-Ready Data, Salon E**
- 1:30 - 3:30 pm **Symposium Session 1 – Beyond Biomarkers: Comprehensive Approaches to Brain Resilience in Aging and Dementia, Chair: Randy McIntosh, Salon ABC**
- **Talk 1:** The Brain Resilience Study: A Dataset of the Biological and Sociocultural Factors Affecting Brain Health in Older Adults, Brianne Kent
 - **Talk 2:** A Roadmap for Conducting More Inclusive Brain Resilience Research on Aging and Dementia, Natasha Rajah
 - **Talk 3:** Older Brains Appear More Resilient Under Naturalistic Conditions, Karen Campbell
 - **Talk 4:** How Even Low Levels of Depression May Reduce Resilience to Age-Related Memory Impairments in Ethnographically Diverse Populations, Audrey Duarte
 - Q&A with the Audience
- 1:30 - 3:30 pm **Symposium Session 2 – Mapping Emotions in the Brain Beyond Localization: How Neuroimaging and Machine Learning Can Reshape Contemporary Theoretical Frameworks, Chair: Patrik Vuilleumier, Salon D**
- **Talk 1:** The Semantic Space Organization of Fifteen Emotional States Decoded from fMRI Data, Kevin LaBar
 - **Talk 2:** Brain Network Dynamics and Functional Components of Emotion, Patrik Vuilleumier
 - **Talk 3:** Mapping Emotional and Interoceptive Experiences in the Human Brain, Heini Saarimäki
 - **Talk 4:** Circular Reasoning in the Neuroscience of Emotion: Why Debates on Emotion Don't Seem to End, Ajay Satpute
 - Q&A with the Audience
- 1:30 - 3:30 pm **Symposium Session 3 – Hippocampus and Sequential Behaviors Across Different Timescales and Memory Domains in Humans, Chair: Genevieve Albouy, Salon E**
- **Talk 1:** Representation of Visual Sequences in the Tuning and Topology of Neuronal Activity in the Human Hippocampus, Eyiye Mis Damisah
 - **Talk 2:** The Hippocampus Rapidly Integrates Sequence Representations During Novel Multistep Predictions, Hannah Tarder-Stoll
 - **Talk 3:** The Hippocampus Preorders Movements for Skilled Action Sequences, Katja Kornysheva
 - **Talk 4:** The Capacity of the Hippocampus to Represent Memory Items in Their Temporal Position in a Sequence Is Domain-General, Ainsley Temudo
 - Q&A with the Audience
- 1:30 - 3:30 pm **Symposium Session 4 – Network Integrity and Disconnection Syndromes: New Insights from the Split-Brain, Chair: Michael Miller, Salon F**
- **Talk 1:** The Split-Brain Phenomenon Revisited: Two or One Conscious Agent?, Edward H.F. de Haan
 - **Talk 2:** No Disconnection Syndrome after Near-Complete Callosotomy, Michael B. Miller
 - **Talk 3:** Complete and Near-Complete Callosotomy: A Network Perspective, Lukas J. Volz
 - **Talk 4:** Being of One Mind, Christof Koch
 - Q&A with the Audience
- 3:30 - 4:00 pm Coffee Service, *Kitsilano Ballroom*
- 3:30 - 4:00 pm Poster Session C Set-Up, *Fairview/Kitsilano Ballrooms*
- 4:00 - 5:00 pm **The 32nd Annual George A. Miller Prize in Cognitive Neuroscience Lecture, Putting the 'Mental' Back Into 'Mental' Disorders by Fusing the Science of Emotion with the Science of Consciousness, Joseph LeDoux, Ph.D., New York University, Parq Grand Ballroom**

5:00 - 7:00 pm	Poster Session C (Ice Cream Social) , <i>Fairview/Kitsilano Ballrooms</i>
7:00 - 7:15 pm	Poster Session C Take-Down, <i>Fairview/Kitsilano Ballrooms</i>
7:15 pm - 7:30 am	Exhibit Hall Closed for the Day – No Entry

Monday, March 9, 2026

7:30 - 8:00 am	Exhibit Hall Access for Exhibitors/Poster Session D Set-Up Only, <i>Fairview/Kitsilano Ballrooms</i>
8:00 - 8:30 am	Continental Breakfast, <i>Kitsilano Ballroom</i>
8:00 - 10:00 am	Poster Session D , <i>Fairview/Kitsilano Ballrooms</i>
8:00 am - 5:00 pm	Exhibits Open, <i>Kitsilano Ballroom</i>
8:00 am - 5:30 pm	On-site Registration & Pre-Registration Check-In, <i>Parq Grand Ballroom Foyer</i>
8:30 - 10:00 am	Communications Open House, <i>Granville II</i>
10:00 am - 12:00 pm	<p>Symposium Session 5 – The Hunt for the Neural Correlates of Cognitive Reserve, Chairs: Prof Richard Henson and Christian Habeck, <i>Salon ABC</i></p> <ul style="list-style-type: none"> ○ Talk 1: Re-thinking Cognitive Reserve, Richard Henson ○ Talk 2: Cognitive Reserve in Midlife: Lifestyle Factors Decouple Cognition from Functional Segregation in Healthy Individuals at Risk for Late-Onset Dementia, Feng Deng ○ Talk 3: Shared and Unique Neural Contributions to Cognitive Reserve, Zoya Mooraj ○ Talk 4: Cognitive Reserve in the NIH-funded “Reserve and Resilience” initiative, Christian Habeck ○ Q&A with the Audience
10:00 am - 12:00 pm	<p>Symposium Session 6 – Not Your Average Brain: Individual-Level fMRI as a Paradigm Shift for Cognitive Neuroscience, Chairs: Andre Zamani and Jingnan Du, <i>Salon D</i></p> <ul style="list-style-type: none"> ○ Talk 1: Precision Functional Mapping and Dense Longitudinal fMRI Reveal Symptom-Linked Circuit Dynamics in Mood Disorders, Charles Lynch ○ Talk 2: Shared Principles of Brain Network Organization Derived from Within-Individual fMRI, Rodrigo M. Braga ○ Talk 3: Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function, Jingnan Du ○ Talk 4: Person-Specific Patterns of Functional Brain Network Topography Reflect Childhood Environments, Gene Expression, and Cognitive Abilities in Youth, Arielle Keller ○ Q&A with the Audience
10:00 am - 12:00 pm	<p>Symposium Session 7 – Neural Time Machine: Temporal Organization of Experience in the Brain, Chair: Jie Zheng, <i>Salon E</i></p> <ul style="list-style-type: none"> ○ Talk 1: Memory Out of Context: Spacing Effects and Decontextualization in a Computational Model of the Medial Temporal Lobe, James Antony ○ Talk 2: The Intrinsic Time Tracker: Temporal Context Is Embedded in Entorhinal and Hippocampal Functional Connectivity Patterns, Jingyi Wang ○ Talk 3: Event Structure Sculptures Neural Population Dynamics in the Lateral Entorhinal Cortex, Benjamin Kanter ○ Talk 4: Weaving Time into Memory: Order-Selective Cells Tile Temporal Space and Predict Order Memory, Jie Zheng ○ Q&A with the Audience
10:00 am - 12:00 pm	<p>Symposium Session 8 – Neuroscience Needs (Natural/Istic) Behavior: Mechanistic Approaches to Real-World Cognition, Chair: Avital Hahamy, <i>Salon F</i></p> <ul style="list-style-type: none"> ○ Talk 1: Critical Intelligence: Mechanisms of Naturalistic Adaptive Behaviour in Humans, Dominik R Bach ○ Talk 2: Quantifying Narrative Understanding Through Behavior and Neural Reactivations, Avital Hahamy ○ Talk 3: Neural Codes for Natural Behaviors in Bats, Nachum Ulanovsky ○ Talk 4: The Neuroscience of Prosocial Behavior: From Helping and Cooperation to Social AI, Weizhe Hong ○ Q&A with the Audience
11:30 - 11:45 am	Poster Session D Take-Down, <i>Fairview/Kitsilano Ballrooms</i>
12:00 - 1:30 pm	The Brain Box Social (Lunch Provided) - <i>Grab-and-Go or Sit down</i>

12:15 - 1:15 pm	Workshop – Cognitive Neuroscience and Society: Resistance and Resilience During Science Funding Crises , <i>Salon ABC</i>
12:15 - 1:15 pm	Workshop – Capturing Real-World Brains in XR: Seamless Brain-Behavior Experiments with DSI and LABO , <i>Salon D</i>
1:30 - 2:00 pm	Poster Session E Set-Up, <i>Fairview/Kitsilano Ballrooms</i>
1:30 - 2:00 pm	Young Investigator Award Lecture 1 – Neural Signatures of Sustained Attention Across Time Scales and Individuals , Monica Rosenberg , PhD., <i>Salon EF</i>
2:00 - 2:30 pm	Young Investigator Award Lecture 2 – Generalized Prediction Errors in the Human Cerebellum , Samuel D. McDougle , PhD., <i>Salon EF</i>
2:30 - 4:30 pm	Poster Session E , <i>Fairview/Kitsilano Ballrooms</i>
3:30 - 4:00 pm	Coffee Service, <i>Kitsilano Ballroom</i>
4:30 - 5:30 pm	The 15th Annual Distinguished Career Contributions Award Lecture , Why Study Normative Cognitive Aging When It Is Not a Disease?, Carol Barnes , Ph.D., University of Arizona, <i>Parq Grand Ballroom</i>
5:30 - 5:45 pm	Poster Session E Take-Down, <i>Fairview/Kitsilano Ballrooms</i>
5:45 - 7:15 pm	10th Annual CNSTA Trainee Professional Career Panel , Survival to Sustainability: Building a Career That Lasts, <i>Salon EF</i>
5:45 pm - 7:30 am	Exhibit Hall Closed for the Day – No Entry
7:30 - 10:00 pm	CNS Student Trainee Social Night, <i>Greta Bar, 50 W Cordova St, Vancouver, BC V6B 1C8, Canada</i>

Tuesday, March 10, 2026

7:30 - 8:00 am	Exhibit Hall Access for Exhibitors/Poster Session F Set-Up Only, <i>Fairview/Kitsilano Ballrooms</i>
8:00 - 8:30 am	Continental Breakfast, <i>Kitsilano Ballroom</i>
8:00 - 10:00 am	Exhibits Open, <i>Kitsilano Ballroom</i>
8:00 - 10:00 am	Poster Session F , <i>Fairview/Kitsilano Ballrooms</i>
8:00 am - 3:00 pm	On-site Registration & Pre-Registration Check-In, <i>Parq Grand Ballroom Foyer</i>
10:00 - 10:15 am	Poster Session F Take-Down, <i>Fairview/Kitsilano Ballrooms</i>
10:00 am - 12:00 pm	Invited Symposium 3 – Effectuating Societal Impact via Cognitive Neuroscience , Chairs: Marian Berryhill and Micah Murray, <i>Salon ABCD</i> <ul style="list-style-type: none"> ○ Talk 1: Frontiers for Young Minds: Kids say the Darndest Things, Robert Knight ○ Talk 2: Environmental Neuroscience, Marc Berman ○ Talk 3: Cognitive Neuroscience for and in Society—Lessons from Face (Re)Cognition, Meike Ramon ○ Talk 4: Beyond Silos: A Systems Approach to Cognitive Health and Longevity, Anjali Nursimulu
10:00 am - 12:00 pm	Invited Symposium 4 – How the Brain Creates Language: Insights from Genes, Neural Pathways, Neuroprosthetics, and Computational Models , Chair: Tamara Swaab, <i>Salon EF</i> <ul style="list-style-type: none"> ○ Talk 1: Genetic Foundations of Human Language, Reyna Gordon ○ Talk 2: The Neuroanatomy of Language Pathways, Stephanie Forkel ○ Talk 3: Neural Codes for Speech, Edward Chang ○ Talk 4: Modeling the Emergence and Processing of Language in the Human Brain, Jean-Remi King
10:15 am - 3:30 pm	Exhibit Hall Closed for the Day – No Entry
12:00 - 1:30 pm	Lunch Break (On your own)
1:30 - 3:30 pm	Symposium Session 9 – Cognitive Insights into Attention and Cross-Modal Integration from Rapid Invisible Frequency Tagging , Chairs: Hyojin Park and Ole Jensen, <i>Salon ABC</i> <ul style="list-style-type: none"> ○ Talk 1: Enhancing Speech Comprehension via Cross-Modal Integration with Rapid Invisible Frequency Tagging, Hyojin Park ○ Talk 2: Decoding Real-World Visual Scenes from the Human Gamma Band with Flicker-Evoked Oscillations, James Dowsett

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- 1:30 - 3:30 pm
- **Talk 3:** Top-Down Modulation of Visual Attention Resolves Word Boundary Ambiguity in Chinese Reading, Xingshan Li
 - **Talk 4:** Neural Evidence for Multilevel Parafoveal Processing Supporting Natural Reading, Ole Jensen
 - Q&A with the Audience
- Symposium Session 10** – Abstract Representations in Neural Architectures, Chairs: Ms Iryna Schommartz and Victoria Nicholls, *Salon D*
- **Talk 1:** The Geometry and Topology of Abstract Representations, Santiago Gallela
 - **Talk 2:** Representations of Visual Search Templates in the Brain, Victoria Nicholls
 - **Talk 3:** Tracing Minds and Machines: Scanpaths and Memory Reinstatement in Humans Across the Lifespan and in Artificial Intelligence Models, Iryna Schommartz
 - **Talk 4:** Investigating Methods to Build Better Multimodal Representations – For Artificial Intelligence and Neuroscience, Bhavin Choksi
 - Q&A with the Audience
- 1:30 - 3:30 pm
- Symposium Session 11** – Emotion and the Organization of Temporal Context in Memory, Chair: Joseph Dunsmoor, *Salon E*
- **Talk 1:** Unlocking Emotional Memories Through Temporally Adjacent Cues, Daniela Palombo
 - **Talk 2:** Elucidating the Impact of Arousal and Valence on Memory for Elapsed Time, Andy Lee
 - **Talk 3:** Fear Conditioning Selectively Distorts the Temporal Organization of Episodic Memory, Joseph Dunsmoor
 - **Talk 4:** How Emotion Bends Time in Memory: Behavioral and Neural Evidence from Real-Life Emotional Events, Regina Lapate
 - Q&A with the Audience
- 1:30 - 3:30 pm
- Symposium Session 12** – Neural Computations of Motivated Behavior in Youth, Chair: Dr Jeremy Hogeveen, *Salon F*
- **Talk 1:** Reward Memory Mechanisms Vary Across Development, Alexandra Cohen
 - **Talk 2:** Mapping novelty-evoked invigoration to circuit-level vulnerability for psychosis during adolescence, Vishnu Murty
 - **Talk 3:** Neurocomputational Maturation of Directed Exploration in Adolescence, Jeremy Hogeveen
 - **Talk 4:** Developmental Shifts in Valence Biases in Reinforcement Learning and Memory, Catherine Hartley
 - Q&A with the Audience
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Keynote



Peter Hagoort, Ph.D.

Max Planck Institute for Psycholinguistics, Donders Centre for Cognitive Neuroimaging, Nijmegen, The Netherlands

Keynote Address, Open to the Public

Saturday March 7, 2026, 5:00PM - 6:00PM, Parq Grand Ballroom

Our Language-Ready Brain

Language is a central feature of human uniqueness. Undeniably members of the species homo sapiens produce and understand speech, and many of them can read and write. They do this in quite different varieties. The sound repertoires of the more than 7000 languages that are still around today vary widely, as do their grammatical structures, and the meanings that their lexical items code for. It is equally undisputable that the human brain provides the shared neurobiological infrastructure for our language skills. This infrastructure requires the contribution of multiple neural networks, some more specialized for language than others. In addition, there is substantial neural plasticity that enables the accommodation of

language variation and individual variation in language skills. I will discuss the brain's infrastructure for this uniquely human capacity from a multiple neural networks perspective. Next to the neuro-architectural features I will discuss the neuro-functional aspects of language processing. I will also discuss fMRI results that indicate the insufficiency of the Mirror Neuron Hypothesis to explain language understanding. Instead, understanding the message that the speaker wants to convey requires the contribution of the Theory of Mind network. Finally, I will illustrate why it is hard to give a good presentation.

About

Hagoort was born in [Oudewater](#) and studied psychology and biology at [Utrecht University](#) and experimental psychology at [Radboud University Nijmegen](#), where he received his doctorate in 1990 under the supervision of [Willem Levelt](#). He then worked as a project manager at the [Max Planck Institute for Psycholinguistics](#) in [Nijmegen](#). He has been a professor of Cognitive Neuroscience at the Radboud University Nijmegen since 1999. He is a founding director of the [Donders Centre for Cognitive Neuroimaging](#) in Nijmegen (1999) and also a director at the Max Planck Institute for Psycholinguistics in Nijmegen since 2006.^{[2][1]}

His group uses imaging techniques such as PET, MEG and functional MRI to study language processing in the brain. For example, he examined how patients with language disorders (such as patients with aphasia, dyslexia, autism) compensate for them in other ways. He studied the processes involved in speaking and found that subjects know the grammatical form of a word around 40 milliseconds earlier than the first syllable and that another 120 milliseconds pass before the complete pronunciation is ready. His research is also concerned with the interaction of linguistic functions with others (such as gestures) and has also examined other cognitive abilities and the social implications of [cognitive neuroscience](#).^{[3][4][5]}

Hagoort developed a neurobiological model of language processing with three distinct components: Memory, Unification, Control. This MUC model has been used to guide his research, and that of others in the field.

For his scientific contributions he received many awards. In 2004 he was awarded by the Dutch Queen with the "Knighthood of the Dutch Lion". Peter Hagoort is member of the Royal Netherlands Academy of Arts and Sciences (KNAW), of the Academia Europaea, international member of National Academy of Sciences, and international Fellow of the British Academy.

[Wikipedia®](#)

George A. Miller Prize

Congratulations to Joseph LeDoux, Ph.D. for being awarded this honor!

Dr. LeDoux will accept this prestigious award and deliver his lecture on Sunday, March 8, 2026, 4:00 – 5:00 pm, in the Parq Grand Ballroom.

Putting the 'Mental' Back Into 'Mental' Disorders by Fusing the Science of Emotion with the Science of Consciousness

Joseph LeDoux, Ph.D.

Professor Emeritus, New York University



People often seek help for mental problems because they suffer subjectively. Yet, for decades, the subjective experiences of patients have been marginalized due to the dominant medical model of mental illness, which arose in the mid Twentieth Century and viewed subjective experiences as quaint relics from less enlightened scientific time. To the extent that subjective symptoms reflect a latent disease, it was assumed that with

subjective treatment of objective symptoms, such as behavioral and physiological responses, subjective mental symptoms will go away. But given that 'mental' disorders are named for, and defined by, their subjective mental qualities, it is perhaps not surprising, in retrospect, that treatments that have sidelined subjective experiences have been disappointing at best. There were few avenues for rigorously studying conscious experiences when these negative views about subjective experience took root in psychiatry and allied fields. Today, however, research on consciousness is thriving, and could potentially help achieve a deeper understanding of mental disorders and their treatment. But a new approach is needed, one that fuses the science of emotion with the science of consciousness. Presently, both fields are diminished by mutual ignorance, and much could be gained by a science of emotional consciousness in which emotion researchers accept that emotions are conscious experiences, and consciousness researchers accept that emotions are our most important conscious experiences.

About the George A. Miller Prize in Cognitive Neuroscience

The George A. Miller Prize in Cognitive Neuroscience was established in 1995 by the Cognitive Neuroscience Society to honor the innovative scholarship of George A. Miller, whose many theoretical advances has so greatly influenced the discipline of cognitive neuroscience. The first ten

years of the prize were funded by generous support from the James S. McDonnell Foundation.

Each year the Prize shall recognize an individual whose distinguished research is at the cutting-edge of their discipline with realized or future potential, to revolutionize cognitive neuroscience. Extraordinary innovation and high impact on international scientific thinking should be a hallmark of the recipient's work.

An annual call for nominations for the George A. Miller Prize will be made to the membership of the society. The recipient of the prize will attend the annual meeting of the Cognitive Neuroscience Society and deliver the George A. Miller lecture.

Previous Winners of the George A. Miller Lectureship

2025	Ken Paller, Ph.D., Northwestern University
2024	Lynn Nadel, Ph.D., University of Arizona
2023	Sabine Kastner, M.D., Ph.D., Princeton University
2022	BJ Casey, Ph.D., Yale University
2021	Elizabeth Phelps, Ph.D., Harvard University
2020	Nancy Kanwisher, Ph.D., Massachusetts Institute of Technology
2019	Earl K. Miller, Ph.D., Massachusetts Institute of Technology
2018	Elizabeth Spelke, Ph.D., Harvard University
2017	Dr. David Van Essen, Ph.D., Washington University in St Louis
2016	Brian Wandell, Isaac and Madeline Stein Family Professor
2015	Patricia Kuhl, Ph.D., University of Washington
2014	Jon Kaas, Ph.D., Vanderbilt University
2013	Fred Gage, Ph.D., The Salk Institute
2012	Eve Marder, Ph.D., Brandeis University
2011	Mortimer Mishkin, Ph.D., NIMH
2010	Steven Pinker, Ph.D., Harvard University
2009	Marcus Raichle, Ph.D., Washington University School of Medicine
2008	Anne Treisman, Ph.D., Princeton University
2007	Joaquin M. Fuster, Ph.D., University of California Los Angeles
2006	Steven A. Hillyard, Ph.D., University of California San Diego
2005	Leslie Ungerleider, Ph.D., National Institute of Mental Health
2004	Michael Posner, Ph.D., University of Oregon
2003	Michael Gazzaniga, Ph.D., Dartmouth College
2002	Daniel Kahneman, Ph.D., Princeton University
2001	William Newsome, Ph.D., Stanford University
2000	Patricia Churchland, Ph.D., University of California, San Diego
1999	Giacommo Rizzolatti, Ph.D., University of Parma, Italy
1998	Susan Carey, Ph.D., New York University
1997	Roger Shepard, Ph.D., Stanford University
1996	David Premack, Ph.D., CNRS, France
1995	David H. Hubel, Ph.D., Harvard Medical School

The Distinguished Career Contributions Award

Congratulations to Carole A. Barnes, Ph.D. for being awarded this honor!

Dr. Barnes will accept this prestigious award and deliver her lecture on Monday, March 9, 2026, 4:30 – 5:30 pm, in the Parq Grand Ballroom.

Why Study Normative Cognitive Aging When It Is Not a Disease?

Carole A. Barnes, Ph.D.

Regents Professor in the Departments of Psychology, Neurology and Neuroscience, the Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging, and Director of the Evelyn F. McKnight Brain Institute at the University of Arizona.



Animal models have been used to explore changes in the brain that might contribute to the underlying causes of normative age-related memory impairment. The hippocampus has been a useful neural system to study for gaining insights into what brain and cognitive changes are to be expected during the aging process. For example, healthy older humans, nonhuman primates and rodents all

show poorer hippocampus-dependent spatial memory and navigation ability than do their younger counterparts. Remarkably, these age-related changes begin to occur at a point in the lifespan that the species is considered to be “old”. This suggests that neurobiological changes that contribute to memory alterations across time are accelerated in shorter-lived species such as the rat, compared to humans. Central in the search for the fundamental contributors to memory changes that occur across the lifespan is synapse structure, function, and plasticity, and those mechanisms that act to support synapses. Alterations in synapse function and memory circuits are highly specific to subregions and cell types, rather than uniform across brain regions, making the search for interventions complex. Nevertheless, discovering how to support synaptic health in circuits critical for memory will be key for facilitating treatment strategies that aim to optimize cognition. At least two compelling reasons can be offered to support the idea that it is critical to understand the normative aging brain. First, most neurodegenerative diseases are superimposed on an aging brain. Thus, discovering the reasons for this age-related vulnerability may provide clues for disease prevention. Second, because epidemiological data indicate that most of us will age normatively, this also presents the possibility that resilience factors against disease can be

discovered, as well as factors that optimize cognitive health in those who are aging normatively. At the very least it is important to understand the normal aging brain well enough so that these states can be distinguished from pathological conditions.

About the Distinguished Career Contributions Award

This award honors senior cognitive neuroscientists for their sustained and distinguished career, including outstanding scientific contributions, leadership and mentoring in the field of cognitive neuroscience.

An annual call for nominations for the Distinguished Career Contributions Award will be made to the membership of the society. The recipient of the prize will attend the annual meeting of the Cognitive Neuroscience Society and deliver the Distinguished Career Contributions lecture.

Previous Winners of the Distinguished Career Contributions Award

2025	Marie T. Banich, Ph.D., University of Colorado at Boulder
2024	Kia Nobre, Ph.D., Yale University
2023	Mark D'Esposito, MD, University of California, Berkeley
2022	John Jonides, Ph.D., University of Michigan
2021	Robert Desimone, Ph.D., McGovern Institute for Brain Research at MIT
2020	Marlene Behrmann, Ph.D., Carnegie Mellon University
2019	Daniel L. Schacter, Ph.D., Harvard University
2018	Alfonso Caramazza, Harvard University
2017	Marcia K. Johnson, Yale University
2016	James Haxby, University of Trento
2015	Marta Kutas, Ph.D., University of California, San Diego
2014	Marsel Mesulam, M.D., Northwestern University
2013	Robert T. Knight, M.D., University of California, Berkeley
2012	Morris Moscovitch, Ph.D., University of Toronto

Young Investigator Award

Congratulations to the 2026 Young Investigator Award Winners

Monica Rosenberg, Ph.D., University of Chicago
Samuel D. McDougle, Ph.D., Yale University

YIA special lectures take place on Monday, March 9, 2026, 1:30 – 2:30 pm in Salon EF.

The purpose of the awards is to recognize outstanding contributions by scientists early in their careers. Two awardees, one male and one female, are named by the Awards Committee, and are honored at the CNS annual meeting. Each award includes \$500 US to be used by the winners toward travel costs to the meeting, or for any other purpose. This award is supported by the Chen Institute

Neural Signatures of Sustained Attention Across Time Scales and Individuals

Monday, March 9, 2026, 1:30 – 2:00 pm, Salon EF

Monica Rosenberg, Ph.D.

University of Chicago



Maintaining focus is critical for goal-directed behavior, yet sustained attention is inherently dynamic—fluctuating across seconds, waning across minutes to hours, and developing across childhood and adolescence. How and why does attention vary over time and across individuals? I will show that large-scale functional brain networks can serve as generalizable neural signatures of sustained attention, predicting individual differences and within-

person changes when measured during tasks, narratives, and rest. Moreover, I will argue that the primary utility of such brain-based predictive models lies in revealing how attention operates and interacts with broader cognitive processes, offering a framework for understanding variability in cognition across individuals and over time.

Generalized Prediction Errors in the Human Cerebellum

Monday, March 9, 2026, 2:00 – 2:30 pm, Salon EF

Samuel D. McDougle, Ph.D.

Department of Psychology, Yale University.



Your cerebellum contains more neurons and uses more energy than the rest of the brain combined. Evolutionarily, the cerebellum expanded hand-in-hand with the expansion of our species' cerebral cortex. It may not be surprising, then, that in addition to the cerebellum's well-known role in sensorimotor behavior, this remarkable structure is implicated in language, working memory, cognitive control, and social

cognition. One enduring mystery, however, is how specifically the cerebellum supports cognition. My lab has begun to explore the idea that cerebellar contributions to nonmotor tasks may involve the same prediction and error-based learning principles observed in cerebellar sensorimotor computations. Our recent neuroimaging results point to nonmotor prediction errors in 'cognitive' regions of the human cerebellar cortex. We observe these signals in both reinforcement learning and statistical learning contexts. Moreover, these signals appear to share constraints with cerebellar sensorimotor computations, including a preference for subsecond temporal intervals between associated events. Our findings suggest that the cerebellum contributes to rapid coordination of cognitive representations, directly echoing its role in motor control. These results expand our understanding of the computational functions of the human cerebellum and blur the lines between the sensorimotor and cognitive domains.

JoCN Travel Fellowship

The annual meeting of the Cognitive Neuroscience Society typically enjoys robust attendance from individuals from institutions based in the US and Canada, Europe, and Northeast Asia. To help promote geographic diversity in our science, the Journal of Cognitive Neuroscience has teamed up with CNS to create the JoCN Travel Fellowship, which provides a travel stipend of \$3000, plus waived conference registration and waived poster submission fee, to one trainee based at an institution located in each of five regions that have been underrepresented at the CNS conference: Oceania and Southeast Asia; South Asia; Africa; West Asia; and southern Western Hemisphere (excludes Canada and USA).

Congratulations to the 2026 Fellowship Winners

Threat and Prediction Modulations of Early Neural Responding to Facial Inputs are not Pre-Attentive

Philip T. Chalk, *The University of Queensland, School of Psychology.*

Enhanced Cognitive Processing in Musicians: A Comparative ERP Study of Executive Functions

Manal Lamouine, *Al Akhawayn University Ifrane- Morocco*

Toward Translational Mechanisms of Learned Helplessness: Linking Behavior, Computation, and Neural Modulation

Adithya Anil, *Indian Institute of Technology Kanpur, India*

What Gets Decoded in Frontoparietal Cortices?

Adem YAZICI, *Bilkent University, Department of Psychology*

Sequential vs. Simultaneous Encoding and Spatial vs. Temporal Retro-Cueing: Dissociating Working Memory Access Mechanisms

Juan Pablo Abril Ronderos, *Universidad Nacional de Colombia*

Previous Winners of JoCN Travel Award

2025

- Phuong Dang, *Queensland Brain Institute, Australia*
- Marisol Espinoza, *Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, Mexico*
- Moramay Ramos-Flores, *Institute of Neurobiology, National Autonomous University of Mexico, Querétaro, Mexico*
- Ankit Yadav, *National Brain Research Centre, India*
- Hasan Duymuş, *Ankara Yıldırım Beyazıt University, Psychology, Turkey*

2024

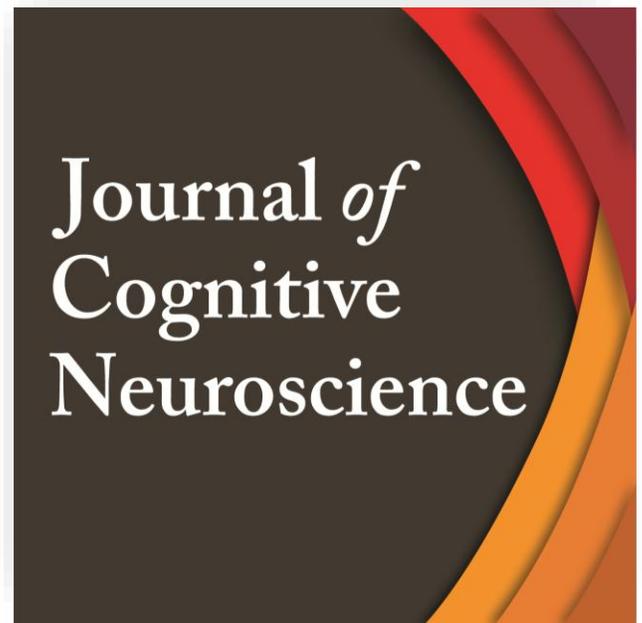
- Esaú Sirius, *Federal University of ABC (UFABC), São Paulo, Brazil*
- Emily Brooks, *Monash University, Clayton, Australia*
- Vinsea A V Singh, *National Brain Research Centre, India*
- İpek Çiftçi, *Bilkent University, Ankara, Turkey*

2023

- Christine A. Leonards, *The University of Melbourne, Parkville, Victoria, Australia*
- Zeguo Qiu, *The University of Queensland, Brisbane, Australia*
- Veena Kander, *University of Cape Town, South Africa*
- Kenneth Oparaji, *Alex Ekwueme Federal University, Ndufu-Alike, Ikwo (AE-FUNAI), Nigeria*

2022

- Sophie Smit, *Macquarie University, Sydney, Australia*
- Perna Dash, *University of Delhi, India*
- Nursima Ünver, *Sabancı University, İstanbul, Türkiye*
- Eduardo Gonzalez-Aleman, *Center for Neurosciences of Cuba, La Habana, Cuba*



Workshops, Socials & Special Events

#	Title	Date	Time	Location
1	Satellite - International Sleep Replay Workshop	Friday, March 6	8:00 am - 6:00 pm	Salon F
2	Satellite - The Virtual Brain Node: Personalized Simulations for Cognitive Neuroscience	Friday, March 6	8:00 am - 6:00 pm	Salon D
3	CNS 2026 Welcome Reception	Saturday, March 7	6:00 - 7:00 pm	Parq Grand Ballroom Foyer
4	Workshop on Cognitive Neuroscience for Foundation Models	Saturday, March 7	12:00 - 1:00 pm	Salon ABC
5	Workshop - Sound & Color: Depicting the Synesthetic Mind (screening)	Sunday, March 8	12:15 - 1:15 pm	Salon ABC
6	Workshop - MIND: A New Toolkit for Structuring Brain and Body Research Data	Sunday, March 8	12:15 - 1:15 pm	Salon D
7	Workshop - Practical Hyperscanning: From Setup to Analysis-Ready Data	Sunday, March 8	12:15 - 1:15 pm	Salon E
8	The Brain Box Social	Monday, March 9	12:00 - 1:30 pm	Parq Grand Ballroom Foyer
9	Workshop - Cognitive Neuroscience and Society: Resistance and Resilience During Science Funding Crises	Monday, March 9	12:15 - 1:15 pm	Salon ABC
10	Workshop - Capturing Real-World Brains in XR: Seamless Brain-Behavior Experiments with DSI and LABO	Monday, March 9	12:15 - 1:15 pm	Salon D
11	CNSTA - Trainee Professional Career Panel: Survival to Sustainability: Building a Career That Lasts	Monday, March 9	5:45 - 7:15 pm	Salon EF
12	Social - CNS Trainee Association Student Social Night	Monday, March 9	7:30 - 10:00 pm	Greta Bar (Offsite)

Satellite - International Sleep Replay Workshop

Friday, March 6, 2026, 8:00 am - 6:00 pm, Salon F

Join us for the 5th International Sleep Replay Workshop – March 6th in Vancouver!

The International Sleep Replay Workshop (ISRW) brings together scientists from around the world who study the interface between sleep and memory. The focus of the workshop is on understanding how reactivation of memories during sleep impacts consolidation. Talks and discussions center on studies manipulating and monitoring reactivation, primarily in humans.

The 5th International Sleep Replay Workshop will be held in person in Vancouver, BC, Canada on March 6th, 2026. The workshop will include symposia, short talks, discussion groups, posters, and tutorials, as well as time to interact informally. Learn more here: <https://isrw.bio.uci.edu>.

The workshop is open to all: experience with sleep research is not required. Registration for this satellite event is separate to CNS 2026. You can register using this link: <http://isrw.bio.uci.edu/> Registration Deadline, February 15th, 2026.

Satellite - The Virtual Brain Node: Personalized Simulations for Cognitive Neuroscience

Friday, March 6, 2026, 8:00 am - 6:00 pm, Salon D

This one-day satellite event introduces personalized brain network modelling using TheVirtualBrain (TVB), an open-source simulation platform. Participants gain theoretical knowledge and hands-on experience in nonlinear dynamics, TVB software architecture, resting-state network modelling, and parameter optimization. Applications to aging, pediatrics, and workflows on high-performance computers are also explored.

This satellite event is open to all and requires separate registration from CNS 2026. Space is limited and early registration is encouraged. Learn more and register at: <https://tvbnode-cns2026.eventbrite.ca>.

CNS 2026 Welcome Reception

Saturday, March 7, 2026, 6:00 - 7:00 pm, Parq Grand Ballroom Foyer

The Opening Reception is always a highlight at CNS! Don't miss out — it's the perfect opportunity to reconnect with colleagues, as well as meet new people and broaden your academic network. Join us as we kick off the CNS 2026 Annual Meeting and enjoy some hors d'oeuvres

and a cash bar (Have a free drink on us when you use your drink ticket!)

Workshop on Cognitive Neuroscience for Foundation Models

Saturday, March 7, 2026, 12:15 - 1:15 pm, Salon ABC

This workshop explores how cognitive-neuroscientific methods and theories illuminate the study of foundation models, and vice versa. Presentations focus on behavioral-reductionist and interpretability methods to investigate computational substrates underlying cognitive functions exhibited by models trained on linguistic and/or multimodal inputs, offering insights for both AI development and cognitive science.

Workshop - Sound & Color: Depicting the Synesthetic Mind (screening)

Sunday, March 8, 2026, 12:15 - 1:15 pm, Salon ABC

Discussants: Alissa Fagin, Sound & Color Documentary; Dr. Joan Ongchoco, Assistant Professor in Cognitive Science at the University of British Columbia (UBC), and the Director of the UBC Perception & Cognition Lab.

Sound & Color, a short documentary, follows the process of animating synesthesia artist Sarah Kraning's visual experience of sound. Through its nuanced exploration of Sarah's mind, the film contemplates cross-sensory modalities, subjective perception, and art's role in transforming the personal into the universal. The screening will be followed by a Q&A with the filmmaker.



Workshop - MIND: A New Toolkit for Structuring Brain and Body Research Data

Sunday, March 8, 2026, 12:15 - 1:15 pm, Salon D

Extended reality (XR) and mobile biosensors (EEG, fNIRS, etc.) enable powerful, real-world measurement of brain and behaviour; however, inconsistent formats waste valuable time. In collaboration with Brain Vision, this workshop presents an open data standard and toolkit for unified data



collection and streaming, enabling scalable and multimodal datasets to train AI that predicts human behaviour.

Workshop - Practical Hyperscanning: From Setup to Analysis-Ready Data

Sunday, March 8, 2026, 12:15 - 1:15 pm, Salon E

An academic workshop focused on efficient hyperscanning methodologies, highlighting fast study setup, minimal hardware overhead, and integrated software pipelines that merge multi-brain signals into synchronized, ready-to-process data suitable for real-world social neuroscience experiments.

The Brain Box Social (Lunch provided)

Monday, March 9, 2026, 12:00 - 1:00 pm, Parq Grand Ballroom Foyer

Neural connections happen better on a full stomach. Join us for The Brain Box Social, a versatile lunch hour designed for the busy scientist. Grab a complimentary boxed lunch and migrate to a table to meet new peers or take it to-go if you're heading to a workshop.



Workshop - Cognitive Neuroscience and Society: Resistance and Resilience During Science Funding Crises

Monday, March 9, 2026, 12:15 - 1:15 pm, Salon ABC

Recent U.S. policy changes threaten the scientific community. This workshop features opportunities to address this crisis and build resilience. We share insights from national advocacy initiatives led by early-career CNS researchers—the Science & Community Impacts Mapping Project and Scientist Network for Advancing Policy—complemented by professional development for trainees.

Workshop - Capturing Real-World Brains in XR: Seamless Brain-Behavior Experiments with DSI and LABO

Monday, March 9, 2026, 12:15 - 1:15 pm, Salon D

Discover how dry-electrode EEG and immersive extended reality (XR) can be combined to study cognition in naturalistic yet controlled environments. Using Wearable Sensing's VR-compatible dry EEG systems and SilicoLabs' LABO platform, attendees will experience low-burden, scalable brain-behavior experiments with synchronized neural, behavioral, and contextual data capture.

WEARABLE 
Sensing

10th Annual CNSTA Trainee Professional Career Panel: Survival to Sustainability: Building a Career That Lasts

Monday, March 9, 2026, 5:45 - 7:15 pm, Salon EF

CNSTA Panel Moderators: Taryn Green and Frederik Bergmann

Panelists: Morgan Barese, Ajay Satpute, Caterina Gratton, and Regina Lapate

The discussion will cover strategies for sustaining a long-term research career, including work-life balance, funding and mentorship, ethics and open science, adapting to evolving research environments, and building resilience through challenges and change.

CNS Student Trainee Social Night!

Monday, March 9, 2026, 7:30 - 10:00 pm, Greta Bar, located 50 W Cordova St, Vancouver, BC V6B 1C8, Canada

Join us immediately after the panel for a trainee social at Greta Bar - an arcade bar! Enjoy a selection of complimentary snacks, and the first 100 trainees will receive free game cards. Drinks will be available for purchase. Trainees will head over together as a group immediately following the panel.

HOW TO GET THERE:

WALKING from the JW Marriott Parq Vancouver (39 Smithe St, Vancouver, BC V6B 0R3, Canada) - 18 min (0.7 mile) via Pacific Blvd. [Click HERE for Google Map Directions](#)

- Head toward **Pacific Blvd**
- Turn left toward **Pacific Blvd**
- Continue onto **Pacific Blvd**
- Turn left onto **Pat Quinn Wy**
- Continue onto **Abbott St**
- Turn right onto **W Cordova St**
(Destination will be on the right)



CNS Student Trainee Social Night



Join us right after the panel for a trainee social at GRETA - an arcade bar! Enjoy a selection of complimentary snacks, and **the first 100 trainees will receive free game cards**. Drinks will be available for purchase. Trainees will head over together as a group immediately following the panel.

Monday, March 9th 7:30 - 10:00 pm

 GRETA YVR, 50 W Cordova St

Data Blitz

Session #	Date	Time	Location	Chair
Data Blitz Session 1	Saturday, March 7	10:30 am – 12:00 pm	Salon ABC	Alexa Tompary
Data Blitz Session 2	Saturday, March 7	10:30 am – 12:00 pm	Salon D	James W. Antony
Data Blitz Session 3	Saturday, March 7	10:30 am – 12:00 pm	Salon E	Carmen Westerberg
Data Blitz Session 4	Saturday, March 7	10:30 am – 12:00 pm	Salon F	Juliana Trach

Data Blitz Sessions

A Data Blitz is a series of 5-minute talks, each covering just a bite-sized bit of research. It will offer a fast-paced overview of some of the most exciting research presented at this year's poster sessions.

Data Blitz Session 1

Saturday, March 7, 2026, 10:30 am – 12:00 pm, Salon ABC

Chair: Alexa Tompary Drexel, University

Speakers: Victoria Wardell, Dr. Maxi Becker, Samira Tavassoli, Signy Sheldon, Matthew Dougherty, Mar Domínguez-Orfila, Janvi Subramanyan, Yanxin Xu, Devayani Joshi, Arantzazu San Agustín, Aalap Shah, Sevda Hasanli, Riley DeHaan, Frederik Bergmann, Uma Mohan

TALK 1: STABILITY AND CHANGE IN AUTOBIOGRAPHICAL MEMORY NARRATIVES

Victoria Wardell, University of British Columbia

Humans have a proclivity for storytelling. Some of the most common stories we tell are our autobiographical memories, the stories we have for our own lived experience. Memory is a remarkably malleable system though: we forget and even embellish our stories of the past over time. Here, we examine the dynamic interplay of stability and transformation in narrative recall. In two large datasets, we use standardized human coding and natural language processing to show that what we narrate changes substantially over time. We further demonstrate that the emotionality of the event offers memory some preservation, with negative events showing greater consistency than neutral events. We then demonstrate that the way we narrative our past is remarkably consistent. We plot the trajectory of mnemonic details across memory narratives to show that memory narratives reliably begin with contextual details, progressing with details of the event itself that then taper off towards a coda of emotional reflections. Crucially, even differences in emotionality of the event do not erode the structure of story that anchors recall. This duality—malleable content within a stable form—suggests that memory is both adaptive and constrained. Flexibility in what we recall may allow us to tailor our memories to different audiences while stability in how we recall may

encourage conformity to culturally shared storytelling norms. The marrying of malleable content and stable structure may be crucial for memory to facilitate social connection and meaning-making.

TALK 2: NEURAL MECHANISMS OF INSIGHT: NONLINEAR CORTICAL REPRESENTATIONAL CHANGE WITH HIPPOCAMPAL AND CATECHOLAMINE ENGAGEMENT

Dr. Maxi Becker, Duke University

“Aha!” moments—sudden insights marked by a lasting memory trace—are central to creativity and learning, yet their mechanisms remain elusive. Our recent account proposes that “Aha!” reflects a sharp, non-linear update of an internal model when sustained prediction errors collapse, engaging catecholaminergic systems and hippocampal encoding to boost memory (Becker & Cabeza, 2025). We tested this account in two studies using hard-to-identify Mooney images. In a preregistered online experiment, we manipulated update steepness by showing participants a series of identical images going from degraded to clear. We varied only reveal timing for the same images (late rapid reveal vs gradual reveal). The steeper (non-linear) schedule reliably increased self-reported Aha! intensity. In a separate fMRI–pupillometry study with delayed memory, trial-wise insight modulated temporal trajectories in object-selective cortex and prefrontal control regions: we found a sustained positive ramp beginning ~2 s pre-response in both temporal multivoxel pattern change and model-based representational strength, indexing a more non-linear solution update. Pupil dilation exhibited a phasic, non-linear increase in the same window, consistent with noradrenergic arousal. Univariate analyses showed Aha!-scaled responses in hippocampus and canonical catecholamine-recipient areas (SN/VTA, Nucleus Accumbens, Locus coeruleus). Finally, structural equation models indicated that steep cortical update, hippocampal responses, and catecholaminergic proxies jointly accounted for Aha! intensity, with both Aha! and hippocampus predicting insight-related better memory. Together, convergent behavioral, neural, and pupillary evidence indicates that insight reflects a non-linear solution-model update synchronized with catecholaminergic signaling and hippocampal encoding, offering a mechanistic bridge between the phenomenology of “Aha!” and its mnemonic benefits.

TALK 3: NARRATIVES HAVE A PERSISTING INFLUENCE ON THE TEMPO OF THE BRAIN

Samira Tavassoli, Johns Hopkins University

The media we consume can shape our thoughts and patterns of brain activity. As people observe scene shifts during naturalistic audiovisual input, their cortical activity patterns shift, too (Geerligs et al., 2022; Tseng & Poppenk, 2020; Baldassano et al., 2017). But to what extent does the influence of media on brain dynamics persist beyond the end of the stimulus? In our study, we investigated how the pace of a narrative can affect the pace of cortical pattern shifts even after it concludes. While undergoing fMRI scanning, participants ($n = 19$) listened to seven fictional stories, each of which was followed by a 1-minute (awake) rest period. We then quantified participants' cortical pattern shifts and shift rates (the amount of change in multivariate patterns per minute) in each parcel during the listening and rest periods. We found that during the listening period, semantic shifts in each story (assessed via human judgments) temporally aligned with cortical pattern shifts in the default mode network (perm- $p < 0.01$ for all stories). Moreover, cortical shift rates during listening were significantly positively correlated with cortical shift rates during the subsequent rest period for parcels in the default mode (perm- $p < 0.02$), auditory (perm- $p < 0.02$), limbic (perm- $p < 0.005$) and ventral attention networks (perm- $p < 0.03$), but not the visual, somatomotor, or temporoparietal networks (all perm- $p > 0.05$). These results suggest that media can leave a lasting imprint on the intrinsic tempo of the brain, potentially shaping how we process future information.

TALK 4: TRACKING MEMORY FOR A POSITIVE COLLECTIVE EVENT: A LONGITUDINAL STUDY OF THE 2024 SOLAR ECLIPSE

Signy Sheldon, McGill University

Collective memories, personal recollections of shared public events, have traditionally been examined in the context of negative, unexpected occurrences (e.g., the 9/11 attacks). Such studies show that memories of these negative events remain vivid and confidently recalled over time, despite declines in accuracy. This pattern has been attributed to social sharing of the memories to form collective narratives. Whether positive, public, and meaningful events follow a similar pattern remains unknown. To address this question, we examined how individuals remembered the rare, positive, and socially shared 2024 solar eclipse over time. In a longitudinal online study, 175 Canadian university students recalled their experience of the solar eclipse and a personal event from the same week across four sessions (1 week, 1 month, 3 months, and 6 months post-event). At each session, participants provided free recalls to assess thematic (gist) content, answered specific detail questions ("who/where/what") to assess accuracy, and rated each memory for confidence, emotional valence, arousal, rehearsal, and meaning. Results revealed that solar eclipse memories retained their thematic structure but were recalled

with reduced accuracy over time compared to the personal memories. Despite this decline in accuracy, participants reported consistently higher confidence in their eclipse memories and rated them as more positive and arousing than the personal memories. These findings suggest that positive, anticipated public events can evolve into collective memories in a similar manner to negative public events.

TALK 5: MNEMONIC RAMPING: EXPLORING THE UNIQUE TEMPORAL DYNAMICS OF ENCODING AND RETRIEVAL SUCCESS OVER TIME

Matthew Dougherty, University of Toronto

Memory retrieval success is frustratingly variable. This variability may stem from difficulty in sustaining the retrieval mode, which orients attention internally towards reinstated information (Tulving, 1983). Reinstatement itself additionally takes time to establish (Dougherty, Patil & Duncan 2025). While second-by-second retrieval variability has been studied, naturalistic retrieval is often more prolonged. Therefore, here we studied how these sources of variability interact to shape our retrieval success across minutes, and the uniqueness of this relationship to retrieval versus tasks with similar attentional and mnemonic demands. Participants completed twelve blocks of associative encoding and retrieval, each varying between 67.5s-99s, intermixed with six blocks each of shape counting and arithmetic (42.5-57.5s) that served as mnemonic distractors and comparators for time-success relationships across externally and internally oriented tasks, respectively. Preliminary data ($n=26$) demonstrate that retrieval varies significantly over time, with performance decreasing within blocks ($p < 0.05$) despite memory improvements across blocks ($p < 0.001$). This performance decrement was mirrored in the internally oriented arithmetic task ($p = 0.05$), but not in externally oriented shape counting ($p = 0.99$) or encoding ($p = 0.36$), despite similar difficulty. Interestingly, while retrieval performance within a block decreased, retrieval performance was at its lowest on beginning trials ($p < 0.001$) before rapidly ramping up. This effect was mirrored in encoding ($p < 0.001$), but not in either attention task (arithmetic $p = 0.99$, shape counting $p = 0.97$). This pattern of temporal profiles across tasks suggests that (1) it is more challenging to sustain attention to internally than externally generated content and (2) engaging memory-specific processes common to encoding and retrieval takes multiple seconds.

TALK 6: TRACKING EVENT BOUNDARY PROCESSING IN LANGUAGE: HIERARCHICAL DYNAMICS OF COMPREHENSION AND MEMORY

Mar Domínguez-Orfila, Universitat de Barcelona

Understanding a narrative requires constructing a coherent situation model by segmenting information into discrete events, typically marked by shifts in time, space, or goals. While most research on event segmentation relies on continuous audiovisual stimuli where event boundaries must be inferred, language provides inherently

discrete boundaries, yet fewer studies have examined how this process unfolds during the comprehension of written narratives. Most language-based studies focus on behavioral measures, providing limited insight into the real-time neural dynamics underlying event model updating. Here, we combine word-by-word reading times (RTs) with scalp EEG to examine how readers update event representations and how these dynamics influence memory organization. We used narratives with two hierarchical levels: stimuli adapted from Ding & Zacks (2025) comprised ten short stories with a nested structure of fine- and coarse-level events. We hypothesize that each level exhibits distinct behavioral and neural signatures supporting event updating and episodic memory formation. Participants read stories word by word in a self-paced task while EEG was recorded, followed by a distractor and a free recall task. RTs increased at both boundary types, with coarse boundaries showing a post-boundary slowdown relative to fine boundaries, indicating more effortful integration. EEG data mirrored these behavioral effects, revealing a larger late positivity for coarse than for fine boundaries. Finally, fine-level events were more likely to be recalled when reading times were higher at boundary positions, but not coarse-level events. These results emphasize language as a precise framework for investigating the dynamics and structure of event segmentation.

TALK 7: DISENTANGLING EXPOSURE- AND RETRIEVAL-BASED MECHANISMS OF WORD-IMAGE ASSOCIATIVE LEARNING THROUGH REPEATED RECOGNITION PRACTICE

Janvi Subramanian, Northwestern University

Repeated practice enhances explicit memory, a strategy well-known as rote learning but which has not been incorporated into neuroscience-based models of memory within the medial temporal lobe. Practice administered through forced-choice recognition memory tests allows for several learning opportunities: exposure to the item and answer choices, reactivating previously acquired knowledge for response selection, and receiving feedback about accuracy. Here, we examined memory performance for 40 novel molecule image-name associations over 12 cycles of four-alternative forced-choice (4AFC) recognition practice (60 minutes). In a first study (n=28), performance increased reliably across repetitions and was fit by a simple maximum-likelihood model with a single learning parameter that seemingly combined all facets of memory strengthening. This suggested that a substantial contribution to learning may occur during initial exposure to the image when it is presented with the correct answer and three foils, even before participants attempt to answer or receive feedback. In a second study (n=63), half the participants completed practice repetitions in a condition in which two of the foils frequently reappeared with the correct answer. These recurring foils tended to be selected despite feedback that they were incorrect, leading to slower overall learning. An updated quantitative model with these data was able to separately estimate the amount of associative learning from exposure

to the image and answer options versus memory strengthening from retrieval and subsequent feedback. These findings offer a mechanistic explanation of explicit memory strengthening during repeated forced-choice recognition practice, describing learning from both passive exposure and active retrieval with feedback.

TALK 8: THE EFFECT OF GAZE REINSTATEMENT PRECISION ON MEMORY

Yanxin Xu, University of Victoria

Eye movements during memory retrieval often recapitulate those made during encoding—a phenomenon known as gaze reinstatement. While previous research has observed a link between gaze reinstatement and memory performance, the direction and strength of this relationship remain unclear. The present study aimed to establish a causal connection between gaze reinstatement and memory retrieval by experimentally and parametrically manipulating gaze position during retrieval and assessing memory performance continuously. Young adults encoded sequences of coloured shapes while their eye movements were recorded. During retrieval, gaze was constrained to within 0-30 degrees of an encoded shape's location and participants were instructed to select the corresponding colour from a colour wheel. Consistent with our hypothesis, gaze position was positively predictive of memory performance. That is, fixating closer to the location of an encoded item was associated with more precise colour memory. These findings suggest that eye movements are tightly coupled to the encoding and retrieval of precise item features and support a functional role for gaze reinstatement in memory.

TALK 9: INDEPENDENT AND JOINT CONTRIBUTIONS OF MIND-WANDERING AND REACTIVATION TO MEMORY CONSOLIDATION

Devayani Joshi, Drexel University

Mind-wandering is often associated with impaired memory, but the potential benefits of mind-wandering when it occurs after learning are not well understood. Quiet rest after learning supports memory consolidation and provides an ideal environment for mind-wandering, but to date, it is unclear if and how the neural processes that underlie mind-wandering interact with those that support memory consolidation. Across two studies, we track neural signatures of each process on a moment-by-moment basis using an experience sampling approach. In Experiment 1, 39 participants learned object-scene associations before spending 40 minutes resting awake in an fMRI scanner. During rest, they reported mind-wandering levels through experience sampling every minute. Memory tests were administered immediately after the rest and after a 24-hour delay. Participants who reported more mind wandering after learning exhibited better memory performance. Multivoxel pattern analysis revealed that spontaneous memory reactivation in the hippocampus, as well as co-reactivation with cortex, increased after learning. Interestingly, greater reactivation

was linked to better immediate memory but poorer delayed memory, suggesting a tradeoff over time. Furthermore, mind-wandering in the 10-second window preceding experience-sampling probes was associated with elevated activity across the default mode network. We will also present preliminary findings from Experiment 2, an ongoing study examining the real-time connection between mind-wandering and hippocampal reactivation using a closed-loop fMRI design in which thought probes are triggered when a reactivation event is detected. Together, these experiments aim to directly link spontaneous reactivation with the subjective experience of thought, offering insights into how spontaneous cognition shapes memory consolidation.

TALK 10: HIPPOCAMPAL MODULATION VIA INDIRECTLY TARGETED NONINVASIVE STIMULATION IS INTENSITY-DEPENDENT AND REGION-SELECTIVE

Arantzazu San Agustín, University of Chicago

How can hippocampal activity be modulated via noninvasive stimulation? Hippocampal Indirectly Targeted Stimulation (HITS) modulates hippocampal activity applying transcranial magnetic stimulation (TMS) to accessible locations of the hippocampal network in parietal cortex. HITS enhances memory performance and hippocampal connectivity measured via fMRI, yet the temporal electrophysiological dynamics of hippocampal responses mediating these effects remain unknown. Characterizing HITS-induced hippocampal activity with high temporal precision allows assessment of how stimulation intensity and location shape hippocampal dynamics, advancing our knowledge in underlying memory mechanisms and providing a framework to refine time-specific noninvasive neuromodulation strategies. We hypothesize that HITS evokes stronger hippocampal responses than out-of-network or sham stimulation, with effects increasing by intensity but losing selectivity at high intensity levels. We tested this hypothesis in $N=4$ individuals with refractory epilepsy implanted with intracranial electrodes in hippocampus and parahippocampal gyrus ($n=28$ contacts). We applied TMS at 60%, 80%, 100%, and 120% of resting motor threshold under HITS, sham, and out-of-network (in S1) stimulation conditions. In a subset of the sample, HITS intensity produced progressively larger intracranial potentials immediately after TMS ($p = .04$; 4–62 ms) and more negative amplitudes later ($p = .04$; 488–576 ms). HITS responses were significantly more negative than sham and S1 at 100% intensity ($p < .01$; 385–509 ms). These results provide direct evidence of hippocampal responses to HITS and how they can be modulated in an intensity-dependent and region-selective manner. These results advance understanding of TMS effects on hippocampal activity and may contribute to developing effective noninvasive memory modulation strategies.

TALK 11: DEPTH-OF-PROCESSING-LIKE COMPUTATIONS EXPLAIN VISUALLY-EVOKED ACTIVITY IN THE HUMAN MEDIAL TEMPORAL LOBE

Aalap Shah, Yale University

Decades of research have shown that spontaneous visually-evoked activity in the Medial Temporal Lobe (MTL) is consequential for later memory performance. Yet, the computational basis of such visually evoked processing in the MTL remains unclear. Existing modeling work has focused on standard visual object recognition systems and their variants fine-tuned on human memory performance, without addressing how visual processing influences the strength of memory traces. In contrast, here we take a reverse-engineering approach that explicitly links a priori computational principles with neurobiological plausibility. We propose that visually evoked processing in the MTL can be understood through the lens of Craik and Lockhart's depth-of-processing hypothesis—a foundational account of the perception-to-memory interface. Drawing on recent modeling work, we used compression-based reconstruction error from autoencoders as an image-computable signature of depth-of-processing, with the idea that images with harder-to-reconstruct representations evoke greater processing in the MTL (and vice-versa). We computed reconstruction error from two autoencoders corresponding to the extrema of category decodability within the compressed code: category-agnostic and category-informed models. We analyzed single-cell intracranial MTL recordings in human participants ($n=15$), comprising 362 hippocampal and 446 amygdala neurons, while they passively viewed 500 real-world images spanning 50 categories. Reconstruction error yielded an interpretable, functional window onto MTL activity, revealing a robust double dissociation: category-informed reconstruction error correlated significantly only with hippocampal activity, whereas category-agnostic reconstruction error correlated significantly only with amygdala. Moreover, reconstruction error outperformed alternatives in each MTL subregion. These findings suggest depth-of-processing as an algorithmic-level account of stimulus-driven visual processing in the MTL.

TALK 12: COMPUTATIONAL METHODS CAN SIGNIFICANTLY PREDICT HUMANS' SCORING OF STORY RECALL DETAILS

Sevda Hasanli, University of Ottawa

Story recall remains a primary method of assessing episodic memory, but manual scoring of participants' responses can be laborious and time consuming. Computational methods offer an efficient, scalable, automated alternative for recall scoring. We asked whether two computational approaches could match traditional human scoring of story recall. The first approach employed a classical natural language processing (NLP) pipeline using rule-based techniques, including n -gram extraction, named entity recognition, and dependency parsing (Python Natural Language Toolkit). The second approach leveraged the advanced language understanding capabilities of large language

models (LLMs). We used the classical NLP method and two LLMs (OpenAI's GPT-4o and Google's Gemini 2.0/2.5) separately to score $n = 160$ young and $n = \sim 95$ older adults' immediate and delayed recall of pairs of stories created by Taler et al. (2021). Responses were classified as veridical (i.e., word-for-word), gist (i.e., general idea), or distorted (i.e., clearly errors). Remarkably, both approaches closely matched the human scoring of veridical recall. The classical NLP pipeline failed to capture gist and distortion scores, whereas the LLMs demonstrated moderate correlations with human ratings on both dimensions. We explored different LLM prompting methods and received similar results each time. Computational methods are approaching human-level performance in scoring memory veridical recall, though they still need improvement in capturing the subtleties of memory errors. Further development of these automated tools will help make cognitive and neuropsychological testing more efficient and accessible, and may be especially useful with large datasets.

TALK 13: ACCOUNTING FOR EXPERIMENTAL FACTORS DIMINISHES NEURAL MEASURES OF SUBSEQUENT MEMORY

Riley DeHaan, University of Pennsylvania

Decades of work have shown that neural activity at the time of item study predicts subsequent memory performance. However, it is known that items at the beginnings and ends of lists are successfully recalled most often, that some items are more memorable than others, and that these effects vary widely across individuals. This raises the question of whether neural activity correlated with memory primarily reflects internal fluctuations in the brain relating to the ability to memorize new items (which should be targetable by interventions such as brain stimulation) or instead corresponds to the behavioral effects of experimental stimuli (which may be harder to modulate). Here we compare estimates of the subsequent memory effect computed with and without adjustments for experimental variables including study position and item identity in a sample of 375 patients recorded intracranially during a free recall task. After incorporating stimulus-related effects, neural activity remains a significant behavioral predictor but only explains an additional 3.9% of the variance in recall performance, suggesting the majority of the subsequent memory effect should be attributed to stimulus features rather than an endogenous state of memory performance. We decompose the subsequent memory effect across stimulus features and anatomical regions to reveal the regions associated with variability in memory uniquely explained by item identity, study position, and the residual memory variability unexplained by stimulus features. Our findings indicate that isolating neural activity corresponding to an endogenous state of learning readiness requires careful consideration of experimental confounds.

TALK 14: REINSTATEMENT OF COMPLEX SEMANTIC MEMORY REPRESENTATIONS FOR VISUAL SCENES CAPTURED THROUGH LANGUAGE EMBEDDINGS

Frederik Bergmann, University of Colorado at Boulder

When we recall complex scenes, we experience them with a wealth of semantic information. Here we used representational similarity analysis (RSA) and language encoders to test the hypothesis that this information is reinstated, in its semantic richness, during cued recall. We used the multilingual Universal Sentence Encoder (USE) to obtain embeddings of normative descriptions of complex visual scenes that participants were cued to remember while undergoing functional magnetic resonance imaging (fMRI). This allowed us to investigate whether activity patterns during recall correspond to semantic embedding structure. We focused on the anterior temporal (AT) and posterior medial (PM) networks and hypothesized that the latter should reflect the rich semantic information of complex scenes. Indeed, only the PM network showed significant alignment between neural and language-derived scene similarity, consistent with the PM's established role in representing contextual-relational structure. A preliminary whole-brain searchlight RSA also revealed a bilateral region between the lateral occipital and temporal cortices. Critically, these effects were diminished or even absent when participants were given a cue but instructed not to retrieve the associated scene. On one hand, this highlights that the scenes themselves – and not their cues – gave rise to the similarity structure observed. On the other, it also shows that such reinstatement is under voluntary control. In sum, our findings show that high-level semantic embeddings derived from language can effectively model the neural reinstatement of complex visual memories.

TALK 15: CORTICAL TRAVELING WAVE PATTERN REINSTATEMENT SUPPORTS SUCCESSFUL ASSOCIATIVE MEMORY FORMATION AND RETRIEVAL IN HUMANS

Uma Mohan, National Institutes of Health

The neural mechanisms that enable us to bind pieces of information together remain unclear. While the direction of large-scale spatiotemporal patterns of low-frequency oscillations across the cortex are known to support memory encoding and retrieval states, the functional role of microscale cortical traveling waves is less understood. Using intracranial electrocorticography data collected from 10 neurosurgical epilepsy patients during a paired associative verbal memory task, we examined the spatiotemporal patterns of low-frequency oscillations recorded on microelectrode arrays implanted in the anterior temporal lobe. We identify time periods during word pair encoding and subsequent cued recall when theta and alpha oscillations propagated in organized patterns across the cortex. We compared these patterns between encoding and retrieval and found that participants successfully retrieved previously encoded word pairs when the same directional pattern of traveling waves that occurred when they viewed the pair occurred again, or reinstated, following the retrieval cue. Conversely, unsuccessful retrieval exhibit less precise or

altogether absent emergence of previously observed directional patterns. These results provide evidence that the reinstatement of specific microscale directional patterns of traveling wave patterns in the anterior temporal lobe supports the successful retrieval of previously encoded pairs of information, supporting the hypothesis that recalling the past involves a form of dynamically neural recreation of the encoding context.

Data Blitz Session 2

Saturday, March 7, 2026, 10:30 am – 12:00 pm, Salon D

Chair: James W. Antony, California Polytechnic State University
Speakers: Geneva Mariotti, Helena M. Gellersen, Matthew D. Bachman, Maëva Gacoin, Qingyi Li, Elena Skoullou, Áine T. Dineen, Tiantian Yang, Sara Ahmed, Cecilia Liu, Seth Koslov, Veronica Vuong, Fang Wang, Claire Lauzon, Ivette Colón.

TALK 1: EYE HEAR YOU: EYE MOVEMENTS TO MENTAL IMAGERY DURING SPEECH COMPREHENSION IN NOISE

Geneva Mariotti, University of Toronto, Rotman Research Institute

Perhaps counterintuitive, the study of eye movements can provide an index of how well we can hear. Under challenging listening conditions, such as in speech comprehension in background noise, eye movements decrease. However, eye movements tend to increase during mental imagery and memory instantiation, which may be useful in supporting listening efforts during challenging conditions. Young adults ($n = 64$, $Mage = 22.28$) listened to and recalled visually rich (concrete scenes) or abstract descriptions while eye-tracked on a blank screen. Listening difficulty was manipulated with two levels of background babble. Participants recalled concrete descriptions more accurately, particularly in easier listening conditions. During listening, eye movements (gaze dispersion, fixation rate, and saccade amplitudes) were reduced under difficult conditions and overall increased for abstract descriptions. Time-course analyses revealed that gaze dispersion tracked spatial features of concrete descriptions but no other relational information. During recall, eye movements were higher for abstract descriptions and reflected listening difficulty for concrete passages. Notably, a peak in gaze dispersion preceded the recall of spatial details in concrete passages, and this pattern was seen in those with high recall performance. These results indicate that both speech content and listening environment shape the recruitment of eye movements. When listening to visualizable speech, eye movements may be co-opted to represent the spatial components of imagined content. These eye movements may be reinstated during subsequent recall to support memory accuracy. Thus, the oculomotor system may actively support speech comprehension through its role in mental imagery.

TALK 2: CONNECTOME-BASED MODELLING OF INTER-INDIVIDUAL VARIABILITY IN PERCEPTUAL AND MNEMONIC FIDELITY IN HEALTHY AGEING

Helena M. Gellersen, University of Cambridge

Ageing reduces the fidelity of perceptual and mnemonic representations, but individuals vary widely in terms of cognitive maintenance. We used connectome-based modelling on resting-state fMRI data to identify which functional interactions between brain regions best explain inter-individual variability in 149 older adults at baseline and 44 at follow-up seven years later. Participants performed perceptual discrimination (PD) tasks with similar stimuli and mnemonic discrimination (MD) tasks, one which requires distinction between an encoded target and a simultaneously presented similar lure (Forced Choice: FC) and one in which either target or lure were shown at retrieval (Yes/No: YN). These tasks were chosen to manipulate the degree to which strategic recollection is needed to avoid false recognition. We focused on medial temporal lobe, default-mode and frontoparietal network regions. Over seven years, Montreal Cognitive Assessment scores were stable. Older adults declined in YN, but not FC performance highlighting the influence of retrieval support as determinant of age-related memory dysfunction. PD performance also declined, possibly due to working memory demands. The functional connectome predicted baseline YN, but not FC performance, with hippocampal-temporal and temporal-parietal connections contributing most. Change in YN was best predicted by entorhinal and prefrontal cortical connections. Entorhinal-perirhinal connectivity also explained variability in PD. These findings suggest that complex perceptual discrimination and recollection-, but not familiarity-based memory fidelity or standard neuropsychological tests are sensitive to age-related changes in cognition. Both tasks index the integrity of networks vulnerable to Alzheimer's pathology, providing further evidence for potential use of these tasks in early detection.

TALK 3: THE UNIQUE NEURAL CIRCUITS UNDERLYING TOP-DOWN AND BOTTOM-UP MOTIVATED SELF-CONTROL DURING NUTRITIONAL DECISION MAKING

Matthew D. Bachman, University of Toronto

The ventromedial prefrontal cortex (vmPFC) is thought to encode an overall value signal based on a weighted sum of an option's attributes. Studies of dietary food choice show that individuals tend to naturally weigh tastiness over healthiness and, consequently, choose tasty but unhealthy foods. One well-studied approach to encouraging healthier food choices is through top-down cognitive regulation strategies. However, neural data suggests that regulation does not consistently modulate how the vmPFC represents attributes and instead relies upon compensatory mechanisms initiated by other regions. Here we test the idea that changes in bottom-up, physiological states may help individuals naturally attend to health information more, particularly in conjunction with cognitive regulation strategies. To do this, we

manipulated participants' (current $n = 32$ out of 50) hunger levels across two fMRI study sessions while they alternated between making food choices naturally or using cognitive regulatory strategies. Behavioral analyses indicate that both regulation and being physiologically satiated helped participants incorporate healthiness more into their choices while reducing the influence of tastiness. Furthermore, the combination of these effects produced the greatest weighting of health on choices. However, fMRI analyses suggest that these different forms of motivated self-control exerted unique changes in vmPFC activity. Regulation increased the vmPFC's sensitivity to healthiness but did not affect taste. Conversely, satiation decreased taste representations as well as the vmPFC's correlation with preferences, while health representations remained unchanged. The current findings suggest that different forms of motivated self-control exert independent, attribute-specific changes in vmPFC activity.

TALK 4: LONGITUDINAL MAPPING OF SOCIAL BRAIN DEVELOPMENT IN COMMON MARMOSETS

Maëva Gacoin, McGill University

Primate species, including humans, navigate complex social environments by interpreting relationships through cooperative (e.g., grooming) and competitive (e.g., chasing) behaviors that reveal social hierarchies. Understanding the neural mechanisms underlying such interactions is key to elucidating the basis of adaptive behavior and its disruption in neurodevelopmental disorders such as autism. The common marmoset (*Callithrix jacchus*), a highly social New World primate, provides a unique opportunity to study the development of social cognition due to its rich social repertoire, rapid maturation, and translational relevance to humans. This project investigates how social cognition emerges in marmosets through a combination of functional and structural Magnetic Resonance Imaging (fMRI, sMRI) and behavioral assessments. Four marmosets (two males) were scanned awake longitudinally from 9-month-old (mo, juvenile) to adulthood while viewing videos of conspecific social behaviors (e.g., grooming, fighting, nursing). Complementary T1- and T2-weighted MRI from 6 mo (i.e. late infancy) onward tracked cortical myelination and frontoparietal functional connectivity, while behavioral tasks using touchscreen and eyetracking assessed social categorization. Results reveal progressive cortical myelination and strengthening of frontoparietal connectivity across development. Emotional valence of observed social interactions modulated brain activity: competitive interactions engaged the amygdala, while friendship and kinship behaviors elicited weaker responses and a similar brain pattern until 15 mo. With maturation, prefrontal activation patterns became increasingly distinct across social contexts, paralleling improved behavioral discrimination. These findings advance our understanding of how the primate brain supports the development of social cognition and establish the marmoset as a powerful preclinical model for investigating social deficits in autism.

TALK 5: A TOPOLOGICAL PRINCIPLE OF PARENT-CHILD BRAIN MORPHOLOGICAL SIMILARITY

Qingyi Li, Virginia Tech

The brain is the biological bridge between generations, yet the parent-child structural basis of this linkage remains unclear. We mapped dyadic morphological similarity in 60 parent-child dyads ($N=120$, children aged 8-17 years) using a multi-metric structural fingerprint (cortical thickness, surface area, gray-matter volume, curvature). To minimize cohort/template bias, we applied leave-one-family-out standardization with covariate residualization (TBV). Dyads showed higher structural similarity significantly compared to non-dyadic random pairs ($r=0.115$ vs. $?0.025$; Cohen's $d=1.18$). Critically, low level sensory systems such as limbic, subcortical and visual networks showed highest similarity (a heritable core) and higher-order association networks such as default-mode, fronto-parietal and salience networks exhibited the lowest (forming a plastic scaffold reserved for individualized adaptation), indicating that structural similarity has two distinctive organizational principles: one reflecting genetically constrained, and the other reflecting experience-dependent adaptation. We then linked similarity to psychopathology by deriving a p-factor (higher = worse symptoms) from nine questionnaire indices using multiple-imputation PCA. Greater subcortical similarity associated with higher p ($r=0.26$, $p<.05$; risk pathway), whereas greater salience similarity associated with lower p ($r=?0.277$, $p<.05$; protective pathway). Alignment in affective subcortical hardware appears to index familial susceptibility, while alignment within salience may support detection/switching processes that buffer broad symptom liability. The results outline a parent-child, network-specific account of brain structure: a core that is conserved and a scaffold that remains open to experience, clarifying a key trade-off in intergenerational organization and pointing to concrete targets for gene-environment research on resilience. Keywords: Parent-Child Dyads; Morphological Similarity; Brain Morphometry; Large-Scale Brain Networks; Psychopathology.

TALK 6: DYNAMIC RECONFIGURATION OF LARGE-SCALE BRAIN NETWORKS DURING NATURALISTIC EMOTIONAL STIMULATION

Elena Skoullou, The University of Tokyo

Emotions in real-world contexts unfold dynamically, engaging large-scale brain systems in time-varying configurations. Studies using naturalistic stimuli show greater variability in emotional responses compared with controlled designs (Mishra, Srinivasan, & Tiwary, 2022; Horvat, Kukulja, & Ivanec, 2015). While specific brain regions have been linked to particular emotions, the connectivity dynamics underlying both basic and cognitively complex emotions are not fully understood. We applied dynamic functional connectivity (dFC) analysis to examine how emotional processing reorganizes core cortical networks during naturalistic stimulation. We analyzed 3T fMRI

data from the StudyForrest project, in which 15 healthy adults (mean age = 29.4 years; range = 21–39; 6 females) watched the full-length film Forrest Gump. Following preprocessing and ICA-based denoising, signal independent components were categorized into major intrinsic networks using the Yeo 7-network atlas (Yeo et al., 2011), including the salience network (SN), central executive network (CEN), default mode network (DMN), visual(VN), somatosensory(SMN), and limbic networks(LN). A sliding-window approach (30s) with k-means clustering (k = 4) (Allen, 2014) identified recurring connectivity patterns. We observed transitions from low-connectivity periods to emotionally engaged configurations marked by increased coupling between key networks (SN, CEN, DMN) and enhanced intra-network connectivity within the DMN. Connectivity states were aligned with time-resolved emotion annotations (Labs et al., 2015), with a dominant low-connectivity state showing high dwell time and transient high-connectivity states moderately associated with emotional intensity. These findings demonstrate reproducible dynamic network reconfigurations during naturalistic emotional experiences, supporting the integration of emotion and cognition.

TALK 7: AWAKE INFANT FMRI AND DEEP NEURAL NETWORK MODELS REVEAL HIERARCHICAL DEVELOPMENT OF OBJECT FEATURE TUNING IN THE VENTRAL VISUAL STREAM

Áine T. Dineen, Trinity College Dublin

When an adult views an object, the ventral visual stream (VVS) encodes features across spatial scales, from fine details to global shape, and a range of complexities, from low-level perceptual features to conceptual properties. Due to methodological challenges, when and how object feature tuning emerges during development remains unknown. Behavioral studies indicate that young infants attend to low-level visual features, but cannot reveal which features are represented along the VVS. Through the Foundations of Cognition Project, we therefore conducted the largest cross-sectional and first longitudinal awake infant fMRI study to date, acquiring object responses at 2-months (n=113) and 9-months (n=51), and from adults (n=17). To probe feature tuning, deep neural networks (DNNs) were trained on objects blurred at varying levels, suppressing fine detail and yielding models with graded sensitivity to features across spatial scales. Representational similarity analysis was used to characterise group-level responses along the developing VVS and compare them to model responses across blur levels. For each comparison, the model layer whose representations best matched the brain response was selected, capturing the appropriate level of complexity. By 2-months, V1 responses resembled adult-like tuning. In contrast, later VVS regions remained immature through 9-months, demonstrating a hierarchical trajectory of development. Across development, V1 responses were best modelled by intermediate layers, consistent with previous work suggesting that V1 is sensitive to more complex features in addition to low-level ones. That such complexity appears

to be present by 2-months indicates surprisingly sophisticated early sensory representations and motivates further work to probe their content.

TALK 8: AGE-RELATED NEURAL DEDIFFERENTIATION IS DRIVEN BY REDUCED RELIABILITY

Tiantian Yang, University of Michigan

The distinctiveness of neural activation patterns in response to different stimulus categories (e.g., faces vs. houses) is typically reduced in older vs. younger adults. Such so-called age-related neural dedifferentiation has been observed across multiple brain regions and been associated with cognitive declines. Neural distinctiveness is often measured as the difference between within-category similarity (reliability) and between-category similarity (confusability) of neural activation patterns. Our previous cross-sectional work suggested that age differences in both within- and between-category similarity contribute to dedifferentiation (Simmonite & Polk, 2022), but cohort effects could not be ruled out because the analysis was cross-sectional. Here, we extended this analysis using longitudinal data. Sixty young adults (18-29 years) and 156 older adults (65-87 years) completed auditory (speech vs. music), visual (faces vs. houses), and motor (left vs. right hand) fMRI tasks. We estimated cross-sectional age differences in within-category similarity, between-category similarity, and neural distinctiveness within individualized ROIs in task-relevant cortical areas. Fifty-one older adults returned 3-5 years later to complete the same tasks, enabling longitudinal analysis. Cross-sectionally, older adults showed significantly reduced within-category similarity compared with the young adults across all three ROIs and reduced neural distinctiveness in the motor and visual ROIs. Between-category similarity showed no significant age differences in any ROI. Longitudinally, only within-category similarity declined significantly with age, most prominently in visual cortex, with no significant effects on distinctiveness or between-category similarity. These findings suggest age-related neural dedifferentiation is primarily driven by reduced reliability of neural activation patterns rather than increased confusability between categories.

TALK 9: SEX AND MENOPAUSE DIFFERENCES IN HOW HIPPOCAMPAL SUBFIELD VOLUMES PREDICT SPATIAL SOURCE MEMORY AT MIDLIFE

Sara Ahmed, Toronto Metropolitan University

Midlife is a critical stage in adulthood when age-related episodic memory decline is first detectable. Midlife is also the age that most females experience spontaneous menopause. Age-related episodic memory decline is associated with hippocampal volume reduction. Yet, it remains unclear how age, sex, and menopause jointly shape hippocampal subfield trajectories and their relation to episodic memory at midlife. The present study addressed this gap in a middle-age sample. Using high-resolution T2-weighted MRI, 118 cognitively

recently been validated in humans. Using resting-state functional unimpaired middle-aged adults (35 males, 42 premenopausal females, 41 postmenopausal females; aged 39.55–65.46 years) completed a face-location episodic memory task with correct spatial source accuracy (CS) as the outcome measure. Hippocampal subfields were segmented using a customized-automated pipeline and volumes were adjusted for intracranial volume (ICV). Analysis of variance and regression analyses were used to examine sex and menopause group differences, and age-related differences in CS and subfield volumes, respectively. Preliminary results revealed no significant sex difference in CS or hippocampal subfield volumes, but there were sex and menopause effects on age-related differences in memory and subfield volumes. Compared to other groups, postmenopausal females showed the steepest age-related decline in CA1 and subiculum volumes, CS accuracy, and negative associations between all subfields and memory performance. In contrast, subfield volumes did not predict memory in males or premenopausal females. Thus, menopause is an inflection point in females, when age-related declines in memory and hippocampal volume arise. These results highlight the importance of examining sex and menopause effects in cognitive neuroscience studies of aging and memory.

TALK 10: STICKY SITUATIONS AND STICKY THOUGHTS: INVESTIGATING STRESS, COPING, AND THOUGHTS

Cecilia Liu, University of Calgary

Our thoughts are influenced by the context of our daily lives, especially when we experience stressful events. Thoughts that are difficult to disengage from and occur outside of our control, also known as sticky thoughts, are often related to these stressors. Importantly, the strategies that individuals employ to cope with their stress might make them more likely to think about the stressor rather than their task at hand, which may modulate their experience of sticky thoughts. We therefore examined how individual differences in coping strategy usage predict stickiness of thoughts after a stress-inducing task. Participants first completed the Brief-COPE scale, capturing how often they use certain coping strategies. Next, they wrote about a recent stressful event in their life. Afterwards, they completed a simple attention task while answering intermittent probes asking how sticky their thoughts were. Heart rate variability (HRV) was measured at baseline, post-writing task, and at the end of the session to assess physiological stress level. Preliminary analyses found that individuals who used more problem-focused and less emotion-focused coping strategies reported more sticky thoughts after the writing task, suggesting that problem-focused copers might be more likely to continue thinking about the stressful event. Furthermore, individuals who had more sticky thoughts had higher baseline HRV, indicative of better stress resilience, suggesting that these sticky thoughts may be adaptive in certain situations. Future work clarifying how different types

of thoughts relate to coping strategy use may inform interventions that help people become more successful at coping with stress.

TALK 11: COMMON ELECTROPHYSIOLOGICAL DYNAMICS OF HUMAN POSTERIOR CINGULATE CORTEX ENGAGEMENT DURING MEMORY AND VALUE BASED DECISIONS

Seth Koslov, University of Pennsylvania

Human neuroimaging routinely implicates distinct subregions of the posterior cingulate cortex (PCC) with specific tasks of episodic memory retrieval: while dorsal PCC (dPCC) is responsive during item-recognition decisions, the ventral PCC (vPCC) responds primarily during autobiographical retrieval. Interestingly, dPCC has also been linked to value-based decision-making, suggesting contributions of the region to processes shared by value- and memory-based decisions. However, the timing and behavioral correlates of dPCC involvement in decision-making remain unclear. To address this question, we obtained invasive electrophysiological recordings of local field potentials (LFP) and single-neuron activity from the human PCC during temporally matched risky value- and memory-based decision-making tasks ($n = 16$). For both tasks, participants earned points by selecting between a fixed low-reward option and a risky high-reward option. For the value-based task, the chance of reward was indicated by a displayed probability, while for the memory-based task, the chance of reward depended on stimulus memory. Across tasks in dPCC, but not vPCC, amplitude of LFP broadband gamma (BBG; 70–150Hz) increased from trial onset through decision feedback. In contrast to LFPs, cluster analysis revealed single-neuron firing in dPCC was more temporally circumscribed, with some neurons selectively responsive during a pre-decision window, whereas others were primarily responsive post-decision. Additionally in dPCC, BBG amplitude, as well as firing rates from post-decision responsive neurons, were elevated following risky compared to safe decisions. These findings indicate a shared role for dPCC in monitoring both value- and memory-based decisions, and suggest that distinct dPCC subpopulations support specific stages of decisional processing.

TALK 12: MUSIC-EVOKED MEMORY ENGAGES SIMILAR BEHAVIOURAL AND NEUROPHYSIOLOGICAL PATTERNS IN MILD COGNITIVE IMPAIRMENT AND HEALTHY CONTROLS

Veronica Vuong, University of Toronto

Autobiographically salient (ABS) music engages memory processes more efficiently than familiar (FAM) music. Our prior research in healthy older adults revealed distinct neural correlates of music-evoked familiarity and recollection. Here, we tested whether similar memory-related processes occur in older adults with mild cognitive impairment (MCI). Neural responses to ABS, FAM, and unfamiliar (UFAM) music in MCI ($n = 18$, 72.2 ± 8.35 yrs, 6 F) and healthy controls (HC) ($n = 36$, 70.7 ± 6.65 yrs, 20 F) were compared. In Experiment 1, we tested whether MCI and HC differed in response times when identifying ABS, FAM, and UFAM excerpts. Both groups

N identified ABS the fastest (2.07 ± 0.55 s), followed by FAM (2.95 ± 1.16 s), then UFAM (3.84 ± 0.99 s), indicating faster recollection for ABS than FAM and UFAM music. In Experiment 2, we measured event-related potentials while participants listened to the same stimuli. Mean amplitudes were extracted from right frontal-central and left parietal-occipital regions of interest. Both groups showed similar neural patterns when listening to musical excerpts, though amplitude and scalp distribution varied by condition. ABS music elicited the greatest frontal positivity, consistent with self-referential and evaluative processes, while ABS and FAM elicited greater parietal positivity than UFAM excerpts, suggesting stronger retrieval and/or imagery. The MCI group exhibited larger amplitudes, possibly reflecting compensatory recruitment, yet scalp distributions remained consistent with HC. Together, behavioural and neurophysiological findings suggest that MCI adults show comparable responses to HC when listening to ABS, FAM, and UFAM music, despite cognitive impairment.

TALK 13: CORTICAL LATENCY PREDICTS READING FLUENCY FROM LATE CHILDHOOD TO EARLY ADOLESCENCE

Fang Wang, Stanford University

Progressive development of reading comprehension fluency from late childhood to early adolescence is remarkably linked to changes in the temporal dynamics of visual word recognition. EEG/ERP based measures of how an individual participant's cortical timing for visual word recognition change over development are limited by low reliability. We present a novel approach to this challenge that models cortical latency to visual word forms by extracting phase values from Steady-State Visual Evoked Potentials (SSVEPs) for each participant. The resulting precise and reliable timing information for neural signatures underlying visual word form processes help account for the development of fluent reading comprehension. Typically developing readers ($n = 68$), aged 8–15 years, viewed streams of four-character stimuli presented at 3 Hz, which evoked large significant power spikes from every participant. Linear phase by frequency functions across harmonics at 3, 6, and 9 Hz were consistent with a delay model, indicating a mean latency of 170 milliseconds. Subject-level latencies revealed (a) high internal consistency ($r = .94$); (b) stability across variations in character-level (letters, unfamiliar pseudo-characters) and word-form level (words, nonwords, pseudofont strings) manipulations; (c) a linear relationship with age; and most remarkably, (d) a strong relationship with individual variation in the fluency of reading comprehension, that was (e) mediated by word naming speed. Results suggest a promising new approach for investigating the neural basis of reading development across several levels of processes, with temporal precision at the individual level that holds translational significance for promoting population-level fluency in reading comprehension.

TALK 14: PRESERVED MEMORY PERFORMANCE DESPITE REDUCED HIPPOCAMPAL VOLUME IN TREATMENT-RESISTANT DEPRESSION

Claire Lauzon, York University

Individuals with depression show reduced hippocampal volumes compared to non-depressed controls, perhaps driven by volumetric reductions in the dentate gyrus (DG). Bilateral lesions to the DG are associated with impaired performance on mnemonic discrimination tasks, but it is unknown whether hippocampal subfield changes contribute to memory difficulties in depression. We examined individuals with treatment-resistant depression (TRD; $n = 12$, 6 males, mean age = 40.3, education = 14.8 years) and non-depressed controls ($n = 15$, 8 males, mean age = 36.5, education = 16.2 years). Participants underwent a 3T MRI brain scan, including a high-resolution T2-weighted scan of the hippocampus, and completed a battery of neuropsychological tests including two mnemonic discrimination tasks. Hippocampal volume was significantly reduced in individuals with TRD compared to controls ($p = .002$, $\eta^2 = 0.38$), and smaller hippocampal volume was associated with greater depression severity across the entire sample ($\eta^2 = 0.42$, $p = .021$, assessed using the Questionnaire for Depressive Symptoms). These reductions were localized to the hippocampal body (DG/CA3/CA2, CA1, and subiculum), whereas extrahippocampal regions did not differ between groups. No group differences were observed in mnemonic discrimination or other memory tasks, though higher depression scores were associated with poorer performance on other neuropsychological measures, including Trails B ($\eta^2 = 0.30$, $p = .028$) and Phonemic Fluency ($\eta^2 = 0.78$, $p = .035$). Individuals with TRD showed reduced hippocampal subfield volumes, particularly in the dentate gyrus and adjacent regions. These reductions were linked to greater depression severity but not to memory performance, suggesting hippocampal atrophy in depression might reflect mood-related rather than mnemonic processes.

TALK 15: NEURAL REPRESENTATIONS OF FACES ARE WIDELY DISTRIBUTED AND HIGHLY INDIVIDUALIZED

Ivette Colón, University of Wisconsin - Madison

There is a historical assumption that our brains are a modular system— where discrete areas handle particular aspects of processing, with perhaps the most famous example being the FFA (fusiform face area) for face processing (Kanwisher & Yovel, 2006). While there is no doubt that certain areas are involved in face processing, increasing evidence suggests that face processing relies on distributed cortical networks beyond traditional face-selective regions (Cox & Rogers, 2021; Nestor et al., 2011). In this work, we gathered neural representations for a set of highly controlled faces, places, and objects from 17 people in a slow event-related functional MRI design. Using a multivariate decoding technique called Iterated LASSO, we found— separately for each participant, and across two scans per person— anatomically distributed patterns of voxels that reliably distinguish stimulus categories. We used these signal-carrying voxels as candidate stimulation areas in a transcranial magnetic stimulation task to examine whether brain areas outside of canonical

face-processing areas causally contribute to participants' face processing. We show that (a) information about faces is encoded throughout the cortex, (b) where exactly it is encoded is variable across individuals, (c) these differences are stable over time, and (d) stimulation of these areas shows similar behavioral patterns to stimulation of established face processing areas. Together, these results suggest that neural representations of faces may be more widely distributed and individualized than previously thought.

Data Blitz Session 3

Saturday, March 7, 2026, 10:30 am – 12:00 pm, Salon E

Chair: Carmen Westerberg, Texas State University

Speakers: Vanessa Keller, Erika M. Yamazaki, Elizabeth M. Siefert, Marcos E. Domínguez Arriola, Hao Zhu, Wesley Leong, Kshipra Gurunandan, Mikaila Tombe, Xiangbin Teng, Miroslaw Wyczesany, Sarah F Schoch, Stephanie R. U, Miguel A. Velasquez

TALK 1: THE EFFECT OF LEXICAL AMBIGUITY ON MEMORY: AN EEG STUDY

Vanessa Keller, University of York

Processing lexically ambiguous words involves the transient activation of all meanings known to the comprehender. While behavioural and event-related potential studies have mapped out the time course of this process, the neural oscillations underpinning the activation and later inhibition of multiple word meanings remain unstudied. It is similarly unclear how the activation of multiple meanings affects subsequent memory for language input. We used electroencephalography (EEG; $n = 42$) to investigate which neural oscillations supported processing of high ambiguity (multiple meanings), low ambiguity (one primary meaning) and incongruent (semantically anomalous) words in sentential contexts. We focused on theta and alpha/beta oscillations, which have been implicated in lexical-semantic processing, lexical access and memory encoding. We hypothesised that increased theta and decreased alpha/beta power would be linked to better memory and support the processing of high ambiguity and incongruent words, with the latter placing higher demands on lexical access processes than low ambiguity words. Behavioural analyses showed better memory for low ambiguity and incongruent compared to high ambiguity words, suggesting that activating multiple meanings negatively affects memory for the encountered word. Contrary to our hypotheses, we found no effects in the theta band. Instead, alpha/beta desynchronisation supported the processing of lexically ambiguous and incongruent endings, potentially by inhibiting alternative meanings. Overall, our findings suggest that the activation of multiple meanings during the processing of ambiguous words affects subsequent memory for the encountered word forms, and point to an important role for alpha/beta oscillations

in the processing of lexically ambiguous and semantically incongruent information.

TALK 2: CAN WE REACTIVATE A MEMORY DURING SLEEP TO IMPROVE RESPIRATION IN PEOPLE WHO STOP BREATHING DUE TO A SLEEP DISORDER?

Erika M. Yamazaki, Northwestern University

Obstructive sleep apnea is characterized by partial or complete cessation of breathing during sleep, which can have serious health consequences and represents a major public-health challenge. Treatment with Positive Airway Pressure devices is generally efficacious, but compliance is inadequate for many people. Here, we sought to determine whether a novel non-invasive method can improve respiration in people with this sleep disorder. We reasoned that sounds associated with behavioral responses may reactivate those responses during sleep. We recruited people with sleep apnea not currently receiving treatment. Participants trained to inhale nasally with their mouth closed while pressing their tongue against the back of their teeth, which can open the airway. They trained over multiple days to repeatedly produce this response to an auditory stimulus, the spoken phrase “breathe in.” Then, during an 8-hour overnight session with polysomnographic recordings, we monitored for a decrease in respiratory flow and each time either presented these stimuli or marked when stimuli would have been presented (sham). We compared the severity of sleep-disordered breathing between alternating stimulation and sham periods. Partially collected data indicated that respiratory event duration was shorter during stimulation than during sham, along with a lower oxygen-desaturation index (number of times oxygen levels drop by 4% from baseline per hour of sleep). More data will be collected to determine whether there is sufficient evidence to move ahead with planning further tests and developing ways to offer this sort of treatment in the home environment with wearable technology.

TALK 3: AROUSAL STATE MODULATION OF HUMAN HIPPOCAMPAL RIPPLES ACROSS WAKE AND SLEEP

Elizabeth M. Siefert, University of Pennsylvania

Hippocampal replay involves the reactivation of spiking activity patterns from previous experiences and is thought to underlie memory consolidation. These replay events can be captured as high-frequency oscillations—termed ‘ripples’—in the hippocampal field potential. Ripples predominantly occur during states like sleep and awake rest, as these are offline periods thought to allow the replay of prior memories while limiting sensory interference. However, ripple rates vary dynamically across sleep stages and recent human studies have reported ripples during active tasks, suggesting their occurrence may not simply be driven by offline periods of inactivity. We propose a reframing of this offline view—whereby a common low arousal state is associated with ripple genesis, a state that is more prominent and

persistent during certain stages of sleep and occurs transiently during waking. We recorded human hippocampal activity (iEEG) during overnight sleep and periods of wake, tracking arousal via sleep staging and pupillometry. Ripple rate varied profoundly across sleep stages, being maximal in NREM, reduced in REM, and minimal in wake. Interestingly, this modulation was stronger in anterior than posterior hippocampus. During wake, ripple rate similarly tracked arousal, increasing during small-pupil states, with the strongest modulation in anterior hippocampus. Altogether, across sleep and wake, ripple rate increased when arousal dipped. These results reframe offline periods as transient states within a continuous arousal spectrum, providing opportunistic moments for consolidation. Mechanistically, these results bridge arousal and ripple physiology, aligning with evidence implicating drops in acetylcholine—an arousal-related neurotransmitter—in ripple genesis and memory consolidation.

TALK 4: CONVERSATIONAL ENGAGEMENT MODULATES NEURAL SPEECH TRACKING IN REAL-TIME DIALOGUE

Marcos E. Domínguez Arriola, McGill University

During speech listening, cortical activity shows rhythmic fluctuations that align with the temporal dynamics of the acoustic signal. This neural speech tracking (NST), measurable with EEG, reflects the degree to which connected speech is represented in cortical activity, and is modulated by both stimulus acoustic features and motivational-attentional factors. Here, we examined for the first time whether contextual conversational factors influence neural tracking of speech during truly social, naturalistic interaction. In a dual-EEG (“hyperscanning”) setup, 48 participants (24 unacquainted dyads) held short, free-form conversations on topics they had jointly rated as highly interesting or uninteresting. After each conversation, participants provided a set of ratings that together composed a behavioral index of conversational engagement. Each speaking turn was subsequently delineated from the synchronized audio recordings through careful manual segmentation. NST was computed as the peak Gaussian Copula Mutual Information (GCMi) between the speech envelope and EEG across stimulus-response lags of 0-300 ms. A linear mixed-effects model controlling for speakers’ main vocal acoustic features and the conversational topic showed that listeners’ perceived conversational engagement explained unique variability in the extent of NST in frontal and bilateral temporal regions ($p = 0.019$), with more engaging conversations eliciting stronger NST. This finding shows a cortical encoding advantage for engaging live conversations, highlighting that even early auditory encoding is dynamically shaped by listeners’ motivational engagement, and suggesting that processes previously observed in controlled listening tasks extend to natural, interactive communication.

TALK 5: AUDITORY NETWORK INTEGRATION AND NEURAL REPRESENTATIONS COLLAPSE UNDER GENERAL ANESTHESIA: EVIDENCE FROM INTRACRANIAL EEG AND SELF-SUPERVISED LEARNING

Hao Zhu, The Chinese University of Hong Kong

Auditory entrainment—the synchronization of neural dynamics with semi-rhythmic sound—is a fundamental mechanism for perceiving and predicting temporal patterns in speech and music. General anesthesia provides a powerful model for investigating how this sensory processing relates to consciousness, yet the precise mechanisms of disruption remain unclear. We hypothesized that propofol-induced unresponsiveness reflects a selective disruption of higher-order auditory areas (dorsal auditory-motor stream), leading to a collapse of large-scale network integration and information representation. We tested this using stereoelectroencephalography (sEEG) in thirteen drug-resistant epileptic patients during a rhythmic auditory paradigm in both awake and anesthetized states. We found that during the awake state, auditory processing engaged a widespread, spatially organized network radiating from the primary auditory cortex. Under anesthesia, this network collapsed into focal activity, and this spatial organization was significantly attenuated. Furthermore, neural activity in the awake state propagated in an organized anterior-posterior direction, which was abolished under anesthesia, indicating a failure of large-scale communication. To assess the functional consequence, we trained CEBRA, a self-supervised learning algorithm, using high-dimensional sEEG neural signals and stimulus envelopes. The decoding performance was high in the awake state ($R^2=0.85$) but failed catastrophically under anesthesia ($R^2=-0.18$). These results reveal a cascade of neural failure: anesthesia fragments the auditory network, dismantles the information flow in time, and ultimately erases the neural representation of the external world. These findings provide a mechanistic account of how sensory representations collapse during unconsciousness, offering new insights into the fundamental network dynamics required to support conscious perception.

TALK 6: SIMULTANEOUS REPRESENTATION OF MULTIPLE OBJECT-STATES IN LANGUAGE IS SUPPORTED BY LEFT TEMPORAL THETA-GAMMA PHASE-AMPLITUDE COUPLING

Wesley Leong, University of Connecticut

Consider the sentence: “The chef will chop the onion, and then he will smell it.” Comprehending this requires us to represent the same onion token in multiple distinct states (Hindy et al., 2012; Solomon et al., 2015). How do we simultaneously maintain these object-states in the brain? Here, we examine one possible neural signal: left temporal theta-gamma phase-amplitude coupling (TG-PAC). TG-PAC strength increases with visual working memory load (e.g. Axmacher et al., 2010) and performance (e.g. Reinhart & Nguyen, 2019), and is thus a strong candidate mechanism for how the brain maintains distinct object-states online. We ran two EEG experiments testing this

hypothesis. In Experiment 1 (N=79; aggregated across 3 prior studies), participants read sentences where the object changed substantially or minimally (“chop” vs “weigh the onion”) then was cued for retrieval (“then he will smell it.”). TG-PAC was calculated across the sentences using a Driven Auto-Regressive model (Dupré la Tour et al., 2017). We identified a left temporal cluster showing numerically greater TG-PAC for substantial change sentences, but it was not statistically significant per a cluster-based permutation test (Maris and Oostenveld, 2007). In Experiment 2 (N=40), we added a visual working memory task as a localizer to improve sensitivity for the sentence comprehension task. Within the ROI identified by our localizer, TG-PAC increased with degree of change to the sentential object ($r = 0.14$, $p < 0.01$). We thus conclude that maintaining multiple object-states online shares a neural process with holding objects in visual working memory: left temporal TG-PAC.

TALK 7: SUBCORTICAL CONTRIBUTIONS TO PREDICTION AND REWARD IN LANGUAGE PROCESSING

Kshipra Gurunandan, University of Cambridge

Language is at the core of human experience, from basic communication to artistic expression, and it has been proposed that interactions between subcortical reward mechanisms and cortical learning systems might be essential to language acquisition and learning. A number of studies have suggested that successful symbolic matching and linguistic insight activate dopaminergic reward circuits. The striatum is known to be crucial for processing of expectations and rewards or outcomes, and there is some evidence that the ventral striatum may be involved in natural story comprehension. In the current study, we investigated the role of the striatum in sentence processing and memory as functions of predictability and prediction error. Forty healthy adults underwent fMRI scanning while making probability judgements (expected, unexpected, neither) about sentence endings. Sentences were first presented with the final word blanked out and the ending was presented 6s later. Outside the scanner, participants completed a surprise memory task. ROI analyses revealed that the ventral striatum showed significantly greater activity for highly predictive sentence frames compared to less predictive ones. It also exhibited u-shaped activity as a function of prediction error, with greatest activation for predicted endings, followed by unexpected endings, followed by neutral endings. Functional connectivity with other sub-cortical regions (dorsal striatum and hippocampus) varied with expectancy and subsequent memory. Results indicate involvement of the ventral striatum in predictive processing of language, with reward and novelty responses for fulfilled/violated predictions. This supports and extends previous evidence for the role of striatal systems in linguistic processing and memory.

TALK 8: TEMPO-EVOKED AROUSAL: DISTORTIONS OF TEMPORAL MEMORY AND TEMPORAL EXPANSION

Mikaila Tombe, McGill University

Arousing events hold privilege within our memory; however, the precise nature of this privilege is not clear. A key component of event memory is the ability to successfully recall the order in which details occurred, leading researchers to investigate how arousal impacts temporal order memory during arousing and non-arousing events. While this work has shown that events which are inherently arousing are recalled with more accurate temporal memory, it is unclear if this pattern holds when arousal is not inherent within an event. To address this question, we conducted a within-subjects behavioural experiment in which participants encoded four videos depicting neutral events that were paired with either highly arousing or non-arousing musical excerpts. After a short delay, participants were shown pairs of still images from the movies and were asked to make a temporal order judgment (which image came first?), as well as duration estimation (how much time between?). Participants were less accurate on the temporal order judgement task for images from events encoded with arousing music. Music also impacts the duration estimation task, such as arousing music led to temporal expansion distortions compared to low arousing music. This expansion of time was also found when estimates of the entire event were compared across arousal conditions. We interpret these results as indicating that when arousal is not inherent to an event, it can have a harmful effect on memory, contrasting existing literature that promotes an arousal benefit to memory when arousal is engrained in the encoding of an event.

TALK 9: HIPPOCAMPAL–AUDITORY ACTIVATION DURING MUSIC LISTENING IN ANESTHETIZED STATES

Xiangbin Teng, The Chinese University of Hong Kong

Can the human brain still differentiate meaningful auditory stimuli during anesthesia—a state traditionally regarded as incapable of supporting high-level cognition? We explored this question by examining hippocampal and auditory cortical responses to music in patients undergoing intracranial monitoring for epilepsy surgery under propofol-induced anesthesia. Prior to surgery, each patient selected several familiar and favorite songs, along with unfamiliar but stylistically matched control pieces. During electrode implantation, local field potentials were recorded from hippocampal and superior temporal regions as patients passively heard these musical excerpts. Preliminary analyses (5 of 15 patients) revealed preserved auditory responses in the superior temporal gyrus and potential indications of enhanced ultra-slow (0.3–0.7 Hz) oscillatory activity in the hippocampus when patients heard familiar or self-selected music. These preliminary patterns—reminiscent of oscillations linked to musical and linguistic phrase processing—may suggest that memory-related networks remain partly active even in anesthetized states. However, further analyses are underway to validate these effects and

to determine their reliability across participants and regions. If confirmed, such findings could support a model in which residual auditory–hippocampal coupling encodes temporal structure and familiarity in the absence of awareness, offering new insights into brain states during anesthesia and potential mechanisms underlying music-evoked “awakening” phenomena in coma or minimally conscious patients.

TALK 10: INHIBITORY STIMULATION OF THE DORSOLATERAL CORTEX IMPAIRS EMOTIONAL REGULATION VIA DISRUPTED FRONTOPARIETAL AND CINGULO-OPERCULAR CONNECTIVITY

Mirosław Wyczesany, Jagiellonian University

Implicit emotion regulation (ER) is a form of affective control that is executed without conscious effort or intention. Used habitually, it is very important for psychological well-being, yet its neural mechanisms are not well recognized. Here, we tested the causal role of the dorsolateral prefrontal cortex (dlPFC) in implicit ER using a within-subject design combining inhibitory transcranial direct current stimulation (tDCS), EEG-based connectivity analyses, and a self-control priming paradigm. Across three stimulation sessions (sham, left cathodal, right cathodal), participants (N = 35) passively viewed negative and neutral images under conditions of implicit regulation (REG) or no regulation (NREG). In the sham session, implicit ER reduced emotional reactivity, reflected in decreased Late Positive Potential (LPP) amplitudes and prestimulus alpha suppression in the right visual cortex—replicating prior findings and indicating modulation of both anticipatory and sustained processing stages. However, these effects were abolished following dlPFC inhibition. Directed connectivity analyses further revealed tDCS-induced disruptions in both within-network frontoparietal connectivity and cross-network interactions between frontoparietal and cingulo-opercular systems, particularly in the theta (3–7 Hz) and beta (15–30 Hz) bands. These findings support the idea that implicit ER engages large-scale cognitive control networks, with the dlPFC acting as a hub for dynamic coordination of visual and executive systems. Contrary to models that treat implicit ER as independent of cognitive control, our results indicate that even automatic regulatory processes depend on intact top-down circuitry and frequency-specific communication across networks.

TALK 11: TASK INCORPORATION INTO DREAMS AND MEMORY CONSOLIDATION

Sarah F Schoch, University Children's Hospital Zurich

Sleep supports episodic memory consolidation, but the role of dreaming in this process remains underexplored. This study examines whether dream incorporation reflects consolidation processes and whether targeted memory reactivation (TMR) modulates such incorporation. A total of 105 healthy young adults (M = 23.79 ± 3.02 years) completed a within-subject sleep study, including one

adaptation and two experimental nights and four weeks of dream diaries while wearing a Fitbit. Participants learned 100 (neutral) word–(emotional/neutral) picture pairs in the evening. Memory recall was tested before and after sleep, and again four days later. Sleep was recorded using polysomnography, including a 64-channel EEG. Sleep staging was performed using U-Sleep and verified by a human scorer. During each experimental night, dream reports were collected via up to eight awakenings (four NREM, four REM), and during morning reports. During one of the experimental nights (counterbalanced), TMR was applied by replaying word cues for 15 minutes prior to each awakening. A total of 1,085 lab-based dream reports were collected, along with 2,071 morning and home diary reports. Dream content was rated for task and experiment incorporation by trained raters (all Cohen's $\kappa > 0.4$), supplemented by dictionary-based text analyses. Preliminary findings show that lab-collected dreams exhibit significantly more experiment-related content than home dreams, with similar incorporation rates across NREM and REM awakenings. This with faster rates of perceptual learning. Third, alpha synchronization in Registered Report collected one of the largest datasets to date on dream content and memory, enabling a robust investigation of how dream incorporation relates to targeted and spontaneous memory consolidation.

TALK 12: THE BRAIN RESILIENCE STUDY: CIRCADIAN RHYTHM AMPLITUDE IS ASSOCIATED WITH COGNITIVE PERFORMANCE IN OLDER ADULTS

Stephanie R. U, Simon Fraser University

People with Alzheimer's disease (AD) often experience changes to their circadian rhythms, including altered behavioural patterns (e.g. ‘sundowning’), reduced robustness of rest-activity cycles, and loss of suprachiasmatic nucleus (SCN) neurons. However, the role of circadian rhythm disruption in the etiology of AD remains understudied. Among 52 adults aged 53–84 years, we assessed cognitive function with the Montreal Cognitive Assessment (MoCA), and we collected 14 days of wrist actigraphy (ActiTrust 2, Condor Instruments, Sao Paulo, Brazil) to assess the rest-activity daily rhythm. Urine and saliva samples were also collected consecutively every three hours for 48-hours to measure markers of endogenous circadian rhythms driven by the SCN (urinary aMT6s and salivary cortisol). Participants who had a MoCA total score <26 were classified as “At Risk” for dementia, and exhibited rest-activity circadian rhythms with lower amplitude than participants performing >26 on the MoCA ($t(33.260) = 2.660$, $p = 0.012$, $\eta^2 = 0.175$). Data analysis of the biosamples is ongoing. These results suggest that lower circadian amplitude is associated with mild cognitive impairment. Pending longitudinal evaluations, reduced amplitude could serve as an early biomarker of dementia vulnerability. This research aims to deepen our understanding of circadian dynamics in understanding mechanisms of cognitive resilience in aging.

TALK 13: AUDITORY TASK-RELATED APERIODIC EEG ACTIVITY IN AUTISM SPECTRUM DISORDER (ASD)

Miguel A. Velasquez, University of New Orleans

Autistic individuals have an increased auditory perceptual capacity relative to allistic individuals, meaning autistic individuals can process an increased amount of information at any one time (Karhson & Golob, 2015; Remington & Fairnie, 2017). However, the underlying potential mechanism for increased perceptual capacity in ASD remains unclear, and reports of increased “neural noise” in ASD may obscure the underlying brain dynamics (Paul et al., 2024; Simmons et al., 2007). Therefore, the present study examined the aperiodic slopes (the 1/f component) of the EEG signal in autistic and allistic individuals during an auditory selective attention task. Twenty-five ($n = 12$ ASD) IQ and age-matched participants (ASD: 22.5 years \pm 4.1; Controls: 22.8 years \pm 5.1) completed the Adolescent/Adult Sensory Profile questionnaire prior to performing a modified 3-stimulus (target, non-target, and distractor) auditory oddball detection task. Aperiodic EEG components were extracted from the neural power spectra using the Fitting Oscillations and One Over F (FOOOF) tool. Results revealed a significant interaction between group and perceptual load for the aperiodic exponent during the distractor trials ($F(1,23) = 7.05$, $p = 0.015$, $p\text{-adj} = 0.043$), characterized by a steeper slope in low perceptual load trials in ASD participants. Steeper slopes of the aperiodic exponent have been previously characterized as indicating stronger cognitive engagement and increased vigilance states. As such, in ASD, there is greater cognitive engagement with distractors even when perceptual demands are low. This mismatch between load and cognitive engagement in ASD may provide a plausible mechanistic bridge to understanding “autistic burnout”.

Data Blitz Session 4

Saturday, March 7, 2026, 10:30 am – 12:00 pm, Salon F

Chair: Juliana Trach, Yale University

Speakers: Caitlin Walker, Hoko Nakada, Leonardo Pettini, Héctor Manuel Cárdenas Castro, Maya Hoff, Mrs. Selin Bekir Patrick Tsapoitis, Juliana E. Trach, Borngreat Omoma-Edosa Vincent Dornier, Daniel Calbick, Yulei Shen, Fabricio Cravo James Kent. Emeфа Akwayena

TALK 1: APOE4-RELATED ALTERATIONS IN REWARD CIRCUITRY AND PROSOCIAL EFFORT-BASED DECISION MAKING IN OLDER ADULTS AT RISK FOR ALZHEIMER'S DISEASE

Caitlin Walker, McGill University

Apathy is a common neuropsychiatric syndrome in Alzheimer's disease (AD) linked to functional decline and deficits in effort-based decision making (EBDM). Aging is characterized by enhanced prosociality, behaviours that benefit others and society. APOE4

carriers, a genetic risk group for AD, are at heightened risk for apathy. Apathy is associated with structural and functional changes in the reward network, including the ventral tegmental area (VTA), nucleus accumbens (NAc), and anterior cingulate cortex (ACC). Whether resting-state functional connectivity (rsFC) within the reward network contributes to EBDM impairments in APOE4 carriers remains unknown. Fifty-two cognitively unimpaired older adults (Mage = 68.48, 18 APOE4 carriers) with a familial history of AD completed a computerized task deciding whether to exert effort (button presses) for prosocial (charity donations) and self-oriented (monetary) rewards. APOE4 carriers and non-carriers were compared on task performance and ROI-to-ROI rsFC within the reward network. Non-carriers were more willing to exert effort for prosocial than self-oriented rewards at low-to-moderate values. APOE4 carriers showed equivalent willingness to exert effort for both reward types but required larger rewards to initiate effort than non-carriers. Relative to non-carriers, APOE4 carriers exhibited reduced VTA-NAc and NAc-ACC rsFC. VTA-NAc rsFC was associated with greater willingness to exert effort for low-to-moderate compared to high prosocial rewards, while NAc-ACC rsFC correlated with smaller rewards needed to initiate effort. These findings suggest APOE4 carriers demonstrate early alterations in reward processing during EBDM, highlighting a potential neural target for preserving motivation in those at genetic risk for AD.

TALK 2: NEURAL RESPONSES IN THE MACAQUE INFEROTEMPORAL CORTEX TO TRANSLUCENT-OBJECT IMAGES

Hoko Nakada, National Institute of Advanced Industrial Science and Technology

The appearance of translucency is a key visual cue for inferring an object's material, yet the neural substrate supporting its processing remains unknown. Here, we recorded neural activity from the macaque inferotemporal (IT) cortex, spanning TEO to TE, in response to images of objects varying in translucency. Images were generated by three different methods: (i) images produced by an unsupervised generative model trained on natural object images, systematically varying in both object shape and levels of translucency (grayscale; mean luminance equalized); (ii) scrambled control images produced by randomizing pixels within each object silhouette of (i); and (iii) computer-generated (CG) images with translucent objects rendered by manipulating multiple optical parameters. We obtained human subjective ratings of transparency for each image and directly compared these ratings with macaque IT responses. Representational dissimilarity matrices (RDMs) of IT responses for model-generated images showed significant correlations with the RDM derived from human ratings and exceeded those obtained for scrambled images. Furthermore, a linear discriminant analysis (LDA) classifier trained on IT responses to model-generated images predicted human ratings and generalized to the CG-rendered images, some of whose rating values were outside

the range covered by the model-generated set. Both RDM and LDA analyses suggested shape-independent coding of translucency, particularly in posterior IT. Our findings show that macaque IT population activity encodes information related to the appearance of translucency that aligns with human perception, with some sites exhibiting shape-independent responses. These patterns are neither reducible to low-level image features (e.g., mean luminance) nor contingent on image-generation methods.

TALK 3: VISUAL WORKING MEMORY REPRESENTATIONS OF NATURALISTIC IMAGES IN THE EARLY VISUAL CORTEX ARE NOT SENSORY-LIKE

Leonardo Pettini, Max Planck School of Cognition

Sensory working memory has long been thought to be supported by sustained activity in prefrontal and parietal areas. This view has been challenged by the “sensory recruitment model”, which proposed that sensory areas are involved in the maintenance of working memory representations. Evidence for this model comes from human neuroimaging studies using multivariate pattern analysis showing that working memory contents can be decoded from sensory areas during maintenance. However, the presence of stimulus-related information in sensory regions, does not necessarily indicate that this information is encoded in a perceptual format, similar to how sensory stimuli are initially encoded. Working memory contents could instead be encoded in distinct formats, potentially undergoing dynamic changes throughout the delay phase. This question has rarely been examined directly. Here, we address this gap by requiring participants to briefly memorize naturalistic object-scene stimuli. These stimuli were generated synthetically using a procedure based on a generative AI model (Stable Diffusion), which allowed us to control the similarity between them parametrically. We directly compared the way information is encoded in patterns of brain activity in the early visual cortex during perception and working memory maintenance. Consistent with prior work, we found robust stimulus-related information throughout the delay period. However, despite robust information, the encoding of memory contents in the later delay period did not employ the same format as during pure perception. This result was replicated in higher visual areas as well. Thus, although sensory areas contain working-memory-related information, the format of this information is not strictly sensory-like.

TALK 4: EXPLAINABLE MULTIMODAL MODELS FOR COGNITIVE AGING: SHAP ANALYSES REVEAL CLINICALLY RELEVANT NONLINEAR STRUCTURAL AND GRAPH-THEORETICAL NETWORK FEATURES

Héctor Manuel Cárdenas Castro, Instituto Tecnológico y de Estudios Superiores de Monterrey

Understanding cognitive aging (a continuum from preserved cognition to neurodegeneration) demands biomarkers that link regional

structure, network organization and clinical staging. We introduce an explainable multimodal deep-learning framework to resolve black-box uncertainty and map continuous and categorical aging phenotypes. Methods: T1-weighted volumetrics and resting-state fMRI graph-theory metrics were combined from three public cohorts: OASIS3, NIMH-ds002415, and ANT-ds001907 (N = 959). Extracted features included cortical and subcortical volumes, and graph metrics (characteristic path length, global/local efficiency, modularity) computed within network atlas. Models were stacked neural networks producing a brain-age regressor and a dementia classifier; training used nested cross-validation and class-balanced sampling to reduce overfitting and imbalance. SHAP was applied to quantify main effects, nonlinear feature interactions and subgroup-specific contributions. Results: The dementia classifier achieved strong performance (weighted F1 \approx 0.93 with precision and recall) and the brain-age model yielded low error in controls (MAE \approx 0.7 years). Brain-Age Gap (BAG) correlated moderately with clinical severity (CDR; $r \approx$ 0.32), supporting BAG as a continuous staging marker. SHAP indicated structural dominance: ventricular enlargement and focal temporal/insular volumes were primary drivers of classification, while connectivity metrics acted as modulatory signals that refined staging. SHAP distributions and subgroup analyses revealed heterogeneous, bell-shaped and context-dependent contributions, implying many imaging-clinical relationships are nonlinear and interaction-driven instead of strictly additive. Conclusion: Results argue for a shift: beyond linear biomarker mapping. XAI methods (SHAP) coupled with Complex Systems Theory may capture emergent dynamics, compensatory reserve and critical transitions, offering interpretable, clinically actionable monitoring of cognitive aging.

TALK 5: EXPLORING GAIT RELATED CHANGES IN BRAIN ACTIVATION IN SUPER MOVERS

Maya Hoff, Albert Einstein College of Medicine

Gait speed is associated with general brain health in aging. While it is common for gait speed to decline with age, about seven percent maintain a fast gait speed well into older age. The neural substrate of so-called super movers, individuals above the age of 80 who walk at speeds comparable to people 30 years younger, are unexplored. The current study uses a novel mobile brain body imaging procedure to measure brain oscillatory activity tied to the gait cycle while individuals classified as super movers (n=16) and controls (n=25) performed a complex gait task. Complexity was introduced by immersing participants in full-field optical flow stimulation designed to destabilize balance during treadmill walking. We predicted that super mover status is associated with a distinct fronto-parietal activation pattern during complex gait. Preliminary data analysis indicated that controls show increased parieto-occipital and sensorimotor activation in mu and beta bands during complex compared to simple walking. In contrast, super movers exhibit overall increased fronto-medial theta

power during simple and complex walking coinciding with the pre-swing phase of the gait cycle. Our findings show that groups engage different brain regions and spectral activation patterns in response to visual perturbation designed to destabilize posture. While controls increased activation of the parietal and sensorimotor cortex in complex walking, super movers may exhibit a unique neural signature, relying more heavily on frontal activation in both simple and complex walking.

TALK 6: SPLITTING MENTAL IMAGERY: A DIVIDED VISUAL FIELD ADAPTATION OF THE MENTAL IMAGERY fMRI PARADIGM FOR FUTURE SPLIT-BRAIN APPLICATION

Mrs. Selin Bekir, University of California Santa Barbara

Mental imagery tasks in fMRI, such as imagining playing tennis or navigating through one's home, have been used to detect volitional brain activity in non-communicative patients, including those in vegetative states. Spatial navigation and motor imagery were shown to be the most robust paradigms for this purpose. Building on this established approach, we developed a lateralized adaptation specifically designed for future investigation of split-brain patients whose disconnected hemispheres offer a rare experimental window into the nature of consciousness. In this task, we replaced auditory cues with lateralized visual stimuli to probe the content of the imagery. A tennis racket or a house image was flashed for 120 ms to either the left or right visual field, followed by an imagery period requiring sustained motor (tennis) or spatial navigation (house) imagery. As a validation step, we scanned 25 neurologically healthy participants to determine whether this modified paradigm reliably evokes activity in expected brain regions of interest in a subject-specific manner. Here we present results from this validation study in healthy controls, showing expected activation patterns within canonical regions of interest during motor and spatial imagery, though the strength and extent of these effects varied across participants and visual field conditions. This approach opens an exciting avenue for probing the nature of consciousness in the divided brain by investigating whether a lateralized cue can effectively engage the contralateral hemisphere in the mental imagery task and whether the hemispheres will correlate in their activation patterns following the same probe.

TALK 7: MODELLING STRENGTH-BASED REPRESENTATIONS IN MEMORY USING SPIKING NEURAL NETWORKS

Patrick Tsapoitis, University of Waterloo

Reading words aloud, compared to silently, during encoding may enhance memory by strengthening representations. Computational modelling enables manipulation of representation strength and can be used to simulate memory. Our model, Encoding-based Strength Representation in Memory (ESRM), was created using the Nengo Python library. Nengo uses the Neural Engineering Framework to enable mapping cognitive models onto spiking neural networks. ESRM includes simplified hippocampal memory components that

account for primacy, recency, and decay. It reinforces 'read aloud' words by creating an additional distinct, and general memory representation. Recall in ESRM is determined by neural populations competitively accumulating evidence of word representations to a threshold, using a previously established minimum of 30% to filter irrelevant evidence. An accumulation to threshold denotes successful recall. Results from 50 simulations with ESRM were compared to behavioural data (N=50) in which participants were presented with a set of words, one at a time, and asked to either read them aloud or silently, intermixed within-subjects. A 2 (Source: ESRM vs Human) x 2 (Cue: aloud vs. silent) mixed ANOVA revealed a significant effect of Cue, better memory for words read aloud than silently, but no effect of Source. We then compared memory under conditions with or without noise, to mimic real-world divided attention conditions. ESRM again replicated human data: the production benefit from reading aloud versus silently remained, though it was reduced in magnitude. ESRM can successfully be used to model the effectiveness of encoding techniques, expanding applicability to populations where attention may be compromised (aging, MCI, TBI).

TALK 8: CEREBELLAR COGNITION: CEREBELLAR PREDICTION ERRORS IN REINFORCEMENT AND STATISTICAL LEARNING

Juliana E. Trach, Yale University

A prominent theory of cerebellar learning posits that the cerebellum acts as an internal model for our motor system, generating predictions about action outcomes and using prediction errors to refine actions. Cerebellar circuitry associated with prediction-error-based learning has been extensively described in the motor domain. Yet, whether this function extends to non-motor learning is unclear. Here, we investigate cerebellar encoding of prediction errors in two forms of non-motor learning: reinforcement learning (RL) and statistical learning (SL). Participants executed an RL (N = 32) and an SL (N = 20) task while undergoing fMRI. During RL, participants won points by choosing between stimuli with different reward probabilities (a standard "two-arm bandit" task). During SL, participants passively viewed a sequence of individually presented fractals, where certain fractal-fractal transitions were more likely than others. We manipulated the delay (.8s or 3s) between participant choices and reward feedback during RL and between fractal presentations during SL to test the hypothesis that cerebellar involvement would be limited to short timescales. Our results support the hypothesis that the cerebellum encodes generalized prediction errors during non-motor learning: We found evidence of reward prediction errors in Crus I/II of the human cerebellum (Trach, Ou, & McDougle, under review), closely aligning with results in model organisms. During SL, Crus I showed increased activation to surprising stimulus transitions (i.e., statistical prediction errors). These signals increased gradually with learning and were weakened with delayed feedback. These results suggest a general

function of the cerebellum in predictive processing with domain-general temporal constraints.

TALK 9: NEUROVLM: A BI-DIRECTIONAL VISION-LANGUAGE FRAMEWORK LINKING BRAIN ACTIVATION MAPS AND COGNITIVE FUNCTIONS

Borngreat Omoma-Edosa, University of California San Diego

Human neuroimaging studies have generated vast multimodal datasets pairing textual descriptions with spatial brain activation coordinates, yet existing approaches remain limited in bridging these modalities. We introduce NeuroVLM, a bi-directional, generative vision-language framework that unifies neuroimaging and natural language to enable both text-to-brain and brain-to-text decoding for arbitrary (non-dictionary-based) natural language text or brain images. Our NeuroVLM model integrates 27,000 coordinate-based activation maps, 27,000 neuroscience publications and 3,000 common neuroscience articles into a shared latent space. This extension implements the inverse pathway, translating neuroimages into interpretable textual, cognitive, and functional outputs. Our architecture combines a fine-tuned transformer-based language encoder with a novel 3D neuro-autoencoder that compresses activation likelihood maps into 768-dimensional embeddings. Both modalities are aligned through contrastive and reconstruction objectives, allowing accurate retrieval, decoding, and similarity-based reasoning. Training leveraged large open-access repositories including PubMed Central and Neurosynth, with ten-fold cross-validation assessing reconstruction fidelity (MSE, SSIM, Dice) and semantic retrieval. Results show that NeuroVLM-Inverse achieves decoding and ranking performance comparable to large-scale models while maintaining greater computational efficiency. Beyond methodological innovation, the system enables lesion-to-function inference, cognitive-state classification, network labeling, and a neuroscience-specific search engine linking patient scans to literature. By bridging natural language, brain representations, and large-scale data, NeuroVLM-Inverse advances toward interpretable, accessible, and clinically relevant brain-language alignment, offering a step toward the next generation of cognitive and computational neuroscience tools

TALK 10: CONCEPT CELLS IN THE TEMPORAL POLE AND THE POSTERIOR CINGULATE CORTEX: TESTING MEMORY SYSTEMS AT THE NEURONAL LEVEL?

Vincent Dornier, Brain and cognition research centre

Extracellular recordings have identified neurons selective to one particular concept, concept cells, in the medial temporal lobe (MTL) structures as the building blocks of declarative memory. These concept cells demonstrate strong semantic properties. Finding such selective neurons within the MTL structures presents a paradox given that it is the temporal pole (TP) that is widely regarded as the primary hub for semantic memory. We recorded the activity from > 1000

neurons across 20 patients implanted with tetrodes from several regions including the TP (n=177) and the MTL (n=388) while they watched pictures of various famous faces, buildings, common objects or written names. Among these, neurons in the TP displayed several characteristics of concept cells: invariant, multimodal and selective responses, explicit representations of concepts and semantic coding as highlighted by comparing neuronal activity with embeddings of concepts in language models. Neurons in the TP also had shorter response latencies than the ones in the hippocampus suggesting processing in the TP before transfer to the hippocampus. Altogether, these results support the idea that neurons in the TP are the neuronal basis of semantic knowledge. We did not record concept cells in other brain areas except from the posterior cingulate cortex where response latencies occurred later than in temporal regions. Altogether these findings provide novel insights into the neuronal coding of memory in the human brain and enable to evaluate the functional organization of memory at the neuronal scale.

TALK 11: HYPOTHESIS-DRIVEN IDENTIFICATION OF NEURAL ALGORITHMS WITH DYNAMICAL STRUCTURE-PRESERVING MANIFOLDS

Daniel Calbick, Yale University

Understanding how neural circuits implement complex mental representations remains a central challenge in neuroscience. Existing approaches either lack neural grounding (probabilistic cognitive models) or provide limited algorithmic interpretability (task-optimized deep networks). We present Dynamical Structure-Preserving Manifolds (dSPMs), a framework that enables direct testing of algorithmic hypotheses against neural data by analytically programming physics-based representations into reservoir computers without training. We applied dSPM to identify the algorithm underlying physical prediction in macaque dorsomedial frontal cortex (DMFC). Using high-resolution recordings from 1,889 neurons during a ball interception task, we tested whether DMFC implements structure-preserving physics-based representations versus task-optimized or statistical shortcuts. The dSPM model analytically embeds a 12-dimensional dynamical system encoding Newtonian mechanics—including position, velocity, collision detection, and reflection dynamics—into the connectivity of a reservoir computer by directly computing connectivity weights from symbolic specifications. dSPM reproduced a striking feature of DMFC: rapid endpoint prediction within 250ms of trial onset. More remarkably, dSPM predicted that the entire future ball trajectory, not just the endpoint, should be linearly decodable from this early neural state—a prediction we confirmed in DMFC activity. Representational similarity analysis revealed that dSPM significantly outperformed task-optimized RNNs and subsumed nearly all variance explainable by alternative models through partial correlation analysis. These results suggest DMFC implements interpretable, dynamical, and physics-based manifolds rather than

learned statistical representations, and establish dSPM as a powerful tool for hypothesis-driven exploration of neural algorithms underlying complex cognition.

TALK 12: HOW REPRESENTATIONAL GEOMETRY ALIGNS BETWEEN BRAINS AND ANCHORS TO SEMANTICS DURING LIVE VERBAL COMMUNICATION

Yulei Shen, RIKEN

While previous hyperscanning studies have demonstrated inter-brain temporal synchrony, it remains unclear whether neural representational geometry aligns during live communication and whether such alignment relates to the linguistic information being exchanged. This fMRI hyperscanning study with 29 sender-receiver dyads directly addresses this question. In each trial, senders viewed an image and generated five sentences based on five given keywords to enable receivers—who had no access to the image—to mentally reconstruct it. We examined inter-brain alignment during the 15-second real-time interaction by computing cross-trial RDMs within sliding time windows. First, we assessed neural-to-neural representational geometry alignment by measuring time-resolved correspondence and the receiver's progressive convergence toward the sender's geometry, comparing real dyads with pseudo-partner controls. Real dyads exhibited significantly stronger, interaction-specific, time-dependent increases in neural-to-neural alignment across bilateral language areas (L-IFG, bi-STG/MTG, R-AG), left executive control regions (SFG, SMG), and right visuo-attentional cortex (IPL, LOC). Second, we tested whether this progressive inter-brain alignment is directly grounded in the linguistic content using language embeddings (BERT) derived from senders' descriptions. Senders progressively anchored their neural geometry to their own semantic models, engaging bilateral visual-memory networks (L-LG, L-PhG, L-PCu; R-FG, R-AG). Receivers showed increasing semantic anchoring to the sender's linguistic embeddings over time, engaging left attention-control (SFG, SMG) and right temporo-occipital regions (IOG, FG, TP), but this effect was not interaction-specific. These findings demonstrate that authentic communication progressively aligns inter-brain representational geometry through linguistic grounding. The divergent semantic anchoring patterns between senders and receivers reveal distinct neural mechanisms underlying this representational coupling.

TALK 13: PRISME: A MATLAB TOOLBOX FOR MULTI-METHOD STATISTICAL POWER ANALYSIS IN NEUROIMAGING

Fabricio Cravo, Northeastern University

Low statistical power in neuroimaging often undermines research in the field, leading to missed effects, wasted resources, and reduced reproducibility. Performing power analyses during the study design phase is extremely important, but often prohibitively difficult due to a lack of analytical solutions tailored to complex fMRI statistical

procedures, the challenge of defining expected effect sizes a priori, and high computational costs. We present \texttt{PRISME} (Power Reproducibility and Inference for Statistical Method Evaluation), a MATLAB toolbox for neuroimaging power calculations. \texttt{PRISME} provides a computational framework for comparing multiple statistical inference methods, enabling researchers to select the correct sample sizes for their experiments and find optimal methods for their experimental data analysis and integrate new ones for benchmarking through a flexible algorithm and architecture. Unlike previous empirical power approaches to calculate power, the toolbox supports diverse neuroimaging data types, including both voxel-based activation and functional connectivity analyses, and arbitrarily complex inferential methods due to a flexible nonparametric algorithm and unified data representations. Furthermore, \texttt{PRISME} supports multiple test types, such as association and difference tests with behavioral and clinical measures. Finally, \texttt{PRISME}'s 25× increase in speed from algorithmic optimizations compared with procedures in existing scripts enables larger-scale never before seen power calculations which were previously computationally infeasible. Overall, \texttt{PRISME} is the first method- and data-type-agnostic power calculator for neuroimaging, providing an accessible solution for power analysis across diverse study designs.

TALK 14: NEUROSYNTH COMPPOSE: A PLATFORM FOR TRANSPARENT AND REPRODUCIBLE META-ANALYSES

James Kent, University of Texas at Austin

Neuroimaging meta-analyses are a cornerstone of cognitive neuroscience, enabling synthesis across decades of neuroimaging research. However, the traditional workflow of manually curating and coding thousands of papers to extract activation coordinates is idiosyncratic and time-consuming. To address this, we developed Neurosynth Compose, an open platform that facilitates the creation of meta-analyses with transparency and reproducibility at its core. The platform has automatically extracted reported activation coordinates and key metadata (e.g., participant characteristics, tasks, populations) from over 32,000 neuroimaging studies, supporting both hypothesis-driven and data-driven exploration through AI-assisted curation. With over 2,500 users worldwide, Neurosynth Compose offers a scalable infrastructure for systematic meta-analysis, encouraging the collaborative reuse of existing research. To demonstrate its capabilities, we are conducting an exemplar analysis comparing the neural bases of American Sign Language (ASL) and spoken language production. Using studies within Neurosynth Compose and newly added literature, we apply Activation Likelihood Estimation (ALE) and Multilevel Kernel Density Analysis (MKDA) with Monte Carlo-based familywise error correction (5,000 iterations). Comparative analyses (ALE subtraction and MKDA χ^2 tests) will illustrate cross-method consistency and the platform's ability to synthesize results reproducibly. Neurosynth Compose lowers the barrier to meta-

analysis, increases methodological transparency, and enables the field to build on its vast cumulative knowledge. This open, automated framework advances the collective goal of grounding cognitive neuroscience on reproducible, integrative evidence.

TALK 15: GRASPING UNSEEN PHYSICAL PROPERTIES OF OBJECTS: THE ROLE OF THE VENTRAL VISUAL PATHWAY IN OBJECT-DIRECTED ACTION

Emefa Akwayena, Carnegie Mellon University

Many daily activities require object-directed actions that involve reaching to grasp an object that is manipulated to achieve a goal. Even before grasping an object, visual cues affect the form of grasp. Consider two cups filled with water, one made of styrofoam and one made of glass. Upon observing each, our brains automatically and implicitly process the difference in material properties to determine that a glass cup requires a stronger grip force than one made from styrofoam. Thus, perceptual inferences about what objects are made of and their associated weight, an unobserved physical property, are necessary for functional interactions. This study examined the role of the ventral visual pathway in translating visual cues into functionally appropriate object-directed actions. Specifically, it tested the use of surface texture cues to drive inferences about material properties and the internal weight distribution of an object. In Study 1, subjects completed a localizer task in which they viewed images from different categories (e.g., faces, tools, words) during fMRI scanning. In Study 2, subjects made center of mass estimations on small manipulable objects while in the scanner. Results demonstrated that voxels in the collateral sulcus preferring small manipulable objects show functional overlap with voxels that process surface texture and material properties. Additionally, our findings show that the neural response observed in the collateral sulcus is modulated by the complexity of the center of mass inference. These findings support the view that the collateral sulcus supports perceptual inferences about material properties and weight distribution of graspable objects.

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Rising Stars Session

Saturday, March 7, 2026, 1:00 – 3:00 pm, Salon EF

Chair: Vishnu Murty, University of Oregon

Speakers: Alexander Barnett, Blaire Dube, Mengyuan Gong, Peter Hitchcock, Laura Gwilliams, Daniel Yon and Anastasia Kiyonaga.

TALK 1: DEFAULT MODE EVENT REPRESENTATIONS AND MEMORY

Alexander Barnett; McGill University

People construct and use mental "event models" by combining incoming information with prior knowledge to comprehend, interpret and predict ongoing events. Multivariate representations with default mode network (DMN) areas appear to carry event model information. Here we examined how events are stored into memory and how event representations shape what is remembered. Healthy adults were scanned with fMRI as they encoded and recalled cartoon movies. We observed that functional coupling between the DMN and hippocampus during encoding at critical moments called "event boundaries" was related to subsequent retrieval of events. Next we sought to see whether multivariate event patterns shaped recall content. Using topic modeling, we were able to examine how similarly pairs of participants recalled events from the cartoon movies. To do this, we transformed recall transcripts into "embeddings" and calculated the similarity between embedding vectors between participants. We observed that participants who recalled events more similarly also had similar multivariate event patterns in DMN regions at encoding. Together, these findings suggest that event representations in DMN regions at encoding shape the features recalled at retrieval and the success of retrieval may be dependent on hippocampal-DMN interactions.

TALK 2: DISTRACTION DISRUPTS CONTROL OVER THE ENCODING AND MAINTENANCE OF INFORMATION IN VISUAL WORKING MEMORY

Blaire Dube, Memorial University of Newfoundland

Careful control over visual working memory (VWM) allows it to effectively support behaviour: A filter governs which information gains access to VWM, and concurrently maintained representations are organized into distinct functional states. During visual search, for instance, a target is held in an active state that biases attention toward matching input, while prospectively relevant information can be maintained in an accessory state shielded from attention to prevent interference. Recently, the Filter Disruption Theory proposed that salient distraction disrupts control over access to VWM, allowing irrelevant information to enter. Does salient distraction also disrupt control over the internal organization of VWM, causing accessory representations to incidentally guide attention? Across two experiments, participants maintained two shapes in VWM: an active item serving as the search target, and an accessory memory item

(AMI) that was relevant for a subsequent memory test. Participants first completed a visual search among either five (Experiment 1) or two (Experiment 2) non-targets, one of which occasionally matched the AMI, before performing the memory task. On some trials, a salient distractor—a briefly flashing border surrounding a non-target—appeared during search and sometimes coincided with the AMI's appearance in the search array. When no distractor was present, the AMI did not influence attention: search response times were unaffected by its presence. In contrast, when a salient distractor appeared, search was reliably slowed by the presence of the AMI. These findings suggest that salient distraction disrupts control over the functional organization of VWM, allowing accessory representations to transiently assume an attention-guiding role.

TALK 3: DUAL-FORMAT OF PREPARATORY ATTENTION IN HUMAN VISUAL CORTEX

Mengyuan Gong, Zhejiang University

To manage overwhelming sensory inputs, the brain must prioritize task-relevant information through the allocation of attention. However, the neural representational format of attentional templates during preparation remains elusive. While a prevailing view suggests that target templates reflect veridical sensory features, recent theories propose that non-veridical representations are often "good-enough" for attentional guidance. Here, we investigated how the brain coordinates these seemingly conflicting views. In an fMRI study using a cuing paradigm, we show that preparatory activity patterns for a cued target distinctly differ from those evoked by actual sensory perception, indicating a "non-sensory" representation. Crucially, by perturbing neural activity using a visual impulse ("pinging" technique), we uncovered a latent activity pattern in the visual cortex that resembled the veridical sensory template. The emergence of this sensory-like format coincided with enhanced functional connectivity between V1 and frontoparietal regions and predicted improved behavioral performance. Together, these findings reveal a dual-format mechanism for preparatory attention: the brain concurrently maintains an active, non-sensory representation alongside a latent, sensory-like template. This representational flexibility may provide a significant advantage for adaptive attentional control in complex environments.

TALK 4: INFERRING SELF-SCHEMAS WITH SEQUENTIAL SAMPLING MODELS

Peter Hitchcock, Emory University

Cognitive theories of depression assert that maladaptive self-schemas are the taproot of this disorder. Yet it has been difficult to measure self-schemas, which are typically defined as latent representations that guide cognition outside of conscious awareness. Self-reports, reflecting patent self-beliefs, are clearly inadequate measures of self-schemas by this definition. Researchers have thus turned to behav-

ioral tasks in which participants make positive or negative self-judgments. These tasks are thought to capture distinct information from self-report, yet it has not been possible to verify this in past tasks. We developed a novel task and deployed it in two studies oversampling for depression (N=1008; median PHQ-9=12). Explicit self-beliefs collected before the task exerted a marked influence on self-judgments in the task itself—a source of variance that past studies have neglected. Yet there were also distinct effects of valenced processing during the task itself, as captured by a regressor on the drift rate of a drift-diffusion model and corresponding to distinct choice and RT signatures. Moreover, although, as expected, more (vs. less) depressed individuals reported starkly more negative (and less positive) explicit self-beliefs, they also showed distinct valenced processing—relatively more negative (than positive) evidence accumulation—during the task itself. Conversely, although we replicated a common finding that more depressed individuals subsequently remembered relatively more negative (of all total) words, this pattern was explained simply by negative words being more self-descriptive for them. Our results show how decision-science methods can be translated to gain insights into self-schemas theorized to be at the root of depression.

TALK 5: NEURAL ALGORITHMS OF HUMAN LANGUAGE

Laura Gwilliams, Stanford University

The goal of my research is to develop a theoretically grounded, biologically constrained and computationally explicit account of how the human brain achieves language comprehension. In my talk, I will present a series of studies that examine neural responses at different spatial scales: From population ensembles using magnetoencephalography and electrocorticography, to the encoding of speech properties in individual neurons across the cortical depth using Neuropixels probes and microelectrodes in humans. The results provide insight into (i) what auditory and linguistic representations serve to bridge between sound and meaning; (ii) what operations reconcile auditory input speed with neural processing time; (iii) how information at different timescales is nested, in time and in space, to allow information exchange across hierarchical structures.

TALK 6: STUBBORN AND FLEXIBLE PREDICTIONS IN PERCEPTION AND BELIEF UPDATING

Daniel Yon^{1,2}, ¹Birkbeck, University of London, ²All Souls College, University of Oxford

Thinking about the human mind has been transformed by the idea that the brain may be 'Bayesian' – relying on predictions and prior beliefs to make sense of a noisy, ambiguous and unstable world. A key problem that predictive brains need to solve is setting the 'balance' between stubbornness and flexibility –determining whether to rely on old predictions in new contexts, or to form new hypotheses as environments change around us. In this talk I will describe a mixture

of experiments from my lab which reveal that perceptual brain circuits can rely too stubbornly on 'outdated' sensory predictions, biasing our representation of the present. However, flexibility might not be all it is cracked up to be – as alternate work from the group suggests that overestimating the volatility of our environment can also lead to unstable patterns of prediction – including in pathological states like paranoid delusions. Understanding how the brain should and does set this balance is important for understanding how perception and cognition become (mis)attuned to the extracranial world we find ourselves inhabiting.

TALK 7: WORKING MEMORY BEYOND THE CORTEX

Anastasia Kiyonaga, University of California, San Diego

The core role of working memory (WM) is to sustain short-term goal content in mind for long enough to guide behavior. Yet the nervous system may engage myriad functions to accomplish that feat. WM representations are distributed across the brain and can now be detected in evolutionarily earlier structures than previously thought—like the cerebellum, thalamus, and superior colliculus. Mounting evidence also shows that peripheral oculomotor and physiological signals can carry WM feature content, raising the question of just how far WM signals go. Here, in three studies, we test the idea that visual WM content is adaptively distributed across the nervous system according to behavioral demands. We examine how WM content is expressed in activity patterns across the eyes and hands, and whether the distribution of such peripheral motor activity shifts with the task context. We find feature-specific WM content signals in pupil size modulations (Expt. 1), spatio-temporal gaze sequences (Expt. 2), and systematic manual gestures (Expt. 3). In all experiments, we manipulate which stimulus dimensions are most relevant for the WM test (e.g., visual detail or semantic category) and find that peripheral WM signals are modulated accordingly. These findings converge on the idea that WM may recruit the most primary structures in sensorimotor processing. Rather than indiscriminately spread throughout the brain and body, however, WM content information is efficiently allocated across the sensory and motor structures that are best-positioned to support current needs.

General Information

Abstracts

Poster abstracts can be found in the program PDF version which is downloadable from www.cogneurosociety.org.

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Audiovisual Equipment for Talks

LCD projectors (e.g., for PowerPoint presentations) will be provided in all rooms where spoken sessions are scheduled; however, computers will NOT be provided. Presenters must bring their own computers and set them up BEFORE the start of the session in which they are presenting. Facilities will be provided to allow several computers to be connected to the LCD projector in a room. Presenters are strongly encouraged to arrive in their scheduled symposium room a minimum of 30 minutes before their talks so that they know how to set up their equipment.

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Catering

Catering will be available during the conference and is included in the registration fee. *Gluten-free options at coffee breaks/receptions available upon request. Please refer to the table below for the catering times, date and times.

Saturday, March 7

Coffee Service, 3:30 – 4:00 pm, *Kitsilano Ballroom*

Welcome Reception, 6:00 – 7:00 pm, *Parq Grand Ballroom Foyer*

Sunday, March 8

Continental Breakfast, 8:00 – 8:30 am, *Kitsilano Ballroom*

Coffee Service, 3:30 – 4:00 pm, *Kitsilano Ballroom*

Monday, March 9

Continental Breakfast, 8:00 – 8:30 am, *Kitsilano Ballroom*

The Brain Box Social, 3:30 – 4:00 pm, *Parq Grand Ballroom Foyer*

Coffee Service, 3:30 – 4:00 pm, *Kitsilano Ballroom*

Tuesday, March 10

Continental Breakfast, 8:00 – 8:30 am, *Kitsilano Ballroom*

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Please ensure that you are available in your presentation room at least thirty minutes before the start of the session. Those chairing sessions are asked to keep the talks on time.

Code of Conduct

The Cognitive Neuroscience Society is committed to providing a safe and professional environment during our annual meeting. All CNS members are expected to conduct themselves in a business-like and professional manner. It is unlawful to harass a person or employee because of that person's sex or race. Harassment is defined by any situation that creates a hostile or offensive work environment.

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CNS Public Information Officer Lisa Munoz will answer your questions, give advice, and talk about the communication and press services CNS offers. No appointment needed. Just grab some breakfast and drop in.

Monday, March 9, 8:30 am - 10:00 am, *Granville*

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The conference exhibits are located in the Kitsilano Ballroom of the JW Marriott Parq Vancouver Hotel. Located in this room are posters and exhibit booths. Additional posters can be found in Fairview Ballroom and Kitsilano Ballroom Foyer. The Exhibit Hall is open to all attendees at the following times:

Saturday, March 7

Exhibits Open, 3:00 pm – 5:15 pm
Exhibit Hall **Closed for the Day** – No Entry after 5:15 pm

Sunday, March 8

Exhibits Open, 8:00 am – 7:15 pm
Exhibit Hall **Closed for lunch** – No Entry, 12:00 - 1:30 pm
Exhibit Hall **Closed for the Day** – No Entry after 7:15 pm

Monday, March 9

Exhibits Open, 8:00 am – 5:00 pm
Exhibit Hall **Closed for lunch** – No Entry, 12:00 - 1:30 pm
Exhibit Hall **Closed for the Day** – No Entry after 5:45 pm

Tuesday, March 10

Exhibits Open, 8:00 am – 10:00 am
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Poster Sessions

Poster sessions are scheduled on Saturday, March 7, Sunday, March 8, Monday, March 9, and March, April 10. The presenting author must be present during the assigned session and other authors may be present to answer questions. The poster sessions are in Fairview Ballroom + Kitsilano Ballroom + Kitsilano Ballroom Foyer of the JW Marriott Parq Vancouver Hotel. Badges are required at all times. **Do not leave personal items in the poster room.**

Receipts

You received two receipts via email, two at the time of purchase, one from Stripe and a second from CNS with your registration confirmation. Please email the registration desk if you require an additional copy. See also Certificate of Attendance.

Reception

The Welcome Reception will be held in the Parq Grand Ballroom Foyer of the JW Marriott Parq Vancouver Hotel, Saturday, March 7, 6:00-7:00 pm. You must wear your badge to gain entrance.

Registration

The Registration Counter is located in the Parq Grand Ballroom foyer of the JW Marriott Parq Vancouver Hotel. The Registration Counter will be open at the following times:

Saturday, March 7 9:30 am – 6:30 pm

Sunday, March 8 7:30 am – 6:30 pm

Monday, March 9 8:00 am – 5:30 pm

Tuesday, March 10 8:00 am – 3:00 pm

Student Lounge

CNS will be providing a student lounge area in Burrard. Should you need a quiet space to work, please see us at registration desk.

Smoking

Smoking is not permitted in or outside any of the meeting rooms or the exhibition hall.

Speakers

All speakers must register and wear name badge to present. Please ensure that you are available in your presentation room at least thirty minutes before the start of the session. See also Audiovisual equipment for Talks.

Transportation

From the JW Marriott Parq Vancouver Hotel, you have various transportation options, including taxis and ride-sharing services (Uber/Lyft).

Trifold

One copy of the Trifold is available to each attendee who requested one. If you would like a second copy, please check in at the Registration Desk in the Ballroom foyer of the Sheraton Boston Hotel on the last day of the event. Every effort has been made to produce an accurate Trifold. If you are speaking at the conference, please confirm your presentation times as listed in this Trifold.

Website

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Exhibits

Exhibitors

Visit our exhibitors in the Kitsilano Ballroom.

ANT North America Inc.	BOOTH 11
Artinis and NIRx	BOOTH 8
Brain Vision Solutions	BOOTH 1
CIHR - Institute of Neurosciences, Mental Health and Addiction	BOOTH 16
Cortech Solutions, Inc.	BOOTH 6
CUNY Graduate Center	BOOTH 14
mBrainTrain	BOOTH 13
NITRC - Neuroimaging Tools & Resources Collaboratory	BOOTH 5
Openwater	BOOTH 12
Psychology Software Tools	BOOTH 10
Pupil Labs	BOOTH 4
Rogue Research Inc.	BOOTH 7
SilicoLabs Incorporated	BOOTH 2
Soterix Medical	BOOTH 9
The MIT Press	BOOTH 3
Thoughtscape	BOOTH 15
VPixx Technologies	BOOTH 17
Wearable Sensing	BOOTH 18

Exhibit Hours

The conference exhibits are located in the Kitsilano Ballroom of the JW Marriott Parq Vancouver Hotel. The Exhibit Hall is open to all attendees at the following times:

Saturday, March 7	3:00 pm – 5:15 pm
Sunday, March 8	8:00 am – 12:00 pm 1:30 pm – 7:15 pm
Monday, March 9	8:00 am – 12:00 pm 1:30 pm – 5:00 pm
Tuesday, March 10	8:00 am – 10:00 am

***Exhibit Hall closed** Sunday and Monday, 12:00 pm – 1:30 pm.

GSA/PFA Awards

Congratulations to the 2026 winners of the Graduate Student Awards and the Post-Doctoral Fellow Awards.

Graduate Student Award Winners

- Victoria Wardell, *University of British Columbia*
- Juliana E. Trach, *Yale University*
- Ivette Colón, *University of Wisconsin*
- Vincent Dornier, *University Toulouse, CNRS*
- Qingyi Li, *Virginia Tech*
- Áine T. Dineen, *Trinity College Dublin*
- Marie F. Santillo, *Trinity College Dublin*
- Devayani Joshi, *Drexel University*
- Jinjiang Zhang, *Duke University*
- Tiantian Yang, *University of Michigan*

Post-Doctoral Fellow Award Winners

- Dr. Maxi Becker, *Duke University*
- Kshipra Gurunandan, *University of Cambridge*
- Maëva Gacoin, *McGill University*
- Uma Mohan, *National Institutes of Health*
- Arantzazu San Agustín, *University of Chicago*
- Miguel A. Velasquez, *University of New Orleans*
- Hao Zhu, *The Chinese University of Hong Kong*
- Theo Vanneau, *Albert Einstein College of Medicine*

Invited-Symposium Sessions

#	Title	Date	Time	Location
1	Cognitive Neuroscience in Infants	Sunday, March 8	10:00 am - Noon	Salon ABCD
2	Putting the Frontal Lobe Into Focus: Precision Mapping of Fine-Scale Functional Organization of Prefrontal Cortex	Sunday, March 8	10:00 am - Noon	Salon EF
3	Effectuating Societal Impact via Cognitive Neuroscience	Tuesday, March 10	10:00 am - Noon	Salon ABCD
4	How the Brain Creates Language: Insights from Genes, Neural Pathways, Neuroprosthetics, and Computational Models	Tuesday, March 10	10:00 am - Noon	Salon EF

Invited Symposia Session 1

COGNITIVE NEUROSCIENCE IN INFANTS

Sunday, March 8, 2026, 10:00 am – 12:00 pm, Salon ABCD

Chair: Nick Turk-Browne, Yale University

Presenters: Rhodri Cusack, Heather L. Kosakowski, Cameron Ellis, Ghislaine Dehaene-Lambertz

How do infants experience and understand the world around them? Much of what we know about early perceptual and cognitive development has come from behavioral studies and from infant-friendly neuroscientific methods like EEG, MEG, and sleeping fMRI. The past decade has seen a rising wave of fMRI studies in awake infants inspired by the progress and advantages of task-based fMRI in older children and adults. These infant studies provide unique opportunities to link stimuli and behaviors to functional activity throughout the infant brain, including subcortical, medial, and ventral structures, to obtain spatially precise localization and patterns of activity, and to adopt advanced multivariate and model-based analysis approaches. This symposium includes talks on the latest research by four leaders in this emerging field: Rhodri Cusack will present work on the computational development of the visual system. Heather Kosakowski will present evidence for early selectivity in the face network. Cameron Ellis will share an ongoing dense longitudinal case study. Ghislaine Dehaene-Lambertz will discuss the availability of a prosodic hierarchy in the pre-syntactic language system. These presentations will advance our theoretical understanding of the developmental foundations of cognitive neuroscience and reveal the remarkable possibilities of awake infant fMRI.

TALK 1: THE ORIGIN OF RICH VISUAL CATEGORIES IN EARLY INFANCY

Rhodri Cusack, Trinity College Dublin

The development of object vision in infancy is shaped by both experience and intrinsic brain structure. To probe this developmental process, we acquired awake fMRI data in 2-month-old (n=112) and 9-month-old (n=52) infants. We presented a rich stimulus set of 36 images and used representational similarity analysis to characterise the visual features represented in the brain. Early visual cortex was

dominated by perceptual representations, whereas in ventral occipitotemporal cortex, categorical visual representations were already present by 2 months of age and were further strengthened and refined by 9 months. To further unpack the continuum from perceptual to categorical features, we used the layers of a deep neural network (DNN) model and found a hierarchy of visual feature complexity along the ventral visual stream even at 2 months. These representations were best captured by DNNs trained on blurred stimuli, suggesting that infants represent broader spatial scales more strongly than standard DNNs. Baseline models—untrained DNNs or DNNs trained on retinal waves—were less similar to infants, suggesting tuning is specific to the visual features that discriminate visual categories. To characterise how intrinsic brain structure contributes to these early rich representations, we have examined the long-range structural connectivity of these ventral visual regions in neonates using diffusion MRI and tractography. In sum, our results suggest an interplay between intrinsic brain structure and early experience, and demonstrate how awake fMRI combined with computational modelling can provide a rich characterisation of early visual development.

TALK 2: FACE SELECTIVITY IN THE HUMAN INFANT BRAIN

Heather L. Kosakowski, University of Southern California

Philosophers and psychologists have long debated the relative roles of built-in structure versus learning in the developing human mind. It is only recently that whole-brain measurements from awake infants have become available to inform these debates. In adult brains, face perception is supported by the fusiform face area (FFA) while social interaction perception is supported by regions in the superior temporal sulcus (STS) and abstract representations that support social inferences are computed in the medial prefrontal cortex (MPFC). Despite having different functions, FFA, STS, and MPFC are face selective. Do these regions develop face-selective responses sequentially, from low-level regions close to sensory input first to high-level abstract regions farthest from sensory input last? To investigate the sequence of functional development in the cortex, we used fMRI to measure whole-brain responses from awake infants while they watched videos of faces, bodies, toys, and landscapes. We increased data quality by (1) developing MR-safe infant headphones, (2)

designing a new infant coil that accommodated headphones and increased SNR, and (3) optimizing a BOLD acquisition sequence to image infants' brains. These data showed that infants, like adults, have face-selective responses in FFA, STS, and MPFC. Further, face selectivity is present in even the youngest infants, those that were 2-5 months, suggesting that cortical function develops in parallel. In the last part of my talk, I will briefly suggest a potential neural mechanism that could support parallel cortical development.

TALK 3: CONTINUITY AND DISCONTINUITY IN INFANT BRAIN DEVELOPMENT: DENSE LONGITUDINAL AWAKE FMRI IN THE FIRST YEAR OF LIFE

Cameron Ellis, Stanford University

The first year of life is marked by rapid cognitive change. Whether this change is smooth and continuous or sudden and discontinuous remains a central question in developmental psychology. Some historical and modern perspectives align with continuity (e.g., behaviorism, core knowledge), and other perspectives align with discontinuity (e.g., Freudian psychosexual stages, Theory Theory). A comparable debate happened for whole body growth: although height appears to increase continuously when measured every 3 months, only when measurements were taken every two weeks was it learned that height changes in 'spurts'. Thus, to understand the rate of infant cognitive development, we collected anatomical and task-based fMRI data from the same infant every two weeks from 2 to 12 months. The tasks included movie-watching and event-related image presentation of diverse categories. With this uniquely frequent and large dataset — averaging 59.7 minutes of task data after motion censoring per month — we can precisely measure the change in brain anatomy and function. Preliminary analyses show a continuous trajectory of brain volume growth: a logarithmic fit to age explains more than 95% of variance in whole-brain volume in this individual, providing no evidence for growth spurts at the sampled cadence. The implications for the prioritization of brain development are discussed. Ongoing analyses measure changes in the functional response over development. These results demonstrate the value of precise and dense longitudinal neuroimaging to address debates in cognitive development.

TALK 4: FROM SYLLABLES TO SENTENCES: TRACING THE PROSODIC HIERARCHY IN THE INFANT BRAIN

Ghislaine Dehaene-Lambertz, Centre National de la Recherche Scientifique

Because prosody mirrors the hierarchical organization of syntax, it may provide infants with an early scaffold to discover grammatical structure before they know any words. We investigated this hypothesis in 15 healthy 3.5-month-old infants using fMRI. Participants listened to two successive sequences of eight syllables, either repeated or not, and organized into different levels of the prosodic hierarchy: isolated

syllables, bisyllabic "words," intonational phrases, or full sentences. Preliminary analyses reveal an increase in functional connectivity with suprasylvian regions as prosodic units become larger, suggesting a progressive recruitment of higher-order integrative areas. We also examined BOLD response variability across subjects and cortical regions to assess the robustness and maturation of these hierarchical networks in early infancy. Beyond inter-subject and inter-regional differences, we observed notable temporal fluctuations within the same voxels, which may explain why classical HRF-based analyses often show limited sensitivity in the infant brain. Together, these findings suggest that the infant brain already organizes speech according to a hierarchical prosodic structure, which may pave the way for later syntactic learning.

Invited Symposium 2

PUTTING THE FRONTAL LOBE INTO FOCUS: PRECISION MAPPING OF FINE-SCALE FUNCTIONAL ORGANIZATION OF PREFRONTAL CORTEX

Sunday, March 8, 2026, 10:00 am – 12:00 pm, Salon EF

Chair: Caterina Gratton, University of Illinois at Urbana-Champaign

Presenters: Caterina Gratton, Moataz Assem, Jinkang (Derrick) Xiang, Kevin Weiner

Prefrontal cortex has long been recognized as a core structure for diverse cognitive processes, including goal-directed 'cognitive control', as well as language, social cognition, and decision making. Disruptions to prefrontal cortex are implicated across a number of neurological and psychiatric disorders. Yet, despite its importance, identifying reliable organizational principles within prefrontal cortex has proven challenging. Some accounts propose that prefrontal cortex lacks systematic specialization and fine-scale topography, functioning instead as a flexible hub. However, prefrontal cortex is also a structure that has seen significant evolutionary expansion, has protracted development, and varies substantially even among healthy individuals. Thus, prior approaches that rely on group-averaged data may fail to capture important features in this heterogeneous region. This symposium will highlight emerging insights into prefrontal cortex garnered from 'precision' neuroimaging – approaches that focus on fine-scale spatial detail, garnered from repeated measurements across multiple contexts and individualized analytic frameworks. Presenters will showcase work using precision approaches to map resting-state networks, characterize fMRI responses across diverse task and stimulus sets, and delineate detailed anatomical features in humans, alongside complementary neuronal array recordings in nonhuman primates. Each of these studies identifies new patterns of fine-scale specialization and functional topography within the frontal lobe. Collectively, this symposium emphasizes the opportunity for precision neuroimaging to reveal new insights into this complex, but

structured, brain region.

TALK 1: PRECISION NEUROIMAGING INSIGHTS INTO THE NETWORK ARCHITECTURE OF PREFRONTAL CORTEX

Caterina Gratton, University of Illinois at Urbana-Champaign, USA

Complex cognitive processes are supported by large-scale brain networks: distributed sets of regions with coordinated functions. Group-level analyses have consistently highlighted a large frontoparietal network that lies along the lateral prefrontal cortex (LPFC), with connections to parietal, temporal, and subcortical regions, that is hypothesized to be central to cognitive control. However, while people share a core set of networks, there are substantial individual differences in their layout, particularly in prefrontal cortex. This highlights the need to move beyond group-level maps to focus on individual-level analysis of the frontal lobe – a process that can be facilitated by high sampling ‘precision’ fMRI methods. In this presentation, I will review principles of precision fMRI and its potential to transform our understanding of frontal lobe organization. In the LPFC, we find that group-level maps systematically over-estimate the size of the frontoparietal network and miss important features. The individual LPFC shows a dense interweaving of distinct network regions, validated by both resting-state and task fMRI. Despite individual variability, common motifs reappear across people in the LPFC, suggesting shared organizational rules. These findings underscore the power of precision fMRI to move beyond group-level maps, opening the door to a deeper understanding of the principles that link brain organization and complex cognition.

TALK 2: CATEGORY-BIASED PATCHES ENCIRCLE CORE DOMAIN-GENERAL REGIONS IN THE HUMAN LATERAL PREFRONTAL CORTEX

Moataz Assem, University of Cambridge, UK

The fine-grained functional organization of the human lateral prefrontal cortex (PFC) remains poorly understood. Previous fMRI studies delineated focal domain-general, or multiple-demand (MD), PFC areas that co-activate during diverse cognitively demanding tasks. Recent precision fMRI studies have revealed interdigitating sensory-biased PFC patches adjacent to MD regions. Here I present evidence that this interdigitated arrangement extends to other functional specializations and may represent a fundamental organizational principle of the PFC. Across three datasets using high-resolution multimodal 3T and 7T MRI approaches of the Human Connectome Project, participants performed cognitive control tasks with visual stimuli spanning diverse categories including faces, places, tools, body parts, geometric shapes, letters and digits. Analyses were performed at the individual subject level. Contrasting each stimulus category against the others revealed focal interdigitated patches of activity adjacent to core MD

regions, many representing previously undescribed functional biases in the PFC. Notably, in single subjects activations often fragment into small “dots” of peak activations, possibly reflecting millimeter-scale columnar units seen in invasive animal studies. These findings reveal a recurring motif in which domain-specific and domain-general circuits are interdigitated at a fine spatial scale. This organization likely supports flexible cognitive control by allowing task-relevant signals to feed directly into nearby MD regions, generating control signals tuned to current task demands. These findings also have implications for precision stimulation, multivariate fMRI, and building biologically inspired computational models.

TALK 3: FINE-GRAINED, INDIVIDUAL FUNCTIONAL ORGANIZATION IN PRIMATE PREFRONTAL CORTEX: ADAPTIVE ACROSS SINGLE TASKS, STABLE ACROSS MANY

Jinkang (Derrick) Xiang, University of Western Ontario, Canada

Primate prefrontal cortex is engaged in a wide range of cognitive tasks that tap into multiple higher-order cognitive functions. However, its functional organization remains poorly understood. Challenges arise due to the mixed selectivity of prefrontal neurons – they often respond to multiple task features, including stimuli, rules, rewards, behavioral context, and their interactions – rendering traditional stimulus mapping approaches unfruitful. It remains unclear whether similarly tuned prefrontal neurons organize into local clustered populations that form functional topographies, as seen in sensory cortices, and if so, whether such maps exhibit shared spatial motifs across tasks. Using monkey array recordings spanning three tasks, we show that prefrontal neural populations with similar selectivity organize into topographic maps at a fine-grained spatial scale. These maps are stable over time yet adaptive from one task to another, while still preserving some spatial motifs. Using human fMRI spanning 26 tasks, we show that there are functional boundaries separating segregated sub-regions of the prefrontal cortex, in addition to the functional gradients hypothesized in the literature. These boundaries are individually specific and generalize across task sets. Together, our results suggest a fine-grained and individually specific functional organization in prefrontal cortex. This organization appears adaptive from one task to the next, yet shows stable patterns across broader task sets. The shared spatial motifs may provide a scaffold for general task execution and functional specialization.

TALK 4: COGNITIVE, FUNCTIONAL, NETWORK, AND CLINICAL INSIGHT FROM EVOLUTIONARILY-NEW BRAIN STRUCTURES IN PFC

Kevin Weiner, University of California, Berkeley, USA

There is great interest in understanding the relationship among brain structure, brain function, and cognition - especially in portions of the brain that have expanded the most throughout evolution, such as prefrontal cortex (PFC). PFC also contains brain structures that are

evolutionarily-new, some of which are human-specific. Critically, many of these structures disappear on group average templates. Thus, precision imaging and manual definitions of these structures in individual hemispheres is necessary to test the relationship of the morphology of these structures relative to individual differences in cognition, functional representations, and network properties. Such an approach is also ideal for clinical analyses in individual participants. The focus of this talk will be on recent results in lateral PFC, orbitofrontal cortex, and medial prefrontal cortex. Additionally, I will include some comparative analyses across species with mechanistic hypotheses that provide novel theoretical insights. Finally, I will describe new tools that use deep learning algorithms from these thousands of manually defined structures across studies to come closer to automatically identifying them. As the rate limiting step in these studies is the manual definition of these structures, these new, freely available tools aim to bridge the gap between precision imaging and large N studies, which we refer to as scalable precision imaging.

Invited Symposium 3

EFFECTUATING SOCIETAL IMPACT VIA COGNITIVE NEUROSCIENCE

Tuesday, March 10, 2026, 10:00 am – 12:00 pm, Salon ABCD

Chairs: Marian Berryhill¹, Micah Murray²; ¹University of Nevada, Reno, ²University of Lausanne

Presenters: Robert Knight, Marc Berman, Meike Ramon, Anjali Nursimulu

Scientists, including cognitive neuroscientists, have a societal obligation to generate knowledge, but also to disseminate it and steward its application toward the common good. This invited symposium addresses the successes and challenges of implementing research findings across domains such as education, urban planning, public policy, and security. During the first half of the symposium, each invited speaker will deliver a brief overview of their work as well as the outlook for scalability in contemporary society. The second half will be dedicated to a moderated roundtable discussion both between the panelists and the audience.

TALK 1: FRONTIERS FOR YOUNG MINDS: KIDS SAY THE DARNDDEST THINGS

Robert Knight, University of California, Berkeley

Frontiers for Young Minds is a global effort to engage young kids (8-15) with science. Kids learn the scientific method by reviewing papers submitted by active scientists with mentoring by a PhD, Post-Doc or scientist. The kids submit a review commenting on the hypothesis, the research plan, the results and the conclusions of the paper and authors have to revise the article addressing the kid's input. There are 1800 published articles covering eight areas including Human Health, Astronomy and Physics, Chemistry, Mathematics and Economics,

Neuroscience and Psychology, Biodiversity, Earth Sciences and Engineering, Technology and AI. The journal has 60 million article views and 12 million regular users and, Importantly, is open access with no page costs assuring that scientists and kids from any country can afford to publish in and have access to Frontiers for Young Minds. We also have a collection of articles from 34 Nobel Laureates focused on their career and seminal contributions reviewed by kids with more to come. The Nobel Laureate's efforts to teach the next generation has been well received with 320 million social media impacts and 2.5 million article views. Frontiers for Young Minds succeeds on three levels, kids are empowered, mentors provide public outreach and the authors have to make their work understandable to kids and by inference the general population. And the kids can be pretty direct in their reviews as you will see in some of their comments!

TALK 2: ENVIRONMENTAL NEUROSCIENCE

Marc Berman, University of Chicago

The field of environmental neuroscience examines the bi-directional relationships between brains and the physical environment. Here I will briefly present theory and empirical work for how interacting with more natural environments can improve cognitive performance, how more populated cities have lower rates of depression and implicit racial biases, and how exposure to poorer air quality is related to worsened cognitive development. I will discuss each of these findings from a broader environmental neuroscience perspective and how we can model the effects of the physical environment on brain and behavior. The goal is to try to use this work to improve human well-being at very large-scales.

TALK 3: COGNITIVE NEUROSCIENCE FOR AND IN SOCIETY— LESSONS FROM FACE (RE)COGNITION

Meike Ramon, Bern University of Applied Sciences

My talk will draw on two decades of research into the neural and cognitive mechanisms of face identity processing to illustrate how discoveries in cognitive neuroscience can both inform and be informed by society. I will trace my journey as a scholar who began with fundamental questions about how the brain encodes and recognizes faces and gradually expanded toward applied collaborations with the public sector. These have ranged from clinical assessments in individuals with face perception difficulties, to advising on issues of security and identity verification, to contributing insights on trust, bias, and social interaction in everyday life. Through these experiences, I will highlight both the opportunities and challenges of translating laboratory-based findings into real-world impact. The aim is not only to share lessons from face (re)cognition as a case study, but also to reflect more broadly on how cognitive neuroscience can responsibly engage with societal needs—by balancing rigor and relevance, while anticipating future challenges and working in dialogue with policymakers and practitioners.

TALK 4: BEYOND SILOS: A SYSTEMS APPROACH TO COGNITIVE HEALTH AND LONGEVITY

Anjali Nursimulu, B Lab Switzerland

Advances in cognitive neuroscience, combined with digital tools and artificial intelligence (AI), are transforming what is possible, from lab insights to real-world prevention and rehabilitation. But technology alone will not shift society. Just as the brain is a connected network, progress depends on connecting our institutions. This talk draws on an innovative national platform to show how cross-sector partnerships can turn neuroscience into societal impact, with examples ranging from sleep disorders and workplace mental health to integrated care pathways, scaling what works from regional pilots to national practice.

Invited Symposium 4

HOW THE BRAIN CREATES LANGUAGE: INSIGHTS FROM GENES, NEURAL PATHWAYS, NEUROPROSTHETICS, AND COMPUTATIONAL MODELS

Tuesday, March 10, 2026, 10:00 am – 12:00 pm, Salon EF

Chair: Tamara Swaab^{1,2}; ¹University of Birmingham, UK, ²University of California, Davis, USA

Presenters: Reyna Gordon, Stephanie Forkel, Edward Chang, Jean-Remi King

Understanding how the human brain creates language requires explanations that span from our genetic blueprint to the neural circuits and computational principles that support communication. This invited symposium brings together four internationally recognized leaders whose research provides complementary insights into the biological and computational foundations of human speech and language. Reyna Gordon will open the session by revealing how large-scale genomic studies identify the genetic variants and neurogenomic pathways that shape language development and vulnerability to communication disorders. Stephanie Forkel will then demonstrate how individual differences in white-matter pathways and large-scale network organization give rise to diverse language profiles. In the third talk, Eddie Chang will examine how intracranial recordings and emerging neuroprosthetic technologies reveal the population-level neural codes that underlie speech perception and production, and how these insights are transforming efforts to restore communication. Finally, Jean-Remi King will show how modern deep learning models provide a powerful computational framework for explaining brain responses to natural speech across development, offering an operational bridge between neural data and the algorithms that support language processing. Together, these talks illustrate a unique cross-scale synthesis—from genes to pathways, neural dynamics, and computational architectures—advancing a mechanistic understanding of how the brain produces and comprehends language.

TALK 1: GENETIC FOUNDATIONS OF HUMAN LANGUAGE

Reyna Gordon, Vanderbilt University Medical Center, USA

This talk will provide a state-of-the-art overview on how genetic variation shapes the development and functioning of neural systems supporting human speech and language. I will introduce the concept of Genome-Wide-Association Studies (GWAS) and explain how recent large-scale GWAS of language and reading traits have provided new perspectives on the biological foundations of typical and atypical human communicative abilities, in part through the integration of neurogenomic data. The talk will also cover the principles of measuring language skills for GWAS, and will expose unique opportunities afforded by genomic approaches to language such as measuring genetic overlap with other behavioral, cognitive, neural, and health traits at scale.

TALK 2: THE NEUROANATOMY OF LANGUAGE PATHWAYS

Stephanie Forkel^{1,2}; ¹Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, The Netherlands, ²Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands

Classical models have long ascribed language to specialized cortical “modules” such as Broca’s and Wernicke’s areas. Yet accumulating evidence reveals a far more distributed and variable architecture. This talk combines advanced diffusion tractography, functional MRI, and post-mortem anatomy to chart the structural and functional networks that underpin language across individuals. By integrating tract-based dissections with embedding analyses, we capture the latent geometry of the language connectome — revealing that language organization is neither fully modular nor random, but structurally distributed. This framework of neurovariability and precision connectomics shows how individual brains instantiate shared linguistic functions through distinct anatomical routes. Moving beyond fixed parcellations, I argue that language emerges from the interplay of distributed circuits whose configuration reflects both biological constraints and experiential history.

TALK 3: NEURAL CODES FOR SPEECH

Edward Chang, University of California, San Francisco, USA

This talk will present recent advances in understanding the fine-grained neural mechanisms underlying human speech production and perception. Using high-density intracranial recordings, the research tracks how cortical circuits encode phonetic, articulatory, and prosodic features of speech. The presentation will also highlight progress toward neuroprosthetic systems designed to restore communication in individuals who have lost the ability to speak, illustrating how knowledge of the brain’s dynamic speech code is driving transformative clinical innovation.

TALK 4: MODELING THE EMERGENCE AND PROCESSING OF LANGUAGE IN THE HUMAN BRAIN**Jean-Remi King1; 1CNRS, École Normale Supérieure, France**

Deep learning has driven major advances in natural language processing. In addition to their technical performance, these algorithms offer new methods to understand and model how language is processed in the human brain. Using both encoding (representations -> brain) and decoding (brain -> representations), we show that the comparison between modern speech and language models effectively accounts for brain responses to natural speech as recorded with EEG, MEG, iEEG and fMRI, including in children between 2 and 12 years old. This systematic comparison provides an operational foundation to model language in the adult and developing brain, thus offering a new path to understand the neural and computational bases of this human-specific ability.

Symposium Sessions

#	Title	Date	Time	Location
1	Beyond Biomarkers: Comprehensive Approaches to Brain Resilience in Aging and Dementia	Sunday, March 8	1:30 - 3:30 pm	Salon ABC
2	Mapping Emotions in the Brain Beyond Localization: How Neuroimaging and Machine Learning Can Reshape Contemporary Theoretical Frameworks	Sunday, March 8	1:30 - 3:30 pm	Salon D
3	Hippocampus and Sequential Behaviors Across Different Timescales and Memory Domains in Humans	Sunday, March 8	1:30 - 3:30 pm	Salon E
4	Network Integrity and Disconnection Syndromes: New Insights from the Split-Brain	Sunday, March 8	1:30 - 3:30 pm	Salon F
5	The Hunt for the Neural Correlates of Cognitive Reserve	Monday, March 9	10:00 am - Noon	Salon ABC
6	Not Your Average Brain: Individual-Level fMRI as a Paradigm Shift for Cognitive Neuroscience	Monday, March 9	10:00 am - Noon	Salon D
7	Neural Time Machine: Temporal Organization of Experience in the Brain	Monday, March 9	10:00 am - Noon	Salon E
8	Neuroscience Needs (Natural/Istic) Behavior: Mechanistic Approaches to Real-World Cognition	Monday, March 9	10:00 am - Noon	Salon F
9	Cognitive Insights into Attention and Cross-Modal Integration from Rapid Invisible Frequency Tagging	Tuesday, March 10	1:30 - 3:30 pm	Salon ABC
10	Abstract Representations in Neural Architectures	Tuesday, March 10	1:30 - 3:30 pm	Salon D
11	Emotion and the Organization of Temporal Context in Memory	Tuesday, March 10	1:30 - 3:30 pm	Salon E
12	Neural Computations of Motivated Behavior in Youth	Tuesday, March 10	1:30 - 3:30 pm	Salon F

Symposia Session 1

BEYOND BIOMARKERS: COMPREHENSIVE APPROACHES TO BRAIN RESILIENCE IN AGING AND DEMENTIA

Sunday, March 8, 2026, 1:30 – 3:30 pm, Salon ABC

Chair: Randy McIntosh, Simon Fraser University

Presenters: Brianne Kent, Natasha Rajah, Karen Campbell, Audrey Duarte

The human brain is embedded in the body, and the body is embedded in a complex personal and social environment. Understanding the variability of brain health trajectories into late life, therefore, requires a more inclusive and comprehensive view of the brain's resilience to new or adverse events. This symposium brings together leading researchers who will highlight advances in cognitive neuroscience approaches to resilience in aging, emphasizing the need for more inclusive population studies, naturalistic approaches, and multimodal data collection and integration that extends beyond the typical neuroscience methodologies. Together, these talks will underscore

the importance of moving beyond reductionist paradigms toward transdisciplinary, inclusive, and ecologically valid approaches. A panel discussion will follow, offering an opportunity for speakers and audience members to engage in dialogue on how best to advance research on brain resilience that reflects the complexity of aging.

TALK 1: THE BRAIN RESILIENCE STUDY: A DATASET OF THE BIOLOGICAL AND SOCIOCULTURAL FACTORS AFFECTING BRAIN HEALTH IN OLDER ADULTS

Brianne Kent, Simon Fraser University

Dementia arises from a complex interplay of biological, psychological, and sociocultural factors. However, previous large-scale studies have largely focused on biomarkers and genetics, with limited attention to the social and structural determinants of health that shape diverse aging trajectories. In 2024, we launched the Brain Resilience Study (BRS) to address this gap by integrating multimodal biological and cognitive measures with rich demographic, psychosocial, and lifestyle data to create an open resource for studying resilience to dementia. We are recruiting adults aged 50 years and older from the British

Columbia Generations Project, a population-based cohort with extensive pre-existing sociodemographic, lifestyle, occupational, and residential data that has been collected since 2009. In 1,000+ participants, we are collecting additional information about dementia risk factors, as well as cognitive testing, sleep assessments, portable EEG, and genetic sequencing. Sub-studies have also collected high-resolution neuroimaging (MRI, MEG) and circadian rhythm biomarkers. BRS data will be openly shared as a Brain Imaging Data Structure (BIDS) standardized dataset. By capturing variables often overlooked in dementia research, the BRS provides an unprecedented opportunity to study brain health in diverse aging populations. This resource will lay the foundation for longitudinal follow-up and future computational modeling, supporting the development of early, personalized, and equitable interventions to promote brain resilience across the lifespan.

TALK 2: A ROADMAP FOR CONDUCTING MORE INCLUSIVE BRAIN RESILIENCE RESEARCH ON AGING AND DEMENTIA

Natasha Rajah^{1,2}, ¹Toronto Metropolitan University, ²McGill University

The variability in cognitive and brain aging trajectories may be influenced by inter-individual and community-level differences in resilience that result from differential exposures to social determinants of health (SDH). Moreover, an individual's biological sex, and sociocultural gender will also affect their resilience. However, there remains no clear guidance on how to best integrate these diversity-related factors, i.e. sex, gender and SDH, in clinical and cognitive neuroscience research on resilience in aging and dementia. The international Brain Resilience and Diversity in Aging and Dementia (BReDAD) Collaboratory (<https://resilienceandaging.com/>) was funded by the Canadian Institutes of Health Research, Institute of Aging, in 2024 with the goals of synthesizing knowledge, identifying knowledge gaps, and developing recommendations for conducting more inclusive research on resilience in aging and dementia. Based on a focused review of the literature, including discussions and recommendations of the Collaboratory, a roadmap was developed for integrating diversity in future resilience research. The roadmap recommendations include: i) developing trust and meaningful long-term relationships with communities historically excluded from research, ii) diversifying who is engaged in all aspects of the research process, iii) adopting a life course perspective, iv) improving and expanding research designs and measurement tools, and v) using sensitive computational analytics and mixed methods for testing complex, intersectional, models. Details about these recommendations for promoting a transdisciplinary approach in resilience research to better reflect the complexities inherent in studying diversity and developing precision medicine outcomes will be presented.

TALK 3: OLDER BRAINS APPEAR MORE RESILIENT UNDER NATURALISTIC CONDITIONS

Karen Campbell, Brock University

Our brains evolved to process complex, meaningful stimuli that arrive at our senses in a continuous manner, not lists of pictures and words, sinusoidal gratings, nor isolated sounds devoid of context. Yet most of what we know about the cognitive neuroscience of aging has relied on these tightly controlled but highly artificial stimuli. Recent work from our lab and others has started to use naturalistic stimuli (such as movies and stories) to examine age differences in neurocognitive functioning under conditions that more closely mimic everyday life. We have shown that some effects, such as increased frontal activation during task performance, may relate to the attentional demands of the task itself (e.g., deciding if a sentence is grammatical vs natural listening) rather than a change in how the brain carries out a given cognitive process. We have also shown that while age relates to reduced neural synchronization during movie watching in some regions (e.g., the frontoparietal network) synchronization in other regions (e.g., the language network) does not change with age. Indeed, younger and older adults even look at the same places when watching the same film, and their brains shift between neural states at similar timepoints. The degree of this shift between neural states relates to subsequent memory for the movie in both younger and older adults. Taken together, these results suggest that age differences in neurocognitive functioning are minimized under naturalistic conditions, possibly because these are the conditions our brains evolved to process.

TALK 4: HOW EVEN LOW LEVELS OF DEPRESSION MAY REDUCE RESILIENCE TO AGE-RELATED MEMORY IMPAIRMENTS IN ETHNORACIALLY DIVERSE POPULATIONS

Audrey Duarte, University of Texas at Austin

Emerging evidence suggests that even minimal levels of depressive symptoms are associated with reduced resilience to age-related memory impairment and decline, effectively moving forward the point at which cognitive impairments characteristic of aging appear. The mechanisms underlying these "double jeopardy" effects and the exacerbating and ameliorating factors are unclear. Even less is known about depression-related memory impairments in Black and Mexican Americans, who are poorly represented in affective neuroscience research, despite evidence of more severe and disabling depression, and greater Alzheimer's disease prevalence, compared to non-Hispanic Whites (NHW). Emerging evidence from our group has shown that depression-related executive dysfunction and associated PFC dysfunction may underlie depression-related memory impairments, double jeopardy effects, and ethnoracial disparities in these impairments across the adult lifespan. In a new multisite, multi-year project, we are investigating an executive dysfunction theory of depression-related memory impairments and decline by manipulating

executive functioning demands during episodic encoding and using multimodal imaging to investigate PFC contributions to these impairments. Recent findings from this project will be presented including discussion of multiple race-related proxy factors (e.g., discrimination, vascular burden, religiosity) that may explain or confer resilience against depression-related memory impairments.

Symposium Session 2

MAPPING EMOTIONS IN THE BRAIN BEYOND LOCALIZATION: HOW NEUROIMAGING AND MACHINE LEARNING CAN RESHAPE CONTEMPORARY THEORETICAL FRAMEWORKS

Sunday, March 8, 2026, 1:30 – 3:30 pm, Salon D

Chair: Patrik Vuilleumier, University of Geneva (Switzerland)

Presenters: Kevin LaBar, Patrik Vuilleumier, Heini Saarimäki, Ajay Satpute

Emotions are a central ingredient of the mind and behavior but continue to generate intense debate across psychology and neuroscience. Different theoretical frameworks are generally opposed to describe their nature, origin (innate vs. learned), adaptive role, as well as functional organization (modular or continuous). Discrete emotion theories propose a limited set of biologically hardwired emotions such as fear, anger, or joy, each tied to specific neural circuits, whereas dimensional theories conceptualize emotions as gradients along just a few dimensions like valence and arousal, and componential theories regard them as resulting from an interaction of multiple processes including cognitive evaluations (appraisals), action tendencies, and physiology changes. Going further, constructivist models argue that emotions are not hardwired categories but emergent states shaped by bodily signals, cognition, language, and culture. This symposium will review how recent neuroscience approaches may shed new light on these questions through a combination of novel paradigms and novel methodologies, particularly functional neuroimaging combined with machine learning, computational modelling, and artificial intelligence tools. Speakers will illustrate whether and how recent brain research supports, challenges, or instead extends these classic theoretical models. Among common themes, the talks will showcase that, regardless of theoretical perspective, neuroscience results point to multiple, widely distributed, and partly overlapping brain systems engaged during various emotional experiences. Our survey of the field should help to surpass a strict opposition between past models and go some way toward highlighting elements of convergence or complementarity rather than absolute divergence.

TALK 1: THE SEMANTIC SPACE ORGANIZATION OF FIFTEEN EMOTIONAL STATES DECODED FROM FMRI DATA

Kevin LaBar, Duke University (USA)

Theoretical models emphasize that categorical factors, dimensional factors, or their combination may define the semantic space organization of emotion representations. While recent behavioral work has applied innovative multivariate methods for testing these theories, neuroscientific assessments remain limited due to a focus on a small number of emotions, single theoretical perspectives, univariate methods, or small sample sizes. We overcame these limitations in a comprehensive functional neuroimaging study where participants (N=136) viewed 150 normed movie clips that reliably induced 15 different emotional states spanning positive, negative, and neutral valence. Representational similarity analysis yielded a robust correspondence between brain and behavioral responses. Hierarchical clustering of the representation dissimilarity matrices revealed several meaningful clusters of emotions such as fear/anxiety, and joy/amusement. Partial least squares discriminant analysis achieved strong decoding performance from whole-brain fMRI data that successfully predicted each of the 15 emotion categories using subject-independent cross-validation with high AUC scores. Importance maps showed that these emotion representations spanned cortical, limbic, and subcortical regions and were not restricted to one (or more) of the canonical large-scale intrinsic brain networks. Informational content analysis and a Bayesian model comparison supported the categorical nature of the emotion representations relative to an arousal-valence circumplex model, with maximum classification accuracy requiring, at minimum, a 7-dimensional space projection. Although not favored in the classification of discrete emotional states, arousal and valence representations were successfully decoded from the whole-brain data using multivariate regression models. These findings provide novel insights into the theoretically-motivated semantic architecture of emotion representations in the human brain.

TALK 2: BRAIN NETWORK DYNAMICS AND FUNCTIONAL COMPONENTS OF EMOTION

Patrik Vuilleumier, University of Geneva (Switzerland)

Emotions consist of adaptive responses to particular events based on their perceived value and trigger multiple changes in perception, memory, or action. By using fMRI in emotion eliciting paradigms with movie watching or interactive video gaming, our work shows that emotional events influence brain activity and cognitive functions not only during but also subsequent to transient affective responses. We find that distributed brain networks activate in parallel and contribute jointly, though to different degrees, to the generation of different emotions. These networks may not only encode the affective valence of events, along two different systems seemingly engaged by liking and wanting dimensions, but also other cognitive dimensions such as novelty, goal, or social significance, in line with a theoretical framework where emotion experience relies on several functional components driven by distinct appraisals. We also find that transient synchronization of these networks during emotional episodes engages

a set of key brain structures in medial prefrontal cortex, insula, and basal ganglia, respectively involved in self-relevance, interoception, and motor programming. Finally, emotional episodes lead to prolonged changes in brain state after the eliciting events, with predominant impact on midline brain areas as well as other areas implicated in attention, memory, or executive control. Taken together, our findings support an account of emotions as dynamic changes in brain state emerging from embodied and action-oriented processes, which govern adaptive responses to the environment with both short-term and more sustained effects on behavior.

TALK 3: MAPPING EMOTIONAL AND INTEROCEPTIVE EXPERIENCES IN THE HUMAN BRAIN

Heini Saarimäki, Tampere University (Finland)

Emotional experience refers to what is often called a subjective feeling: the discernment and description of our own internal state. Emotional experiences result from automatic changes in distinct domains such as interoception, action tendencies, motivation, and cognition. In a series of studies, we directly compared self-reports of emotional and interoceptive experiences with functional brain imaging and multivariate data analyses. Our aim was to characterize domain-specific changes, especially interoception, in relation to different emotions and different neural activity patterns. We induced emotional and bodily experiences during functional magnetic resonance imaging (fMRI) using four different tasks: autobiographical imagery, emotional movies, emotional stories, and interoceptive imagery. We collected experienced emotions and interoceptive changes using self-reports. All emotional tasks activated overlapping brain regions, including the anterior cingulate cortex, frontal pole, and middle and inferior temporal gyri. Interoceptive imagery also engaged brain regions partly overlapping with emotion-related activity, particularly in cortical midline, motor areas, insula, subcortical structures, and prefrontal cortex. Self-reported interoceptive experiences were associated with activation patterns in the secondary somatosensory cortex. However, this was not observed in the insula or primary somatosensory cortex. Overall, our results demonstrate a shared neural basis for emotions and interoception, as well as a link between specific interoceptive and emotional experiences, in keeping with theoretical models where interoceptive signals constitute a key ingredient of emotional experience.

TALK 4: CIRCULAR REASONING IN THE NEUROSCIENCE OF EMOTION: WHY DEBATES ON EMOTION DON'T SEEM TO END

Ajay Satpute, University of California Los Angeles (USA)

For decades, studies have sought to map affective experiences to specific brain regions, but the picture remains unclear. In this talk, I explore why, showing how assumptions in study design and analysis (including machine learning approaches) - can shape results in surprising ways, leading to circular reasoning. Using fMRI data on fear,

I reveal how the same data can tell entirely different stories, depending on the analytical approach. I use computational approaches to evaluate which theoretical models are best supported by the data in relation to theories that assume prototype (e.g. basic emotions) or heterogeneous (e.g., constructionist) representations of emotion. While my talk focuses on affective neuroscience, the theoretical ideas and analytical tools are also more broadly applicable for addressing both fundamental and translational questions in psychology and neuroscience more broadly.

Symposium Session 3

HIPPOCAMPUS AND SEQUENTIAL BEHAVIORS ACROSS DIFFERENT TIMESCALES AND MEMORY DOMAINS IN HUMANS

Sunday, March 8, 2026, 1:30 – 3:30 pm, Salon E

Chair: Genevieve Albouy, University of Utah

Presenters: Eyiymisi Damisah, Hannah Tarder-Stoll, Katja Kornysheva, Ainsley Temudo

The goal of this symposium is to examine the capacity of the hippocampus to represent the sequential order of learned information across different timescales and memory domains. First, Dr. Damisah will provide a fine-grained characterization of time representation in the hippocampus using intra-cranial EEG recorded in epileptic patients viewing sequences of visual scenes. She will show that the hippocampus extracts topological features of experiences to add temporal continuity to sensory memories. The presentation of Dr. Tarder-Stoll will then focus on memories for temporally extended sequences of environments in immersive virtual reality. Her fMRI data show that the hippocampus integrates representations of connected sequences and that these representations predict the ability to update predictions in sequential behavior. Next, the talk of Dr. Kornysheva will focus on hippocampal sequencing function in the motor memory domain. She will present fMRI data acquired during the execution of learned motor sequences and will show how hippocampal activity increases during movement planning and predicts the order of upcoming motor sequences. Last, Ainsley Temudo will present fMRI data showing that the hippocampus represents the temporal order of sequential information similarly in both the declarative and the motor memory domains. She proposes that the hippocampus provides a cognitive framework for sequential behaviors irrespective of their nature. This symposium is important as it provides experimental support for the hippocampal sequencing hypothesis (Buzsaki and Tingley, 2018) which proposes that the hippocampus is a general sequence generator that carries content-limited ordinal information and tiles the gap between events to be linked.

TALK 1: REPRESENTATION OF VISUAL SEQUENCES IN THE TUNING AND TOPOLOGY OF NEURONAL ACTIVITY IN THE HUMAN HIPPOCAMPUS

Eyiyemisi Damisah, Yale University

The hippocampus plays a critical role in the representation of time, yet the underlying coding principles are poorly understood. We hypothesized that hippocampal neurons selective for specific visual stimuli adjust their tuning to encode sequence structure, smoothly combining sensory and temporal codes. In epilepsy patients who underwent clinical monitoring with intracranial EEG, we recorded neuronal activity from the hippocampus and control brain regions as they viewed looping sequences of visual scenes in structured (repeating) or random orders. The firing rates of hippocampal neurons to individual scenes were modulated by temporal distance from their preferred scene in structured sequences, increasing for nearby scenes and decreasing for distant scenes; this modulation was absent in random sequences and control regions. Analysis of population activity in local field potentials revealed that the looping sequence structure was embedded in a high-dimensional ring shape representing the serial order of the scenes. These findings show that human hippocampal neurons encode sequence structure in their representational geometry, extracting topological features of experience to add temporal continuity to sensory memories.

TALK 2: THE HIPPOCAMPUS RAPIDLY INTEGRATES SEQUENCE REPRESENTATIONS DURING NOVEL MULTISTEP PREDICTIONS

Hannah Tarder-Stoll, York University

Memories for temporally extended sequences can be used adaptively to predict future events on multiple timescales, a function that relies on the hippocampus. For such predictions to be useful, they should be updated when the environment changes. Here, we investigated how and when new learning shapes hippocampal representations of temporally extended sequences, and how this updating relates to flexible predictions about future events. Participants first learned sequences of environments in immersive virtual reality and then learned novel environment transitions connecting previously separate sequences. During subsequent fMRI, participants predicted multiple steps into the future in both the newly connected sequence and control sequences that remained separate. Results show that the hippocampus integrated representations of the connected sequence, such that activity patterns became more similar across trials for the connected sequence vs. the unconnected sequences. These integrated sequence representations in the hippocampus incorporated representations of the initial sequences as well as new activity patterns not previously present in either sequence, and predicted participants' ability to update their predictions in behavior. Together, these results advance our understanding of how the hippocampus contributes to the

dynamic emergence of structured knowledge in service of adaptive behavior.

TALK 3: THE HIPPOCAMPUS PREORDERS MOVEMENTS FOR SKILLED ACTION SEQUENCES

Katja Kornysheva, University of Birmingham

Plasticity in the subcortical motor basal ganglia-thalamo-cerebellar network plays a key role in the acquisition and the long-term retention of new procedural skills. However, recent findings demonstrate the involvement of a wider cortical and subcortical brain network in the acquisition and consolidation of well-trained actions, including a brain region traditionally associated with declarative memory—the hippocampus. Here, we probe which role these subcortical areas play in skilled motor sequence control, from sequence feature selection during planning to their integration during sequence execution. fMRI data (N = 24; 14 females) was collected after participants learnt to produce four finger press sequences entirely from memory with high movement and timing accuracy over several days. We examined both changes in BOLD activity and its informational content in subcortical regions of interest. Although there was a widespread activity increase in task-relevant regions such as the striatum, the thalamus, and the cerebellum, in particular during sequence execution, the associated activity did not contain information on the motor sequence identity. In contrast, hippocampal activity increased during planning and predicted the order of the upcoming sequence of movements. Our findings suggest that the hippocampus preorders movements for learned sequences, thus contributing to the higher-order control of skilled movements that require flexible retrieval. These findings challenge the traditional taxonomy of episodic and procedural memory and have implications for the rehabilitation of individuals with neurodegenerative disorders.

TALK 4: THE CAPACITY OF THE HIPPOCAMPUS TO REPRESENT MEMORY ITEMS IN THEIR TEMPORAL POSITION IN A SEQUENCE IS DOMAIN-GENERAL

Ainsley Temudo, University of Utah

Memory systems in humans are less segregated than initially thought as learning tasks from different memory domains (e.g., declarative versus procedural) can recruit similar brain areas such as the hippocampus. However, it remains unclear whether the functional role of these overlapping brain regions is domain-general. Here, we test the hypothesis that the hippocampus encodes and preserves the temporal order of sequential information irrespective of the nature of that information. We used multivariate pattern analyses (MVPA) of functional magnetic resonance imaging (fMRI) data acquired during the execution of learned sequences of movements and objects to assess brain patterns related to procedural and declarative memory processes, respectively. We also tested whether the hippocampus represents information about temporal order of items (here

movements and objects in the motor and declarative domains, respectively) in a learned sequence irrespective of their nature. Our results suggest that hippocampal multivoxel activation patterns do not carry information about specific items or temporal position in a random series of objects or movements. Rather, this region codes for the representation of items in their learned temporal position in sequences irrespective of their nature (i.e., item-position coding). These findings indicate that the hippocampus represents the temporal order of sequential information similarly in both the declarative and the motor memory domains and might contribute to the development of item-position maps that provide a cognitive framework for sequential behaviors irrespective of their nature.

Symposium Session 4

NETWORK INTEGRITY AND DISCONNECTION SYNDROMES: NEW INSIGHTS FROM THE SPLIT-BRAIN

Sunday, March 8, 2026, 1:30 – 3:30 pm, Salon F

Chair: Michael Miller, University of California Santa Barbara

Presenters: Edward H.F. de Haan, Michael B. Miller, Lukas J. Volz, Christof Koch

The split-brain represents one of the fundamental models of cognitive neuroscience, providing unique insights into the consequences of hemispheric severance and the nature of lateralized information processing in the human brain. Yet, these questions have largely gone uninterrogated from a network neuroscience perspective, and debate persists over the central matter of whether split-brains truly represent split-minds. This symposium will explore these current frontiers, presenting groundbreaking research from two recent cohorts of callosotomy patients. Edward de Haan (Talk 1) will begin by challenging the classical interpretation of the split-brain in light of recent findings from the well-studied Italian cohort of patients—in particular, the extent to which divided perception and control of action reflect a divided human mind. Michael Miller (Talk 2) will present a new cohort of German split-brain patients who underwent surgery in the last few years, providing novel experimental insights in support of a divided mind—and an astounding behavioral finding from a partial callosotomy patient with only a fraction of splenium intact. Lukas Volz (Talk 3) will follow up by presenting neural data from this cohort of German patients to address how callosotomy affects the organization of large-scale, intrinsic functional networks—highlighting how partial callosotomy patients reveal not only the complexity of structure-function relationships, but the remarkable ability of the brain to reorganize its functional architecture in service of robust interhemispheric communication. Finally, Christof Koch (Talk 4) will conclude with a discussion of how this recent split-brain research impacts current theories regarding the neural correlates of consciousness.

TALK 1: THE SPLIT-BRAIN PHENOMENON REVISITED: TWO OR ONE CONSCIOUS AGENT?

Edward H.F. de Haan, Donders Institute, Radboud University, Nijmegen, the Netherlands

In extensive studies with two split-brain patients, we replicate the standard finding that stimuli cannot be compared across visual half-fields, indicating that each hemisphere processes information independently of the other. Yet, crucially, we show that the canonical textbook findings that a split-brain patient can only respond to stimuli in the left visual half-field with the left hand, and to stimuli in the right visual half-field with the right hand and verbally, are not universally true. Across a wide variety of tasks, split-brain patients with a complete and radiologically confirmed transection of the corpus callosum showed full awareness of presence, and well above chance-level recognition of location, orientation and identity of stimuli throughout the entire visual field, irrespective of response type (left hand, right hand, or verbally). Crucially, we used confidence ratings to assess conscious awareness. This revealed that also on high confidence trials response type did not affect performance. These findings suggest that severing the cortical connections between hemispheres splits visual perception, but does not necessarily create two independent conscious agents within one brain. Several explanations for the discrepancies with the conventional observations will be discussed.

TALK 2: NO DISCONNECTION SYNDROME AFTER NEAR-COMplete CALLOSOTOMY

Michael B. Miller, University of California, Santa Barbara

We conducted behavioral testing on a new cohort of split-brain patients in Bielefeld, Germany. Among several patients with complete callosotomies, testing confirmed robust disconnection effects across a broad battery of bedside tasks, including finger perimetry, topognosis, stereognosis, WISC-R Block Design, and tasks involving both speech comprehension and production. All patients underwent surgery in adulthood and performed within the normal range on standard neuropsychological assessments. In addition, some of these patients completed a computerized version of the Pinto et al. (2017) task with integrated eye-tracking to monitor gaze behavior. Results showed no indication of a unified control system across hemispheres. Unexpectedly, results from a couple of partial callosotomy patients—whose resections began anteriorly and proceeded posteriorly but were halted for surgical reasons—revealed no disconnection effects on any task. Based on the anatomical gradient of their resections, we hypothesized that visual integration between hemispheres would remain intact (via the splenium's homotopic fibers), while integration in networks relying on anterior callosal pathways would be disrupted. However, even the patient with only a small remnant of the splenium intact showed no evidence of interhemispheric disconnection. Given previous (though limited) reports of some disconnection effects in partial callosotomy patients within a year of surgery, we propose that

the fully intact behavioral integration observed here—more than one year post-surgery in all cases—may reflect functional reorganization across the cerebral networks.

TALK 3: COMPLETE AND NEAR-COMPLETE CALLOSOTOMY: A NETWORK PERSPECTIVE

Lukas J. Volz, University of Cologne, Germany

Using functional resonance magnetic imaging, we assessed how full and partial callosotomy affect the functional architecture of human brain networks. Given the classical view of callosal function and anatomy, we expected that interhemispheric functional connectivity would largely break down after full callosotomy. Conversely, partial callosotomy was assumed to only affect networks relying on severed callosal fibers for interhemispheric information integration according to anatomical topology. While we observed that interhemispheric functional network architecture was indeed severely disrupted after full callosotomy, functional network architecture was preserved after partial callosotomy, even if only very few splenium fibers (<1cm) remained intact. In other words, full inter-hemispheric integration seems to arise even if only a small proportion of posterior callosal fibers support interhemispheric information integration. These findings challenge our understanding of structure-function relationships underlying cognitive processing and highlight the adaptability of the adult human brain to reorganization its functional network architecture.

TALK 4: BEING OF ONE MIND

Christof Koch^{1,2}, ¹Allen Institute, Seattle, United States, ²Tiny Blue Dot Foundation, Santa Monica, United States

Partial and complete split-brain patients provide evidence for a striking prediction of the Integrated Information Theory (IIT) of Consciousness. Its axiom of exclusion states that any experience is definite. At the level of physical existence, this axiom translates into demanding that the substrate of any experience be a maximum of cause-effect power, quantified as Φ_{\max} . Given the loss of causal interaction between the two cortical hemispheres in patients with complete callosotomy, the theory predicts two separate substrates of experience, that is, two minds, one in each cortical hemisphere, in line with the disconnection syndrome. IIT also predicts that as the surgeon's scalpel slices through the axonal bundle making up the corpus callosum, there will be a point at which severing a few axons will cause Φ_{\max} across the cortex to dip below the Φ_{\max} values for either the left or the right hemisphere. At this moment, the single mind associated with the partially cut brain will fission into two independent minds, with their associated substrate in the two partial disconnected hemispheres. The evidence provided by Miller and Volz in the two preceding talks supports this conjecture. Furthermore, it is striking that patient BT, who has ~1 cm ribbon of splenium preserved, retains a single mind – this is in line with IIT's conjecture that the topographical organized temporal-parietal-occipital

grid-like cortex (posterior hot zone) is the substrate of everyday experience in neurotypicals.

Symposium Session 5

THE HUNT FOR THE NEURAL CORRELATES OF COGNITIVE RESERVE

Monday, March 9, 2026, 10:00 am – 12:00 pm, Salon ABC

Chairs: Prof Richard Henson¹, Christian Habeck²; ¹University of Cambridge, ²Columbia University

Presenters: Richard Henson, Feng Deng, Zoya Mooraj, Christian Habeck

The term “Cognitive Reserve” was coined by neurologists to describe how people can show comparable atrophy on a clinical brain scan, owing to old age or Alzheimer's Disease for example, yet differ markedly in their cognitive function. However, despite attempts at a consensus definition, there have been critiques of the term, and debates about how to operationalize it. One core issue is that Cognitive Reserve could simply reflect limitations of brain measurement, e.g., insufficient information disclosed by a typical clinical, “structural” MRI scan (such as gray-matter volumetrics). As a consequence, there have been recent efforts to explain Cognitive Reserve by other brain properties, such as white-matter microstructure from diffusion-weighted MRI, functional activity or connectivity measured by fMRI or M/EEG, neurovascular health measured by ASL, or even neurotransmitter concentrations measured by PET. In a sense, this “hunt” for the neural correlates of Cognitive Reserve is central to the field of cognitive neuroscience: i.e., establishing the brain bases of cognitive functions. Identifying at least some of these potential neural correlates will help illuminate the mechanisms of successful ageing and resilience to neurodegeneration, and how these relate to lifestyle factors associated with high levels of reserve, in turn informing future interventions. This symposium will bring together four speakers, diverse in their seniority, gender and geography, who will describe the results of their recent hunts.

TALK 1: RE-THINKING COGNITIVE RESERVE

Richard Henson, University of Cambridge

I will briefly introduce the history and various definitions of Cognitive Reserve, e.g., in relation to brain reserve and brain maintenance, and propose a formal definition based on simulations of a simple model that relates age, brain and cognition. I will then describe findings from the Cambridge Centre of Ageing and Neuroscience (Cam-CAN) that demonstrate that white-matter integrity (mean signal kurtosis from diffusion-weighted MRI) and functional connectivity (from resting-state fMRI) both explain unique variance in fluid intelligence beyond the grey-matter volumetrics normally examined on a clinical T1-weighted scan. I will talk about research on lifestyles that might boost cognitive reserve, in particular our findings that mid-life activities outside the

work-place make a unique contribution to fluid intelligence decades later in late life, and attenuate the relationship between fluid intelligence and total grey-matter volume (as would be expected for cognitive reserve). I will finish with our hunt for the neural correlates of such mid-life activities, focusing in particular on the system segregation of functional brain networks.

TALK 2: COGNITIVE RESERVE IN MIDLIFE: LIFESTYLE FACTORS DECOUPLE COGNITION FROM FUNCTIONAL SEGREGATION IN HEALTHY INDIVIDUALS AT RISK FOR LATE-ONSET DEMENTIA

Feng Deng, Shenzhen University

The concept of cognitive reserve seeks to explain the discrepancy between the degree of brain pathology and clinical manifestations of cognitive decline in conditions such as Alzheimer's disease. However, its neural underpinnings remain poorly understood. In this presentation, I will share findings from the PREVENT Dementia study demonstrating that reduced network segregation, particularly within the default mode network, is associated with both APOE ϵ 4 genetic risk and lower cognitive performance in cognitively healthy middle-aged adults enriched with Alzheimer's disease risk factors. Critically, we found that mid-life engagement in cognitively stimulating activities moderates the relationship between cognitive ability and network segregation. Specifically, individuals with higher levels of engagement—particularly those at elevated genetic risk—show a weaker dependence of cognition on functional network segregation. These findings suggest that an active and stimulating lifestyle may enhance cognitive reserve by decoupling cognitive performance from underlying functional network alterations, thereby promoting resilience in the presence of early Alzheimer's pathology. This work positions functional network segregation as a promising brain health marker, particularly in populations without substantial structural decline, suggesting that it may serve as a sensitive indicator of early, functional alterations prior to observable anatomical changes. Moreover, it highlights the protective potential of modifiable mid-life lifestyle factors.

TALK 3: SHARED AND UNIQUE NEURAL CONTRIBUTIONS TO COGNITIVE RESERVE

Zoya Mooraj, Max Planck Institute for Human Development

The concept of Cognitive Reserve arose from observations of some individuals displaying marked brain atrophy without expected cognitive deficits. While this discrepancy has stimulated decades of research, a central limitation lies in making inferences of cognitive relevance based on brain structure alone. I will first outline why such inferences are logically problematic, requiring convergent evidence of shared variance between brain structure, cognition, and task-based brain function. Furthermore, given the complex and multifaceted neurobiology of aging, it is unlikely that any single modality in isolation will fully explain the neural underpinnings of cognitive aging. I will thus

describe our perspective on why the cognitive neuroscience of aging must prioritize a multimodally-imaged, functionally-interrogated approach to understand brain-behaviour relationships and uncover the neural correlates of Cognitive Reserve. Building on this perspective, I will present work integrating longitudinal structural MRI, task-based fMRI, and dopaminergic PET data from 120 older adults (aged 64-68 at baseline) measured twice over 5-years. Using whole-brain voxel-wise multivariate analyses, we aimed to disentangle the joint and unique influences of changes in brain structure, function, and neurochemistry to changing cognition in aging. We find that (a) nearly all variance in cognition explained by brain structure is shared with task-based function, and (b) task-based function additionally accounts for substantial unique variance beyond other measures. These findings strengthen our call for a reorientation of the cognitive neuroscience of aging towards a functional future. Such a multimodal, functionally-anchored approach will likely prove promising in uncovering the neural mechanisms underlying Cognitive Reserve.

TALK 4: COGNITIVE RESERVE IN THE NIH-FUNDED "RESERVE AND RESILIENCE" INITIATIVE

Christian Habeck, Columbia University

Cognitive Reserve has been a flourishing area of neuroscience research since the late 1980s when autopsy studies revealed striking disjunctions between the degree of pathology and late-life clinical impairment in some dementia patients. Despite the importance of Cognitive Reserve (CR) to cognitive aging, research communication and the accumulation of knowledge have been hampered by a lack of common framework of definitions. To this end, the ongoing NIH-funded "Reserve and Resilience" Collaboratory has worked on conceptual and operational definitions for CR research since 2019. (See <https://reserveandresilience.com/>.) After introducing the Collaboratory and the framework, I will motivate our research program to identify CR as network-based mechanisms measurable with fMRI that confer cognitive benefit beyond brain-structural endowments. I will provide several examples in the lifespan cohort of the Columbia Reference Ability Neural Network (RANN) study. In our data, which encompass fMRI activation for 12 cognitive tasks pertaining to 4 cognitive domains (memory, reasoning, speed, and vocabulary), we can compute convergent and discriminant validity of task activation patterns within subject, which quantify to what extent activation patterns are similar within cognitive domain, and different between cognitive domains, respectively. Both validity measures can be summarized into one scalar measure that operationalizes the cognitive specificity of fMRI activation patterns. This cognitive specificity is related to higher general task performance beyond regional cortical thickness and cortical volume in our data, and qualifies as one mechanism of CR.

Symposium Session 6

NOT YOUR AVERAGE BRAIN: INDIVIDUAL-LEVEL fMRI AS A PARADIGM SHIFT FOR COGNITIVE NEUROSCIENCE

Monday, March 9, 2026, 10:00 am – 12:00 pm, Salon D

Chairs: Andre Zamani¹, Jingnan Du²; ¹University of British Columbia, ²Harvard University

Presenters: Charles Lynch, Rodrigo M. Braga, Jingnan Du, Arielle Keller

For decades, cognitive neuroscience has largely relied on a group-level approach, collecting small amounts of fMRI data from many separate individuals and statistically averaging them to produce group-level effects. However, over the past decade, accumulating evidence suggests that averaging fMRI signal across individuals significantly misrepresents brain function by mixing signal across separate adjacent functional networks given the high inter-individual variability in network topography. To address this limitation, individual-level fMRI, also known as precision fMRI or precision functional mapping, has emerged as a transformative approach. It involves collecting extensive data across multiple sessions from a smaller number of individuals and analyzing each brain separately, enabling the detailed estimation of individual-level functional networks and their response properties. In the last few years, it has become clear that individual-level fMRI is not merely a methodological option, but rather, a major and potentially necessary advancement for cognitive neuroscience. This symposium demonstrates the critical advances of individual-level fMRI by featuring talks from several researchers leading groundbreaking programs of research on key emerging topics in the field, including: (i) repeating motifs of brain network topography in cortical and subcortical association regions, (ii) reliable forms of brain network variability across individuals, and (iii) linking variability in functional network shape and size to cognition, psychopathology, gene expression, and social factors. Join us as we explore this paradigm shift that is rapidly transforming cognitive neuroscience.

TALK 1: PRECISION FUNCTIONAL MAPPING AND DENSE LONGITUDINAL FMRI REVEAL SYMPTOM-LINKED CIRCUIT DYNAMICS IN MOOD DISORDERS

Charles Lynch, Weill Cornell Medicine

Mood disorders are defined by fluctuating symptoms and episodic mood state changes, yet most neuroimaging approaches rely on cross-sectional designs that are not equipped to capture within-person dynamics of brain–symptom relationships. In this presentation, I will describe how dense longitudinal sampling—serial fMRI assessments paired with weekly symptom tracking—combined with precision functional mapping (PFM) provides a powerful framework for uncovering individualized circuit mechanisms in depression and bipolar disorder. Using more than 120 multi-echo resting-state fMRI scans per individual, collected across 1.5 years from participants with

major depressive disorder and bipolar disorder type II, we show that individualized network maps explain roughly twice as much variance in symptom fluctuations compared to group-average maps. These within-subject, n-of-1 analyses highlight how deviations from group-average functional architecture limit the variance explained in symptom fluctuations, largely because group maps mislocalize clinically relevant circuits, whereas PFM preserves individual network boundaries and better captures signals of interest. Together, this work demonstrates how dense sampling and individualized mapping can reveal novel insights into the temporal dynamics of brain–symptom coupling in mood disorders, advancing mechanistic models of mood state transitions and laying the groundwork for personalized neuromodulation interventions.

TALK 2: SHARED PRINCIPLES OF BRAIN NETWORK ORGANIZATION DERIVED FROM WITHIN-INDIVIDUAL fMRI

Rodrigo M. Braga, Northwestern University

Because all brains are unique, group-averaging of fMRI data provides a distorted view of brain networks. These distortions can include the blurring together of distinct adjacent networks but also, paradoxically, the separation of regions that actually show strong connections within individuals. Here, I will summarize evidence in which the improved clarity of within-individual precision fMRI has revealed unifying organizational principles that link multiple large-scale brain networks. I will also argue that fine-scale anatomical differences which distinguish the networks, that are sometimes only appreciable in individualized maps, can help form hypotheses regarding how each network's circuit properties support specialized cognitive functions. Finally, I will present a framework for identifying and navigating equivalent networks in different individuals, an endeavor complicated by the large inter-individual differences in network location, shape, and size. I argue that these identifying factors also hold important clues for understanding each network's specialized role in cognition.

TALK 3: WITHIN-INDIVIDUAL ORGANIZATION OF THE HUMAN CEREBRAL CORTEX: NETWORKS, GLOBAL TOPOGRAPHY, AND FUNCTION

Jingnan Du, Harvard University

The cerebral cortex is populated by specialized regions that are organized into networks. Using resting-state fMRI data from 15 intensively sampled participants (each scanned 8 or more times), we recently applied a multi-session hierarchical Bayesian model to delineate 15 distinct networks. Analysis of the networks revealed a global organization. Locally organized first-order sensory and motor networks were surrounded by spatially adjacent second-order networks that linked to distant regions. Third-order networks possessed regions distributed widely throughout association cortex. Regions of distinct third-order networks displayed side-by-side juxtapositions with a pattern that repeated across multiple cortical

zones. We refer to these as supra-areal association megaclusters (SAAMs). We demonstrate these fine-grained spatial details are stable features of an individual's brain, reproducible using only task-based functional connectivity. Further, we show that networks estimated from task-based functional connectivity can effectively predict functional specializations across multiple higher-order cognitive domains in independent task datasets; and that the same task data can simultaneously provide both within-individual network estimates and region-level functional response quantification. A complete set of atlases based for this 15-network model in both surface and volume-based formats are publicly available at https://freesurfer.net/fswiki/CorticalParcellation_DU15NET.

TALK 4: PERSON-SPECIFIC PATTERNS OF FUNCTIONAL BRAIN NETWORK TOPOGRAPHY REFLECT CHILDHOOD ENVIRONMENTS, GENE EXPRESSION, AND COGNITIVE ABILITIES IN YOUTH

Arielle Keller, University of Connecticut

Many cognitive abilities are supported by coordinated activity within and across large-scale functional brain networks. However, the size, shape, and spatial organization of these brain networks ("functional topography") varies substantially across individuals. This poses a particular challenge for cognitive neuroimaging studies, which have historically relied on group-averaged brain atlases that obscure individual differences. Recent advances in precision functional mapping techniques now enable the definition of person-specific atlases of functional brain networks, including in youth during critical stages of cognitive neurodevelopment. In this talk, I will present recent work applying precision functional mapping in a large cohort of youth from the Adolescent Brain Cognitive Development (ABCD) Study (n=11,878). Using spatially-regularized non-negative matrix factorization, we delineate 17 large-scale functional networks that are uniquely tailored to each individual, allowing for investigation of personalized functional topography. Our findings reveal that individual differences in functional topography are robustly associated with various domains of cognitive functioning as well as affective psychiatric symptoms. These individualized network patterns exhibit sex differences aligned with cortical sex chromosome gene expression patterns and are closely tied to multidimensional features of childhood socioeconomic environments. Notably, association networks that support high-level cognitive and affective functions appear to be most variable across individuals and are most strongly linked with both genetic and environmental factors. Together, these results demonstrate how precision functional neuroimaging can offer a powerful lens to study person-specific trajectories of cognitive neurodevelopment. This person-centered approach holds particular promise for identifying novel, developmentally sensitive markers of cognitive functioning and mental well-being in youth.

Symposium Session 7

NEURAL TIME MACHINE: TEMPORAL ORGANIZATION OF EXPERIENCE IN THE BRAIN

Monday, March 9, 2026, 10:00 am – 12:00 pm, Salon E

Chair: Jie Zheng, University of California, Davis

Presenters: James Antony, Jingyi Wang, Benjamin Kanter, Jie Zheng

Episodic memory depends on the brain's ability to organize continuous experience into temporally structured representations. Yet, the neural mechanisms that support this organization—ranging from moment-to-moment sequence encoding to long-term spacing effects—remain incompletely understood. This symposium assembles work across species, methodologies, and levels of analysis to examine how the brain encodes, segments, and retrieves experiences in time. James Antony will present a neurobiologically grounded computational model of hippocampal–entorhinal circuits, showing how gradual representational drift across multiple timescales provides a mechanistic account of the spacing effect (the long-term memory benefit of distributing learning over time). Regina Lapate will discuss findings indicating that resting-state entorhinal cortex and hippocampal connectivity patterns systematically drift over time, revealing a spontaneous neural signature of elapsed time in humans. Benjamin Kanter will present large-scale recordings from the hippocampus and entorhinal cortex in freely-behaving rodents, identifying a hierarchical coding scheme for organizing events across multiple timescales. Jie Zheng will share single-neuron recordings from humans performing an order memory task, uncovering "order-selective cells" in medial temporal and prefrontal regions that flexibly encode both absolute and relative event order via theta phase coding, thereby weaving individual episodes into coherent temporal narratives. Together, these complementary perspectives—from computational modeling, human and rodent electrophysiology, and fMRI—converge on a unifying question: how does the brain transform continuous experience into structured memories situated in time? By integrating approaches across disciplines and species, this symposium provides new mechanistic insights into how temporal organization supports memory, learning, and the construction of meaningful life narratives.

TALK 1: MEMORY OUT OF CONTEXT: SPACING EFFECTS AND DECONTEXTUALIZATION IN A COMPUTATIONAL MODEL OF THE MEDIAL TEMPORAL LOBE

James Antony, California Polytechnic State University (Cal Poly), San Luis Obispo

Neural representations gradually change across multiple timescales. In this talk, we will argue that modeling this "drift" could help explain the spacing effect (the long-term benefit of distributed learning), whereby differences between stored and current temporal context activity patterns produce greater error-driven learning. We trained a

neurobiologically realistic model of the entorhinal cortex and hippocampus to learn paired associates alongside temporal context vectors that drifted between learning episodes and/or before final retention intervals. In line with spacing effects, greater drift produced better model recall after longer retention intervals. Dissecting model mechanisms revealed that greater drift increased error-driven learning, strengthened weights in slower drifting temporal context neurons (temporal abstraction), and improved direct cue-target associations (decontextualization). Intriguingly, these results suggest that decontextualization—generally ascribed only to the neocortex—can occur within the hippocampus itself. Altogether, our findings provide a mechanistic formalization for established learning concepts like spacing effects and errors during learning.

TALK 2: THE INTRINSIC TIME TRACKER: TEMPORAL CONTEXT IS EMBEDDED IN ENTORHINAL AND HIPPOCAMPAL FUNCTIONAL CONNECTIVITY PATTERNS

Jingyi Wang, Department of Psychological & Brain Sciences, University of California, Santa Barbara

Task-evoked activity patterns in the entorhinal cortex (EC) and hippocampus track or reflect changes in temporal context at short and long timescales. But do intrinsic EC and hippocampal signals—in the absence of task demands—also reflect the passage of time? By leveraging a dense-sampling study in which two individuals underwent daily resting-state fMRI for 30 days, we found that the similarity of EC- and anterior-hippocampal-whole-brain resting connectivity patterns negatively correlated with the time interval between sessions—suggesting a spontaneous, slow-drifting neural signature of time in humans. Temporal drift followed an anterior-to-posterior gradient in the hippocampus and was stronger in anterolateral than posteromedial EC. Analysis of an independent densely-sampled group replicated these effects over a 60-day period, with evidence for temporal tracking at multiple timescales along the hippocampus. These findings reveal a resting-state connectivity signature that reflects the passage of time and follows a functional gradient along the hippocampal longitudinal axis.

TALK 3: EVENT STRUCTURE SCULPTS NEURAL POPULATION DYNAMICS IN THE LATERAL ENTORHINAL CORTEX

Benjamin Kanter, Kavli Institute for Systems Neuroscience and Centre for Algorithms in the Cortex, Norwegian University of Science and Technology, Trondheim, Norway

Our experience of the world is a continuous stream of events that must be segmented and organized at multiple timescales. The neural mechanisms underlying this process remain unknown. In this work, we simultaneously recorded hundreds to thousands of neurons in the lateral entorhinal cortex of freely behaving rats. Neural population activity drifted continuously along a one-dimensional manifold during all behaviors and behavioral states, including sleep, which points to an

intrinsic origin of the drift. In awake animals, boundaries between events were associated with discrete shifts in population dynamics, which segmented the neural activity into temporal units. During tasks with recurring temporal structure, activity traveled additionally in directions orthogonal to the drift, encoding event information across multiple timescales. The results identify a hierarchical coding scheme for organizing events in time.

TALK 4: WEAVING TIME INTO MEMORY: ORDER-SELECTIVE CELLS TILE TEMPORAL SPACE AND PREDICT ORDER MEMORY

Jie Zheng^{1,2}, ¹Department of Neurological Surgery, University of California, Davis, Davis, CA, USA, ²Department of Biomedical Engineering, University of California, Davis, Davis, CA, USA

Episodic memory depends not only on remembering individual events but also on recalling their temporal order. How neural circuits support this temporal organization remains unclear. We recorded neural activity in 20 patients with depth electrodes as they encoded and recalled memories of video clips of everyday events segmented by visual event boundaries. Among 965 neurons, we discovered order-selective cells (OSCs) in the hippocampus, amygdala, and orbitofrontal cortex that signaled specific event positions independent of content or duration. During encoding, OSCs show theta phase precession at event boundaries, with their spikes shifting systematically with ongoing brain rhythms, and stronger precession predicting better memory. During retrieval, OSC spike phases shifted according to the relative position of events within recalled sequences, revealing a flexible coding scheme for subsets of experiences. These results identify a neuronal substrate for encoding absolute and relative temporal order, providing mechanistic insight into how the brain weaves discrete episodes into coherent narratives.

Symposium Session 8

NEUROSCIENCE NEEDS (NATURAL/ISTIC) BEHAVIOR: MECHANISTIC APPROACHES TO REAL-WORLD COGNITION

Monday, March 9, 2026, 10:00 am – 12:00 pm, Salon F

Chair: Avital Hahamy, University College London

Presenters: Dominik R Bach, Avital Hahamy, Nachum Ulanovsky, Weizhe Hong

In controlled laboratory paradigms, behavior is typically well defined and easily quantified through reaction times, error rates, or discrete choices, allowing neural responses to be interpreted in relation to known behavioral structure. In contrast, naturalistic paradigms capture behaviors that are qualitatively different, revealing processes that go beyond what can be measured in standard laboratory tasks. Because such behaviors are often considered difficult to characterize in detail, naturalistic studies have often emphasized neural responses. This

symposium brings together researchers studying diverse species and cognitive domains who show how placing behavioral structure at the center of analysis opens new paths to mechanistic insight. Dominik Bach will show how human escape behavior under acute threat follows planning-like patterns shaped by environmental constraints and personal preferences, revealing the behavioral algorithms brains must implement. Avital Hahamy will show how narrative comprehension unfolds in humans, relating behavioral measures to neural reactivations at event boundaries, and contrasting these processes with those observed in AI. Nachum Ulanovsky will present studies of freely flying bats, showing how quantifying flight trajectories, inter-bat distances and social interactions enables linking hippocampal activity to spatial and social variables. Finally, Weizhe Hong will show how structured prosocial behaviors in mice – empathy, helping, and rescue – can be decomposed into quantifiable actions and mapped onto neural circuits, with parallels in interacting artificial agents. Together, these talks argue that detailed behavioral characterization is central to mechanistic cognitive neuroscience in naturalistic settings.

TALK 1: CRITICAL INTELLIGENCE: MECHANISMS OF NATURALISTIC ADAPTIVE BEHAVIOUR IN HUMANS

Dominik R Bach^{1,2}; ¹University of Bonn, ²University College London

All animals including humans have to cope with immediate threat to survive and reproduce. Ample evidence shows that non-human animals behave in sophisticated and apparently goal-directed ways. Rapid decisions between these actions, without much leeway for cognitive or motor errors, poses a formidable computational problem. We developed a human wireless virtual reality (W-VR) platform to simulate immediate and biologically relevant threat situations in a safe manner. Here, I will present data suggestive of the neural algorithms underlying behaviour under threat. First, rapid escape from threat appears to follow a small number of distinct patterns, which are shaped by environmental characteristics and personal preferences. These preferences cannot be predicted from casual behaviour. Second, escape parameters exhibit many characteristics of reflective planning, including sensitivity to detailed threat characteristics, dynamic updating, and sensitivity to reevaluation. Third, the behavioural repertoire is rapidly malleable by experience and by instruction. Further experiments suggest that this flexibility is achieved by pre-planning over a limited time horizon. Together, our results pave the way towards uncovering the mechanisms of naturalistic threat-related behaviour.

TALK 2: QUANTIFYING NARRATIVE UNDERSTANDING THROUGH BEHAVIOR AND NEURAL REACTIVATIONS

Avital Hahamy, University College London

How do humans build an ongoing understanding of complex, real-world experiences such as stories? We quantify narrative

comprehension behaviourally to reveal the evolving structure of comprehension as it unfolds over time, capturing how past events are integrated into new interpretations. We then relate these behavioral measures to neural activity, measured with fMRI, showing that the reactivations of past events at narrative event boundaries reflect participants' ongoing understanding. These reactivations not only prioritize central events but also support later reconstruction of the narrative from memory. Finally, we contrast this process with how large language models link narrative events, highlighting key differences between human and artificial narrative comprehension.

TALK 3: NEURAL CODES FOR NATURAL BEHAVIORS IN BATS

Nachum Ulanovsky, Weizmann Institute of Science

We study the neural basis of natural behaviors, in particular navigation and social behaviors – taking a “Natural Neuroscience” approach. In my talk I will discuss three recent studies: (1) Our recent discovery that in social groups, hippocampal neurons encode rich social signals – including the identities, sex, hierarchy, and affiliation of other individuals. (2) A coding-transformation that we discovered in the hippocampus of bats flying in a very long 200-meter tunnel – from sparse coding in hippocampal area CA3 to dense coding in area CA1. (3) Neuroscience in the wild: recordings of place cells and head-direction cells in bats navigating outdoors on a remote oceanic island near Zanzibar. These three studies demonstrate different levels of experimental control vs. ecological validity in our efforts to understand the neural basis of behavior and cognition.

TALK 4: THE NEUROSCIENCE OF PROSOCIAL BEHAVIOR: FROM HELPING AND COOPERATION TO SOCIAL AI

Weizhe Hong, University of California, Los Angeles

We investigate the fundamental neural mechanisms underlying social behavior in both biological (mice) and artificial intelligence systems, with a focus on empathy, prosociality, and cooperation. Using a multidisciplinary approach that integrates behavioral paradigms with genetic, circuit-level, and computational tools, we demonstrate that mice exhibit comforting behavior to reduce other's emotional distress (Wu et al. 2021), targeted helping behavior to attend to others' injuries or pain (Zhang et al. 2024), rescue-like behavior to facilitate the recovery of an responsive animal (Sun et al. 2025), and cooperative behavior to achieve shared goals (Jiang et al. 2025). Using these behavioral models, we identify key neural pathways in the amygdala and the prefrontal cortex that specifically encode and control these behaviors. In addition to mechanisms within a single brain, we demonstrate that animals exhibit inter-brain neural correlations between interacting individuals (Kingsbury et al. 2019; Zhang et al. 2025). Beyond biological systems, our research further extends to understanding emergent social behaviors between artificial intelligence systems, identifying fundamental and generalizable

features of interacting neural systems present in both biological and artificial agents (Zhang et al. 2025; Jiang et al. 2025).

Symposium Session 9

COGNITIVE INSIGHTS INTO ATTENTION AND CROSS-MODAL INTEGRATION FROM RAPID INVISIBLE FREQUENCY TAGGING

Tuesday, March 10, 2026, 1:30 – 3:30 pm, Salon ABC

Chairs: Hyojin Park¹, Ole Jensen²; ¹University of Birmingham, ²University of Oxford

Presenters: Hyojin Park, James Dowsett, Xingshan Li, Ole Jensen

A central challenge in cognitive neuroscience is to understand how sensory information is routed during attention allocation and how cross-modal inputs are integrated. Assessing the excitability of sensory regions provides an important means of investigating these processes. A recently developed method, rapid invisible frequency tagging (RIFT), offers a powerful tool for probing sensory processing with high temporal resolution. RIFT involves flickering task-relevant stimuli at very high frequencies (50–80 Hz). Although these flickers remain invisible to observers, they elicit reliable neuronal responses that can be recorded using electroencephalography (EEG) and magnetoencephalography (MEG). This symposium will showcase recent applications of RIFT in cognitive neuroscience, with a focus on attention and multisensory integration. We will present evidence demonstrating how RIFT can be used to track the allocation of covert and presaccadic attention across a range of paradigms, including cross-modal integration and reading. Furthermore, we will introduce novel interventional approaches that combine RIFT with methods designed to modulate the excitability of the early visual cortex. These advances illustrate how RIFT can provide both observational and causal insights into sensory processing. In summary, RIFT represents an emerging methodological innovation that enables researchers to measure and manipulate rapid neural dynamics underlying visual and cross-modal integration. By offering fast, non-invasive, and robust access to neuronal excitability in sensory regions, RIFT opens new opportunities for investigating the mechanisms through which attention and integration shape cognition. This symposium will highlight the promise of RIFT as a versatile tool for advancing our understanding of brain function.

TALK 1: ENHANCING SPEECH COMPREHENSION VIA CROSS-MODAL INTEGRATION WITH RAPID INVISIBLE FREQUENCY TAGGING

Hyojin Park, University of Birmingham

Understanding speech in noisy environments relies on both auditory and visual cues, with lip movements providing a powerful scaffold for comprehension. We hypothesised that externally modulating visual speech signals using non-invasive rhythmic stimulation could enhance

crossmodal integration and improve speech understanding. To test this, we developed a novel paradigm applying Rapid Invisible Frequency Tagging (RIFT) to naturalistic audiovisual speech. Forty participants viewed videos of a speaker under dichotic listening conditions, where one ear received speech matching the visual input (task-relevant) and the other a mismatched stream (task-irrelevant). Both auditory streams were tagged at 40 Hz. A 55 Hz invisible flicker was applied to the speaker's mouth region, modulated either by the task-relevant or task-irrelevant auditory amplitude envelope. Behaviourally, RIFT significantly improved speech comprehension when the visual flicker was driven by the relevant auditory amplitude. MEG recordings confirmed robust auditory and visual tagging responses in their respective cortices across all conditions. Critically, visual tagging was stronger when driven by relevant speech rhythms, and this enhancement predicted individual comprehension performance. These findings demonstrate that subtle modulation of visual input with task-relevant auditory rhythms can increase visual cortical excitability and promote crossmodal integration. RIFT therefore provides a promising, non-invasive approach to boosting speech intelligibility in multi-speaker environments, with potential applications for older adults, individuals with hearing loss, and populations with auditory processing disorders.

TALK 2: DECODING REAL-WORLD VISUAL SCENES FROM THE HUMAN GAMMA BAND WITH FLICKER-EVOKED OSCILLATIONS

James Dowsett, University of Stirling

Current approaches to investigate the role of neural oscillations in natural scene processing have been limited to artificial stimuli and long data collection. We present a new way to decode real-world scenes participants are viewing from the steady-state visual evoked potentials (SSVEPs) evoked while wearing flickering LCD glasses. We discovered that SSVEP responses from real world scenes are surprisingly complex and have distinct waveform shapes: they differ markedly across scenes and participants but are consistent within individuals, even across multiple days. SSVEP shape varies greatly between stimuli, but is reliable, meaning that decoding works even with a single electrode. Decoding is highly accurate with 5-10 seconds of data and was still above chance level with less than a second of data. This decoding approach works almost as well with 40 Hz visual flicker as with 10 Hz and 1 Hz, demonstrating the possibility of using high frequency flicker as a cognitively meaningful measure in real-world mobile EEG experiments. Decomposing the SSVEPs into frequency bands showed that the information about the visual scene is present across all of the harmonics of the flicker frequency, but with 40 Hz (gamma band) showing the highest amount of information across the different flicker frequencies tested. These findings implicate a broad range of oscillations in encoding real-world scenes, with a particular importance for 40 Hz. The SSVEP's temporal profile is a rich source of information for decoding.

TALK 3: TOP-DOWN MODULATION OF VISUAL ATTENTION RESOLVES WORD BOUNDARY AMBIGUITY IN CHINESE READING

Xingshan Li, Chinese Academy of Sciences

The absence of inter-word spaces in Chinese often creates ambiguity in word boundaries, as exemplified by overlapping ambiguous strings (OAS). For instance, in the OAS “网站台”, the first two characters form the word “网站” (website), whereas the last two form the word “站台” (platform). This is analogous to the English phrase “milk tea bag,” which can be parsed as “milk tea” + “bag” or “milk” + “tea bag.” During reading, Chinese readers must decide which word the middle character belongs to. In this study, we used a recently developed technique, rapid invisible frequency tagging (RIFT), to investigate whether covert attention contributes to word segmentation. EEG was recorded while participants read three-character strings (ABC) and performed a word segmentation task. The strings were either ambiguous (both AB and BC formed words) or unambiguous (only AB or BC formed a word). Character C was flickered at 60 Hz while participants fixated on character B. Results showed (1) stronger tagging responses when character C belonged to the preferentially segmented word, and (2) an early onset of this effect—approximately 120 ms for OAS and 50 ms for unambiguous strings. These findings indicate that attention dynamics are tightly linked to word segmentation and play a crucial role in resolving word boundaries. The early timing of the tagging response suggests that the effect likely originates from early visual areas such as V1.

TALK 4: NEURAL EVIDENCE FOR MULTILEVEL PARAFOVEAL PROCESSING SUPPORTING NATURAL READING

Ole Jensen, University of Oxford

Fluent reading requires extraction of information not only from the fixated word but also from upcoming parafoveal words. A central question is whether lexical, semantic, and phonological information can be accessed and integrated from parafoveal words during natural reading. Across three MEG/eye-tracking studies, we investigated neural signatures of parafoveal processing using frequency tagging. In the first study, we applied Rapid Invisible Frequency Tagging (RIFT) to examine lexical processing. Target words were subliminally flickered at 60 Hz, and tagging responses were measured during fixations on the preceding word, when the targets were in the parafovea. Pre-target responses were stronger when upcoming words were low compared with high lexical frequency, and the magnitude of this parafoveal effect predicted individual reading speed, indicating lexical extraction. In the second study, we used RIFT to probe semantic processing of parafoveal words. Target words were either congruent or incongruent with sentence context. Pre-target tagging responses were weaker and delayed for incongruent words, providing evidence that semantic information is accessed and integrated parafoveally before direct fixation. Finally, we examined phonological

processing by embedding orthography–phonology consistent or inconsistent target words in sentences while driving auditory cortex with a 40 Hz tagging tone. Orthography–phonology inconsistent words elicited stronger left auditory cortex coherence 94–232 ms after pre-target fixation, showing extraction of phonological information while the words are in the parafovea. Together, these findings demonstrate that lexical, semantic, and phonological information is extracted from parafoveal words within 100–200 ms, supporting cascaded and parallel models of reading.

Symposium Session 10

ABSTRACT REPRESENTATIONS IN NEURAL ARCHITECTURES

Tuesday, March 10, 2026, 1:30 – 3:30 pm, Salon D

Chairs: Ms Iryna Schommartz¹, Victoria Nicholls²; ¹Goethe University Frankfurt, ²Ludwig-Maximilians-Universität München

Presenters: Santiago Gallela, Victoria Nicholls, Iryna Schommartz, Bhavin Choksi

Abstract representations are fundamental to human cognition, allowing us to generalize beyond specific instances and to navigate complex environments efficiently. From recognizing objects and scenes to guiding visual search and supporting language, abstract knowledge enables flexible behavior across domains. Yet, a comprehensive framework that captures how such representations are organized, how they emerge at different levels of abstraction and modalities, and how they develop across the lifespan is still lacking. This symposium brings together converging evidence from neuroimaging (fMRI, EEG, MEG), eye-tracking, and artificial intelligence (AI), with a particular focus on deep neural networks (DNNs), to investigate the neural architectures of abstract representation at different depth, modalities and developmental stages. Four talks will be organized around two themes: (1) Abstract representations at different depths, with Santiago discussing how the brain represents abstract object features e.g. topology and geometry and Victoria presenting work on representations in visual search scene templates in the brain; (2) Development and modeling of abstract representations using AI with Iryna examining how temporal and spatial gaze patterns during naturalistic viewing align across the human lifespan and AI models, and Bhavin exploring how multimodal abstract representations can be modeled. Together, these perspectives highlight how combining AI modeling, neuro-computational approaches, machine learning and behavioral data can advance our understanding of hierarchically organized knowledge along different degrees of abstraction in the human brain, while providing inspiration for AI development.

TALK 1: THE GEOMETRY AND TOPOLOGY OF ABSTRACT REPRESENTATIONS

Santiago Gallela, Frankfurt Institute for Advanced Studies

Understanding how neural systems encode abstract representations is a central question in neuroscience and machine learning. Such representations allow both brains and machines to generalize across changing sensory inputs, yet their organization remains poorly understood. We address this through two complementary studies, examining the geometry and topology of neural representations during visual processing. First, we study how representational dimensionality evolves throughout visual processing in humans and artificial networks. Using fMRI data from participants viewing natural images, we find that dimensionality increases systematically across cortical areas, reflecting an expansion of representational space. This growth corresponds with the ability to decode abstract features such as movement or naturalness, suggesting a link between higher dimensionality and abstraction. In contrast, artificial models show different trajectories: while early layers expand dimensionality, late stages often collapse it, leading to distinct geometric trends compared to biological systems, which may reflect differences in abstraction. Second, we introduce MAPS (Manifolds of Artificial Parametric Scenes), a synthetic dataset in which object properties vary along well-defined parametric manifolds. Using MAPS, we examine how pretrained models embed these transformations, uncovering geometric signatures of invariance and topological structures such as circles, cylinders, and tori. These patterns reveal how models abstract over continuous changes in high-level scene properties, such as distance, size, or lighting, providing a controlled setting to study the geometry and topology of abstraction. Together, these findings show how geometry and topology offer principled tools for probing abstraction, bridging insights between biological and artificial representations.

TALK 2: REPRESENTATIONS OF VISUAL SEARCH TEMPLATES IN THE BRAIN

Victoria Nicholls, Ludwig-Maximilians-Universität München

Our knowledge of scenes is thought to have a hierarchical structure: at the lowest level are often smaller, local objects e.g. a soap, followed by so-called “anchors”, often larger objects like a sink. Together they form a “phrase”, a meaningful and functionally organized sub-set of a scene. Multiple phrases combined form a scene. What has not been established so far is whether this hierarchical scene knowledge is represented on a neural level, which brain regions might be involved, and the dynamics of accessing this knowledge. To examine this, participants were presented with an isolated object (local or anchor) either as a word label, image, or target word in the context of a search task, followed by a blank period while we recorded MEG. During the blank period participants were instructed to imagine the object. Using representational similarity analysis (RSA) with models representing

the different levels of scene knowledge, we analysed each stimulus presentation and blank period to determine whether participants access representations about the objects only, or additionally access phrase and scene representations. During the stimulus period we found peaks for object, and phrase category models from 100-200ms post-stimulus onset. During the blank period we found peaks for scene category information. This suggests that even when seeing isolated objects participants automatically access also representations of scene and even phrasal information. This implies automatic representations of functional groupings of objects within scenes that may not be maintained in working memory if not immediately required by the task.

TALK 3: TRACING MINDS AND MACHINES: SCANPATHS AND MEMORY REINSTATEMENT IN HUMANS ACROSS THE LIFESPAN AND IN ARTIFICIAL INTELLIGENCE MODELS

Iryna Schommartz^{1,2}, ¹Goethe University Frankfurt, ²IdEA – Center for Individual Development and Adaptive Education

The visual world presents us with a rich array of complex scenes. However, individual differences in visual sampling during naturalistic viewing — as reflected by the temporal and spatial characteristics of the scanpath and their relationship with memory for sampled information — remain poorly understood. Here we employ state of the art DeepGaze III artificial intelligence (AI) model to predict scanpath characteristics and align them with scanpath characteristics of human participants across a lifespan. We also investigate with representational similarity analysis how gaze can be reinstated during retrieval differentially under increasing pattern completion load. To investigate this, we measured the gaze fixations while children (aged 5 to 12, N=85), young adults (aged 19 to 30, N = 42) and older adults (aged 65 to 80, N = 40) viewed 60 naturalistic images. Our results show that canonical eye gaze patterns emerge during development, moderated by semantic categories. AI-human alignment in gaze patterns is relatively high across age groups, but may reflect different mechanisms leading the scanpath (bottom-up perceptual for children vs top-down semantic for adults). Higher alignment with AI-generated canonical scanpath predicts better subsequent recognition sensitivity across all age groups. Additionally, we show that successfully encoded scenes can be reconstructed with gaze patterns, presumably through pattern completion. This process emerges in late childhood, remains stable in young adults and disappears in older adults. Taken together, our findings provide implications for both, lifespan cognitive neuroscience as well as for building foveation-based AI models.

TALK 4: INVESTIGATING METHODS TO BUILD BETTER MULTIMODAL REPRESENTATIONS – FOR ARTIFICIAL INTELLIGENCE AND NEUROSCIENCE

Bhavin Choksi, The Hessian Center for Artificial Intelligence, Germany

How to learn representations in a context with multiple modalities has been an active research question. While the recent advances in AI models has led to an ever increasing list of multimodal models, the improvement in their performance often stems from the increased dataset sizes used for their optimization, providing little insights how to best combine various modalities. To address this, we built various multimodal models in a data controlled setup. The models differed only in their specific training paradigms and architectures, and were always trained from scratch. Such a controlled approach allowed us to compare these models, and also the different strategies, in their ability to perform on standard machine learning tasks. Using methods like Representational Similarity Analysis (RSA) and Centered Kernel Alignment (CKA), we also investigated the structures of the representational spaces learned due to different paradigms. We found that optimization done using semantic information, regardless of the specific method, had a unique role in shaping the representations within the models.

Symposium Session 11

EMOTION AND THE ORGANIZATION OF TEMPORAL CONTEXT IN MEMORY

Tuesday, March 10, 2026, 1:30 – 3:30 pm, Salon E

Chair: Joseph Dunsmoor, University of Texas at Austin

Presenters: Daniela Palombo, Andy Lee, Joseph Dunsmoor, Regina Lapate

A defining feature of episodic memory involves remembering not only what happened, but when it happened. While emotion can enhance the vividness and recollection of an event, its effect on the temporal organization of event memory is nuanced. Emerging evidence is beginning to reveal how the subjective experience and neural representations underlying emotional events alter the temporal scaffolding of memory. This symposium brings together complementary perspectives on the effects of emotion on the temporal organization of human memory. Daniela Palombo will present new work showing that transitions from negative-to-neutral events elicit richer memory than transitions from neutral-to-negative events, highlighting the importance of temporal adjacency within an episode on memory structure. Andy Lee will present new eye tracking and functional fMRI data revealing how emotion impacts temporal distance memory within event sequences of events, showing that subjective temporal distance scales with the intensity of emotion experienced. Joseph Dunsmoor will present work synthesizing across a number of fear conditioning paradigms showing retroactive and proactive distortion on temporal context memory, whereby individuals consistently misremember neutral stimuli as belonging to the emotional learning context. Finally, Regina Lapate will present new behavioral and fMRI data showing that real-life negative (versus positive) events are remembered with lower temporal accuracy and

are linked to distortions in entorhinal event representations that track temporal context. Collectively, this work underscores converges on the central theme that emotion does not merely modulate memory for the details of what happened but dynamically restructures the temporal framework upon which event memories are based.

TALK 1: UNLOCKING EMOTIONAL MEMORIES THROUGH TEMPORALLY ADJACENT CUES

Daniela Palombo^{1,2}, ¹Department of Psychology, University of British Columbia, ²Djavad Mowafaghian Centre for Brain Health, University of British Columbia

Emotionally intense events, such as those involving fear or joy, rarely occur in isolation. Indeed, they ebb and flow alongside neutral moments, creating a dynamic and interconnected narrative. Later, encounters with the neutral elements of an experience—such as a face in the crowd or an everyday object—can be a powerful force in triggering the reinstatement of the rich emotional experience. Here we ask: Does the temporal positioning of encoded cues affect the richness of later emotional memory retrieval? The literature offers multiple viewpoints regarding the fate of the neutral stimuli that bookend an emotional experience and, more specifically, how effectively they might cue memory. On the one hand, binding prior neutral content to an ensuing emotional experience is essential to creating predictive associations. On the other hand, emotions can linger and potentially influence how subsequent neutral content is experienced (and its potency as a retrieval cue). To shed light on this issue, the present study employed a novel “triplets” paradigm, where emotional events—in this case, negative events—were bookended by neutral content. At test, participants were cued with either the “before” or “after” neutral content for recall. Results across two independent samples largely converged in their findings that cueing with “after” content improved emotional memory retrieval, including specificity, precision, and emotional integrity (but not temporal order). Our study suggests that the richness of emotional memory retrieval is not just affected by what triggers memory, but also “when” those triggers were first encoded.

TALK 2: ELUCIDATING THE IMPACT OF AROUSAL AND VALENCE ON MEMORY FOR ELAPSED TIME

Andy Lee, Department of Psychology (Scarborough), University of Toronto, Canada

When remembering our previous experiences, we tend to over- or underestimate the time that elapsed between events. This distortion in temporal distance memory is suggested to be influenced by a number of factors including emotion, given its known impact on the subjective experience of time. Notably, few studies have investigated how emotion impacts memory for elapsed time in the context of event sequences. Little is currently known about the relative effects of arousal and valence, and the potential cognitive and neural mechanisms underlying their impact are unclear. Across a series of

studies, we presented participants with blocks of images of different emotional content and, after each, asked them to rate the temporal distance between two target items. We first found that images with high compared to low emotional content (i.e., negative-high arousal vs. positive-low arousal images) were associated with longer subjective distances. A follow-up study revealed that this effect was driven by arousal rather than valence, and that the longer distances associated with blocks of high arousal images were unlikely to be explained by enhanced item memory, a difference in perceived time, or greater variations in semantic content. Eye-tracking data highlighted changes in pupil dilation and fixation times across arousal levels and their potential relationship to temporal distance. Finally, a fMRI study revealed differential patterns of activity associated with arousal and valence during encoding and temporal distance retrieval. Taken together, our findings further our understanding of how emotion can affect our memories for temporal information.

TALK 3: FEAR CONDITIONING SELECTIVELY DISTORTS THE TEMPORAL ORGANIZATION OF EPISODIC MEMORY

Joseph Dunsmoor^{1,2}, ¹Department of Psychiatry, University of Texas at Austin, ²Department of Neuroscience, University of Texas at Austin

Fear conditioning is considered an implicit form of learning that typically involves learning and expressing an association between neutral and biologically salient stimuli. Prior research on the role of time in conditioned learning has largely focused on the temporal relation between conditioned and unconditioned stimuli. In our lab, we have modified the typical conditioning paradigm to incorporate trial-unique semantic exemplars encoded before, during, and after Pavlovian fear conditioning, and later test participants on temporal judgements for when exemplars with respect to the experimental phase. Across 17 multi-session fear conditioning experiments (N = 474), we embedded trial-unique semantic exemplars before, during, and after conditioning and later assessed temporal source judgements. We observed robust and reliable evidence of temporal source misattribution: participants systematically judged exemplars conceptually related to the conditioned category as having been encoded during the conditioning phase, regardless of their true temporal position. Moreover, individual differences in this temporal misattribution bias predicted recognition memory biases for conditioned stimuli across phases. These findings suggest that emotionally salient experiences distort the temporal precision of surrounding memories, binding adjacent neutral events to the emotional episode. Such distortions may serve an adaptive function by anchoring otherwise forgettable events to a broader conceptual network linked to threat, but at the cost of temporal accuracy.

TALK 4: HOW EMOTION BENDS TIME IN MEMORY: BEHAVIORAL AND NEURAL EVIDENCE FROM REAL-LIFE EMOTIONAL EVENTS

Regina Lapate, Department of Psychological & Brain Sciences, University of California, Santa Barbara

Emotion shapes our memory for time—such as when events occurred or how long they lasted—but precisely how emotion modulates temporal memory remains unclear. Laboratory studies have revealed distortions and enhancements of temporal memory by emotion (Petrucci & Palombo, 2021). Here, we used experience sampling to measure participants' emotional responses and temporal memory for real-life events. Participants completed daily diaries reporting on the most negative and positive events from each day, while providing valence and arousal ratings and uploading a picture that reminded them of each event. We measured temporal memory for and recovery from those events using weekly surveys over a 9-week period. Negative events were remembered with lower temporal memory accuracy than positive ones. Moreover, positive (vs. negative) events tended to be remembered as having occurred more recently. These effects were largely driven by emotional-event valence—rather than event intensity or arousal. Next, we used fMRI to examine how emotional-event features modulated temporal context coding in the hippocampal–entorhinal (HPC–EC) system in a subset of participants. Replicating and extending prior work (Nielson et al. 2015), larger temporal distance between emotional events predicted lower neural similarity in HPC and EC. Critically, emotional-valence similarity attenuated this relationship in EC, particularly for negative events—suggesting that negative emotion may compress neural representations that track temporal context. These findings underscore that emotion shapes behavioral and neural representations of temporal context for real-life events, providing new insight into how the HPC–EC system integrates affect and time to support episodic memory.

Symposium Session 12

NEURAL COMPUTATIONS OF MOTIVATED BEHAVIOR IN YOUTH

Tuesday, March 10, 2026, 1:30 – 3:30 pm, Salon F

Chair: Dr Jeremy Hogeveen, The University of New Mexico

Presenters: Alexandra Cohen, Vishnu Murty, Jeremy Hogeveen, Catherine Hartley

Adolescence is a critical developmental period for calibrating motivated behavior—from learning to seek rewards to avoiding prospective threats. This behavioral shift is paralleled by the significant maturation of neural circuits underpinning motivation and goal-directed behavior. This symposium integrates four complementary research programs that merge behavioral modeling and functional neuroimaging to characterize the developing neurocognitive mechanisms of motivated behavior in adolescence. Dr. Cohen will first detail how rewards enhance memory via shifting contributions from “offline” subcortical consolidation and “online” cortical encoding

mechanisms across development. Dr. Davidow will build from this work, providing evidence that adolescence can be a period of superior motivated learning for both initiating actions and inhibiting responses, supported by the coordinated recruitment of multiple neural systems. Next, Dr. Hartley will discuss the critical role of valence, detailing how positive versus negative outcomes differentially shift reinforcement learning during development and shape the prioritization of information in long-term memory. Lastly, Dr. Hogeveen will integrate these themes to examine the 'explore-exploit tradeoff' when adolescents learn from rewards and punishments. This talk will present evidence that the directed exploration of novel choice options expands in a valence-dependent manner across adolescence, driven by the maturation of prefrontal circuits that underpin the hierarchical control of goal-directed behavior. Together, these findings highlight adolescence as a distinct period characterized by unique policies driving motivated behavior relative to childhood and adulthood—providing critical insights into the adaptive strengths and vulnerabilities that characterize this pivotal life period.

TALK 1: REWARD MEMORY MECHANISMS VARY ACROSS DEVELOPMENT

Alexandra Cohen, Emory University

Rewards influence behavioral and neural memory mechanisms. In adults, memory for high-reward memoranda is related to increased activation and functional connectivity of mesolimbic dopamine systems, centered around the ventral tegmental area (VTA), the anterior hippocampus, and cortical areas both during and after encoding. Additionally, prior work conducted in adults has shown that rewards alter multivariate activation patterns in the hippocampus during encoding and that cortical pattern similarity between encoding and retrieval is associated with better memory for both neutral and emotional stimuli. Few studies have examined how rewards influence these memory mechanisms across development. To address these knowledge gaps, we had 89 participants ages 8 to 25 years-old complete a reward-motivated encoding and retrieval fMRI paradigm with baseline and post-encoding active rest periods. Participants then returned 24-hours later for a behavioral memory retrieval test. We found that reward enhances associative memory across all ages and that there were age-related differences in less detailed memory. Neuroimaging analyses suggested that reward enhanced memory through differential activation and functional connectivity of mesocorticolimbic systems and differential multivariate pattern reinstatement in anterior hippocampus across development. We found evidence for greater early reliance on “offline” subcortical post-encoding consolidation mechanisms and increasing contributions of “online” cortical encoding mechanisms supporting reward-motivated memory with increasing age. We also found evidence that distinct representational schemes in anterior hippocampus support reward-motivated memory over development. Taken together, our findings demonstrate that reward motivation enhances memory across age

through overlapping cognitive and neural routes with varying contributions across development.

TALK 2: MAPPING NOVELTY-EVOKED INVIGORATION TO CIRCUIT-LEVEL VULNERABILITY FOR PSYCHOSIS DURING ADOLESCENCE

Vishnu Murty, University of Oregon

Abstract: Adolescence is a developmental period marked by heightened novelty seeking and increased engagement of mesolimbic dopamine circuits. While this motivational shift supports adaptive exploration and learning, it also coincides with elevated vulnerability for psychiatric disorders, including the emergence of subthreshold symptoms that can precede psychosis onset. Animal models suggest that developmental alterations to mesolimbic circuits—particularly within novelty detection and exploration systems—can bias motivational processes in ways that resemble early psychosis symptoms. Yet the mechanisms through which novelty evoked mesolimbic engagement contributes to symptom profiles in psychosis risk remain unclear. In this talk, I will present a series of studies examining how mesolimbic-hippocampus-prefrontal circuits relate to distinct symptom profiles in psychosis risk. Across these studies, we find that different afferent pathways into the ventral tegmental area (VTA) differentially track symptom dimensions: hippocampal regulation of the VTA predicts individual differences in negative symptoms, whereas altered lateral prefrontal regulation of the VTA relates to positive symptoms. I will then introduce a newly developed behavioral paradigm—digital foraging—that provides a more ecologically valid framework for assessing how mesolimbic circuits support novelty evoked invigoration. Together, these findings highlight how separable afferent systems to the VTA shape adolescent novelty seeking and contribute to divergent symptom trajectories, offering a circuit level framework for understanding early psychosis risk.

TALK 3: NEUROCOMPUTATIONAL MATURATION OF DIRECTED EXPLORATION IN ADOLESCENCE

Jeremy Hogeveen, The University of New Mexico

Goal-directed learning requires a critical tradeoff between exploring novel options with uncertain future value that may be beneficial in the long-term, versus exploiting familiar rewards with a high immediate expected value. In adolescence, a heightened drive to explore new opportunities is adaptive for self-discovery, but noisy exploratory behavior may also confer vulnerability to real-world risks. We merged behavior, computational modeling, and task fMRI to probe the neurocomputational maturation of explore-exploit decision-making across adolescence (N=135 13-21 year-old participants). We also probed for distinct mechanisms underpinning exploration to maximize gains versus exploration to avoid losses. Our data reveal a valence-dependent developmental shift in exploration: Younger adolescents engaged in more random exploration in loss avoidance contexts,

whereas older adolescents deployed more consistent, goal-directed exploration across valence. This shift was paralleled by maturation of functional response in the frontopolar cortex (FPC) and several co-activated regions at the time of choice—these regions became increasingly engaged to encode the relative future value of exploration as a function of age. Notably, these mechanisms held clear clinical relevance. Diminished goal-directed exploration and increased random exploration were associated with more severe recent alcohol use determined via 30-day timeline follow-back. Therefore, the maturation of FPC systems for motivating adaptive, goal-directed exploration of uncertain choice options shapes vulnerability for hazardous substance use in youth.

TALK 4: DEVELOPMENTAL SHIFTS IN VALENCE BIASES IN REINFORCEMENT LEARNING AND MEMORY

Catherine Hartley, NYU Center for Neural Science

As individuals learn through trial and error, some are more influenced by good outcomes, while others weigh bad outcomes more heavily. Reinforcement learning (RL) models mathematically quantify such valence biases in learning as the relative influence of positive or negative prediction errors (i.e., better or worse than expected outcomes) on subsequent value estimates. In this talk, I will present findings from several recent and ongoing developmental studies in which we leverage the RL framework to characterize developmental shifts in valence biases, their influence on episodic memory, and how they are influenced by early-life experience. In this work, we show that valence biases in RL shift across development from childhood to adulthood, with adolescents exhibiting greater sensitivity to worse-than-expected outcomes. Moreover, these biases in learning are reflected in what is retained in long-term memory, such that those who prioritize worse- or better-than-expected outcomes during learning are also more likely to remember images paired with those outcomes. In ongoing analyses, we are characterizing the patterns of neural activation and connectivity during learning and post-learning rest that shape these biases in learning and memory. Finally, in a large developmental cohort who recalled specific dimensions of their early-life experiences, we find that, in line with theoretical predictions, self-reported prevalence and controllability of rewards during childhood predict individual differences in valence bias. Together, these findings provide mechanistic insight into the developmental mechanisms that shape valence biases in RL, and the neural mechanisms through which these biases shape the information prioritized in memory.

Poster Schedule

Poster sessions are scheduled for Saturday-Tuesday in Fairview Ballroom + Kitsilano Ballroom + Kitsilano Ballroom Foyer of the JW Marriott Parc Vancouver Hotel. All attendees must present their CNS 2026 name badge to enter the exhibit hall. Do not leave personal items in the poster room. The presenting author must be present during the assigned session. You may post your materials on the board assigned to you at any time after the "Set-Up Begins" time (listed below), but before the beginning of the assigned poster session. You must remove your poster promptly no later than the time listed above in "Take-Down Complete." Any posters left up after the "Take-Down Complete" time may be discarded. Only registered poster presenters wearing a CNS 2026 meeting badge, for the current session and exhibitors will be allowed in the exhibit hall during Set-Up and Take-Down hours. All other attendees will be turned away at the door. No attendee or exhibitor will be allowed to enter the exhibit hall after the Closed for the Day-No Entry hours.

Poster Session	Date	Set-Up Begins	Session Open	Take-Down	Take-Down Completed
A	Saturday, March 7	12:30 pm – 1:00 pm	3:00 pm – 5:00 pm	5:00 pm – 5:15 pm	5:15 pm
B	Sunday, March 8	7:30 am – 8:00 am	8:00 am – 10:00 am	11:30 am – 11:45 am	11:45 am
C	Sunday, March 8	3:30 pm – 4:00 pm	5:00 pm – 7:00 pm	7:00 pm – 7:15 pm	7:15 pm
D	Monday, March 9	7:30 am – 8:00 am	8:00 am – 10:00 am	11:30 am – 11:45 am	11:45 am
E	Monday, March 9	1:30 pm – 2:00 pm	2:30 pm – 4:30 pm	5:30 pm – 5:45 pm	5:45 pm
F	Tuesday, March 10	7:30 am – 8:00 am	8:00 am – 10:00 am	10:00 – 10:15 am	10:15 am

* Please note that only scheduled registered poster presenters may enter the exhibit hall during the half hour Set-Up time. **Note:** Please remove your poster promptly at Take-Down complete time, so that the next presenter may set up their poster.

Poster Session A

Saturday, March 7, 2026, 3:00 – 5:00 pm, Fairview/Kitsilano Ballrooms

A1 - Auditory Narrative Lingering Under Competing Speech

Priya Rakesh Pandey^{1,2} (ppandey@research.baycrest.org), Ryan Panella^{1,2}, Björn Herrmann^{1,2}, ¹Rotman Research Institute, Baycrest Academy for Research and Education, ²Department of Psychology, University of Toronto

Topic Area: ATTENTION: Auditory

A2 - A Novel Approach to Improving Sleep in New Parents: Safety Reactivation with a Baby-Responsive Soundtrack

Alejandro Cruz Basilio¹ (alecruz@u.northwestern.edu), Jeongeun Kim¹, Marcia Grabowecy¹, Ken A. Paller¹; ¹Northwestern University

Topic Area: ATTENTION: Auditory

A3 - What's on Your Mind during the 12 Minutes Before Lights-Out Influences Sleep Quality

Alysiana M. Martinez¹, Alani G. Cox-Cáceres¹, Hannah R. Maybrier¹, James E. Glazer¹, Ken A. Paller¹; ¹Northwestern University

Topic Area: ATTENTION: Auditory

A4 - Autonomic Activity of Distraction Suppression and Early Adversity in Children

Mohammad Soleymam Nejad¹ (soleymam@myumanitoba.ca), Serena Zaenali¹, Ryan Giuliano¹; ¹Hearts & Minds Lab, University of Manitoba

Topic Area: ATTENTION: Development & aging

A5 - The effects of prestimulus alpha power on neural and behavioral responses to task stimuli

R. Blaine Mollot¹ (rmollot@elon.edu), Kristina Krasich¹, Kenneth C. Roberts², Vincent Sinfuego², Moon Sun Kang², Matthew D. Bachman³, Khoi D. Vo², Joseph A. Harris⁴, Leah C. Acker², Marty G. Woldorff²; ¹Elon University, ²Duke University, ³University of Toronto, ⁴Bradley University

Topic Area: ATTENTION: Nonspatial

A6 - Holding Back the Past: Controlling When LTM Guides Attention

Jessica Kespe¹ (jkespe@uoguelph.ca), Marielle Noack¹, Rory Lippert¹, Naseem Al-Aidroos¹; ¹University of Guelph

Topic Area: ATTENTION: Other

A7 - Two stages of processing for visual awareness identified in a novel inattentive blindness video-game paradigm

Michael Pitts¹ (mpitts@reed.edu), Gennadiy Belonosov², Oscar Ferrante³, Ling Liu⁴, Rony Hirschhorn², Ole Jensen⁵, Huan Luo⁴, Lucia Melloni⁶, Liad Mudrik²; ¹Reed College, ²Tel Aviv University, ³University of Surrey, ⁴Peking University, ⁵University of Oxford, ⁶Max Planck Institute for Empirical Aesthetics

Topic Area: ATTENTION: Other

A8 - Left, not right, congruency effects in the flanker task activate frontoparietal and control networks

Stefania Konstantopoulou¹, Bianca Borsarini¹, Sélim Coll¹, Emilie Marti¹, Radek Ptak^{1,2}; ¹Network Plasticity Modulation (NetPM) Lab, Department of Clinical Neuroscience, Faculty of Medicine, University of Geneva, Geneva, Switzerland, ²Division of Neurorehabilitation, Geneva University Hospitals, Geneva, Switzerland

Topic Area: ATTENTION: Spatial

A9 - Neural correlates of mental rotation in aphantasia

Rain Paul¹, Kelsey Roberts, Theo Rhodes, Sien Hu; ¹SUNY Oswego

Topic Area: ATTENTION: Spatial

A10 - Brain activity during guided imagination differentially relates to loneliness in younger and older adults

Adam Turnbull¹ (aturnbu2@stanford.edu), Mia Anthony¹, Meishan Ai¹, Andrew Anderson², Feng Vankee Lin¹; ¹Department of Psychiatry and Behavioral Sciences, Stanford University, ²Neurology, Medical College of Wisconsin

Topic Area: EMOTION & SOCIAL: Development & aging

A11 - Effects of informal musical engagement on white matter integrity across development.

Joshua Timmins¹ (timmins.j@northeastern.edu), Kelsie L Lopez¹, Nicholas Kathios¹, Psyche Loui¹; ¹Northeastern University

Topic Area: EMOTION & SOCIAL: Development & aging

A12 - Non-REM oscillations and emotion regulation are related to anxiety and depression symptoms in adolescents

Hazal Arpacı¹ (harpaci@uiowa.edu), Amy Barry¹, Aditi Tripathy¹, Sarah Dickens¹, Intisar Becic¹, Bengi Baran¹; ¹University of Iowa

Topic Area: EMOTION & SOCIAL: Development & aging

A13 - Adolescent Anxiety Adversely Impacts the Thalamic-Basal-Ganglia-Cerebellar Network

Caterina Stamoulis^{1,2} (caterina.stamoulis@childrens.harvard.edu), Madhumitha Manjunath²; ¹Harvard Medical School, ²Boston Children's Hospital

Topic Area: EMOTION & SOCIAL: Development & aging

A14 - DNA Repair and epigenetic regulation in mice overexpressing SIRT6 variants from long- and short-lived species

Mila Kaplan¹ (mkapl17@u.rochester.edu), Joseph Cutting, Andrei Seluanov, Vera Gorbunova; ¹University of Rochester

Topic Area: EMOTION & SOCIAL: Development & aging

A15 - Age-Dependent Relationships Between Resting-State Network Connectivity and Hot and Cold Cognition in Adults with Major Depressive Disorder: A MEG Study

F. Kathryn King¹ (fek6250@mavs.uta.edu), Anna C. Manning², Amy L. Proskovec², Elizabeth M. Davenport², Aatika Parwaiz², Crystal M. Cooper^{1,2}, Shawn M. McClintock^{2,3}, Tracy L. Greer^{1,2}; ¹University of Texas at Arlington, ²University of Texas Southwestern Medical Center, ³Perot Neuroscience Translational Research Center

Topic Area: EMOTION & SOCIAL: Development & aging

A16 - Investigating meaningful experiences using fMRI and a personalized movie paradigm

Douglas Forrest¹ (douglas.forrest@ubc.ca), Andre Zaman¹, Desmond Wood-Anderson¹, Tamara Vanderwal¹, Kalina Christoff¹; ¹University of British Columbia

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A17 - Frontal midline theta in trait anxiety and associative memory

Tamari Shalamberidze¹ (shalambe@ualberta.ca), Jeremy B. Caplan¹, Kyle Nash¹; ¹University of Alberta

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A18 - The Effect of Acute Exercise on Emotion Regulation

Thomas Rawliuk¹ (rawliukt@myumanitoba.ca), Ryan Ferstl², Emmanuel Santiago³, Chelsea Capellan⁴, Dasha Narkevich⁵, Nick Villeneuve⁶, Noah Crossman⁷, Janeen Martin⁸, Steven Greening⁹; ¹University of Manitoba

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A19 - Neural Mechanisms of a Brief, Short Body Scan Meditation and the Influence on Cognitive Performance & Perceived Stress

Elizabeth M. Key¹ (lizkey6@gmail.com), James R. Houston¹; ¹Middle Tennessee State University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A20 - The ADHD Emotion Trap: Is It Reactivity or Attention?

Tehila Nadav^{1,2} (nadavte@post.bgu.ac.il), Avishai Henik¹; ¹Ben-Gurion University of the Negev, ²Achva Academic College

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A21 - The intersection of art and grief as a model for probing the neurophysiologic mechanisms of mediating bereavement.

Reema Demopoulos¹, Martin Goldstein¹; ¹Cognitive Medicine PC

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A22 - Preliminary investigation of emotional voice judgment in healthy young adults using fNIRS: A foundation for future MCI research

YUKA YAMANO¹ (a21.ccmb@g.chuo-u.ac.jp), MICHIIKO KOEDA², YUKI ISHIKAWA¹, YURIE SATO¹, IPPEITA DAN¹; ¹Applied Cognitive Neuroscience Laboratory, Faculty of Science and Engineering, Chuo University, Tokyo, Japan, ²Department of Neuropsychiatry, Graduate School of Medicine, Nippon Medical School, Tokyo, Japan

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A23 - Modeling Context Similarity in Fear Renewal

Shreya Rajagopal¹ (shreyara@umich.edu), Thad Polk¹; ¹University of Michigan, Ann Arbor

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

A24 - Assessing the Ability of Virtual Reality Environments to Change Brain State: An Electroencephalographic Investigation

Rae Fletcher¹ (rfletcher@uvic.ca), Olave E Krigolson²; ¹University of Victoria, ²Theoretical and Applied Neuroscience Laboratory

Topic Area: EMOTION & SOCIAL: Emotional responding

A25 - Face Your Feelings: A higher burden of unattended negative facial stimuli may increase startle arousal.

Daria Ghazi¹ (daria.ghazi@bruins.belmont.edu), Robiya Akhmedova², Aram Akbari³, Kaitlyn Ziebell⁴, Carole Scherling⁵; ¹Belmont University, Nashville, Tennessee

Topic Area: EMOTION & SOCIAL: Emotional responding

A26 - Neural representations of faces are widely distributed and highly individualized

Ivette Colón^{1,2} (ycolon@wisc.edu), Timothy Rogers^{1,2}; ¹University of Wisconsin - Madison, ²Wisconsin Institute for Discovery

Topic Area: EMOTION & SOCIAL: Person perception

A27 - Spatial navigation in childhood is linked to age differences in hippocampal subfield volumes

Kanika Agarwal¹, Anika Bhatia¹, Da' Jonae Foster², Zhijian Chen², Noa Ofen^{1,2}; ¹Center for Vital Longevity, Department of Psychology, School of Behavioral and Brain Sciences, The University of Texas at Dallas, ²Institute of Gerontology, Wayne State University

Topic Area: EXECUTIVE PROCESSES: Development & aging

A28 - Disrupted glial-mediated synaptic refinement and lipid signaling in Fragile X syndrome

Lindsey Starr¹ (ls4007@cumc.columbia.edu), Melissa Lee, Mimi Shirasu-Hiza, Carol Mason, Vilas Menon; ¹Columbia University Vagelos College of Physicians and Surgeons

Topic Area: EXECUTIVE PROCESSES: Development & aging

A29 - Characterizing Verbal and Non-Verbal Executive Functions in Chronic Post-Stroke Aphasia

Emily J. Lenz¹ (esebran@purdue.edu), Kylie Norman¹, Amanda Rickert¹, Arianna N. LaCroix¹; ¹Purdue University

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

A30 - A Single Bout of Intermittent Hypoxia Benefits Executive Function Independent of Cardiorespiratory Fitness

Antonio B. Mendes¹ (amende@uwo.ca), Nasimi A. Guluzade¹, Lila Gavigan¹, Daniel A. Keir¹, Matthew Heath¹; ¹Western University

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A31 - Effects of acoustic environment and task difficulty on children's attention and inhibitory control

Xinyi Zoe Mao¹ (zoemao@g.ucla.edu), Sofia Byun¹, Andy Taing¹, Shreya Kannan¹, Jennie Grammer¹, Julie M. Schneider¹; ¹University of California, Los Angeles

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A32 - Preliminary Exploration of the Efficacy and Cognitive Neural Mechanisms of Group Natural Psychotherapy for Obsessive-Compulsive Disorder

Xiangyang Zhang¹, Rongrong Zhu², Qihui Guo³, Dongmei Wang⁴; ¹Tsinghua University, ²Chinese Academy of Sciences, ³University of Chinese Academy of Sciences

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A33 - Sense of Agency as a Gate for Cognitive Control: Insights from EEG and Behaviour

Luisa Alessia Grote¹ (grote@ifado.de), Daniel Schneider¹, Edmund Wascher¹, Stefan Arnau¹; ¹Leibniz-Research Center for Working Environment and Human Factors

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A34 - Modulation of the effects of amphetamine use on inhibitory control and error monitoring by smoking

Neil Muggleton¹ (neil.muggleton@gmail.com), Yu-Hua Liu², Chiao-Yun Chen²; ¹Institute of Cognitive Neuroscience, National Central University, Taoyuan, Taiwan, ²Department of Criminology, National Chung Cheng University, Minhsiung, Chiayi, Taiwan

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A35 - The association between self-reported sleep quality, physical activity and cognition in middle-aged females

Harleen Rai¹ (harleen.k.rai@torontomu.ca), Sricharana Rajagopal¹, Julia Kearley², Rikki Lissaman³, M. Natasha Rajah^{1,2}; ¹Toronto Metropolitan University, ²McGill University, ³Royal Holloway, University of London

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A36 - The (un)connected brain. A preliminary investigation of effective connectivity as a measure of mental fatigue

Ben Rattray¹ (ben.rattray@canberra.edu.au), Tomasz Ligeza², Jelle Habay³, Joe Northey¹, Kristy Martin¹, Andrew Flood¹, Miroslaw Wyczesany², Bart Roelands³; ¹University of Canberra, Australia, ²Jagiellonian University, Poland, ³Vrije Universiteit Brussel, Belgium

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

A37 - Adaptive Thalamocortical Gating Reconfigures Low-Dimensional Connectivity Motifs to Support Cognitive Flexibility

Shannon Stokes¹ (sestokes@uiowa.edu), Stephanie Leach¹, Xitong Chen¹, Kai Hwang¹; ¹University of Iowa

Topic Area: EXECUTIVE PROCESSES: Other

A38 - Weather on the Mind: An Examination of the Relationship between Weather and Cognition

Gloria Gu¹, Todd Handy²; ¹University of British Columbia

Topic Area: EXECUTIVE PROCESSES: Other

A39 - Spontaneous eye-blinks align with the updating of visual working memory

Daniel Schneider¹ (schneiderd@ifado.de), Sahcan Özdemir¹, Stefan Arnau¹, Edmund Wascher¹; ¹Leibniz Research Centre for Working Environment and Human Factors, Dortmund, Germany

Topic Area: EXECUTIVE PROCESSES: Working memory

A40 - Neurophysiological mechanisms of math anxiety and working memory: An ERP study

Michal Pinhas¹ (michalpi@ariel.ac.il), Nadav Neumann¹, Maya Ajami¹; ¹Ariel University

Topic Area: EXECUTIVE PROCESSES: Working memory

A41 - The Spark of Memory: When a Neuron Whispers, I Remember

Declan Lustenberger¹, Kimberly Dobrinski², Aysel Khalil³; ¹The University of Tampa

Topic Area: EXECUTIVE PROCESSES: Working memory

A42 - Neural differentiation during rapid auditory processing supports infant language learning

Laura A. Milovic^{1,2}, Ravi D. Mill¹, Michael W. Cole¹, April A. Benasich¹; ¹Center for Molecular and Behavioral Neuroscience, Rutgers University, ²Graduate Program in Neuroscience, Rutgers University

Topic Area: LANGUAGE: Development & aging

A43 - Neural Signatures of Language and Cognition in Bilingual and Monolingual Children: Insights from the Meta-analyses of Pediatric Neuroimaging Studies

Monika Molnar¹ (monika.molnar@utoronto.ca), Kai Ian Leung¹, Pascale Tremblay²; ¹University of Toronto, ²Université Laval

Topic Area: LANGUAGE: Development & aging

A44 - Reduced Neural Tracking of Speech in Noisy Classroom Environments

Julie Schneider^{1,2} (julieschneider@g.ucla.edu), Jacob Momser³, Shreya Kannan^{1,2}, Jennie Grammer^{1,2}; ¹UCLA, ²UC|CSU Collaborative for Neuroscience, Diversity and Learning, ³Yale University

Topic Area: LANGUAGE: Development & aging

A45 - Using Representational Similarity Analysis to Examine Print-Speech Integration in Struggling Readers Using fMRI

Deanne T.O. Wah¹ (dwah@uwo.ca), Kevin Kim¹, Fumiko Hoeft^{2,3}, Kenneth Pugh^{2,3,4}, Marc F. Joanisse^{1,2}; ¹The University of Western

Ontario, ²Haskins Laboratories, ³University of Connecticut, ⁴Yale University

Topic Area: LANGUAGE: Development & aging

A46 - How Causal Are Language-Related fMRI Activations? Evidence from Awake Direct Electroconvulsive Stimulation (DES)

Berfin Gürçan^{1,2} (berfingurcan27@gmail.com), Tamer Gezici^{1,2}, Özge Şengil, Burak Karaaslan⁴, Emrah Çeltikçi⁴, Murat Zinnuroğlu⁴, Güzide Atalık⁴, Ausaf Ahmed Farooqui^{1,2,3}; ¹Bilkent University, Ankara, Türkiye, ²Aysel Sabuncu Brain Research Center, Ankara, Türkiye, ³National Magnetic Resonance Research Center, Ankara, Türkiye, ⁴Gazi University, Ankara, Türkiye

Topic Area: LANGUAGE: Other

A47 - Simultaneous representation of multiple object-states in language is supported by left temporal theta-gamma phase-amplitude coupling

Wesley Leong^{1,2} (wesley.leong@uconn.edu), Gerry TM Altmann^{1,2}; ¹University of Connecticut, ²Connecticut Institute for the Brain and Cognitive Sciences

Topic Area: LANGUAGE: Other

A48 - Predictive processing of written and visual narratives in adults across the autism spectrum

Emily Coderre¹ (emily.coderre@med.uvm.edu), Katie McCluskey¹, Emily Zane², Neil Cohn³; ¹University of Vermont, ²James Madison University, ³Tilburg University

Topic Area: LANGUAGE: Other

A49 - When words paint fainter pictures: L2 usage and the vividness of mental imagery

Kirill Elin¹ (kirill.elin@psy.lu.se), Tove Backman¹, Noora Jansson¹, Mikael Johansson¹, Roger Johansson¹; ¹Lund University

Topic Area: LANGUAGE: Other

A50 - Frontal Eye Field in the Interaction of Reading and Attention: Exploring Functional Activation and Structural Connectivity

Ron Borowsky¹ (ron.borowsky@usask.ca), Shaylyn Kress^{1,2}, Josh Neudor³, Chelsea Ekstrand²; ¹University of Saskatchewan, ²University of Lethbridge, ³Athabasca University

Topic Area: LANGUAGE: Other

A51 - Subcortical contributions to prediction and reward in language processing

Kshipra Gurunandan¹ (kshipra.gurunandan@mrc-cbu.cam.ac.uk), Andrea Greve¹, Petar Raykov¹, Lihua Xia^{1,2}, Richard Henson¹;

¹University of Cambridge, Cambridge, UK, ²Huazhong University of Science and Technology, Wuhan, China

Topic Area: LANGUAGE: Semantic

A52 - Sound-Shape Correspondences for Pseudowords in People with Aphasia

Josh Dorsi¹ (jxd5826@psu.edu), Chaleece Sandberg², Simon Lacey^{1,3}, Lynne Nygaard⁴, K. Sathian^{1,3}; ¹Penn State College of Medicine, ²Penn State College of Health and Human Development, ³Penn State College of Liberal Arts, ⁴Emory University

Topic Area: LANGUAGE: Semantic

A53 - On the contributions of frontoparietal regions to false memory production irrespective of age and memoranda domain.

Rebecca Wagner¹ (rmw5981@psu.edu), Megan Broderick¹, Nancy Dennis¹; ¹The Pennsylvania State University

Topic Area: LONG-TERM MEMORY: Development & aging

A54 - Everything, everywhere, not as one: A high-resolution investigation of the neural correlates of unitization in aging within the medial temporal lobe

Alexa Becker¹ (agb5621@psu.edu), Catherine M. Carpenter², Min Sung Seo¹, Amy A. Overman³, Nancy A. Dennis¹; ¹The Pennsylvania State University, ²University of California - Davis, ³Xavier University

Topic Area: LONG-TERM MEMORY: Development & aging

A55 - Frontoparietal network segregation and associative memory in aging

Emma Carlson¹ (emmacarlson@brandeis.edu), Claire Ciampa², Thomas Morin^{1,3}, Jacob Hooker³, Anne Berry^{1,4}; ¹Department of Psychology, Brandeis University, Waltham, MA 02453, USA, ²Department of Biology, Brandeis University, Waltham, MA 02453, USA, ³Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA 02155, USA, ⁴Volen Center for Complex Systems, Brandeis University, Waltham, MA 02453, USA

Topic Area: LONG-TERM MEMORY: Development & aging

A56 - Exploring age-related changes in schema-based memory precision

Anna Lawrance¹ (annalawrance@uvic.ca), Yanxin Xu¹, Olivia Leyden¹, Jordana Wynn¹, Tarek Amer¹; ¹University of Victoria, Canada

Topic Area: LONG-TERM MEMORY: Development & aging

A57 - The Brain Resilience Study: Cognitive performance on a test of pattern separation is associated with cortical thickness in older adults

Miranda Chang¹ (miranda_chang@sfu.ca), Kelly Shen², Kashish Mehta¹, Aina Roenningen^{1,2}, Santiago I. Flores-Alonso^{2,3}, Alex I. Wiesman^{2,3}, Anthony R. McIntosh^{2,3}, Brianne A. Kent^{1,2};

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Topic Area: LONG-TERM MEMORY: Development & aging

A58 - REM sleep's role in emotional memory changes in middle age

Kristin E. G. Sanders¹ (ksande22@nd.edu), Mia F. Utayde¹, Elizabeth A. Kensinger², Jessica D. Payne¹; ¹University of Notre Dame, ²Boston College

Topic Area: LONG-TERM MEMORY: Development & aging

A59 - A Meta-Analysis of Age-related Differences in Hippocampal Size and Navigation and Memory Abilities

Ashish Sahoo¹, Arne Ekstrom, Steven Weisberg; ¹University of Florida, ²University of Arizona, ³University of Texas at Arlington

Topic Area: LONG-TERM MEMORY: Development & aging

A60 - Stability and Change in Autobiographical Memory Narratives

Victoria Wardell¹ (vwardell@psych.ubc.ca), Jason Bao², Sabrina Co¹, Kimberly Marty¹, Khushi Sharma¹, Daniela Palombo¹;

¹University of British Columbia, ²Claremont Mckenna College

Topic Area: LONG-TERM MEMORY: Episodic

A61 - Cognitive Mechanisms Shaping Autobiographical Memory Specificity in Schizophrenia

Reece Thomas¹ (reecethomas63@gmail.com); ¹Dr

Topic Area: LONG-TERM MEMORY: Episodic

A62 - Influence of Involuntary Autobiographical Memories on Episodic Memory

Catherine Bosyj¹ (bosyj@uwindsor.ca), Renée Biss¹; ¹University of Windsor

Topic Area: LONG-TERM MEMORY: Episodic

A63 - Eye movements at encoding predict episodic memory in distinct ways for social and non-social information

Veronica Dudarev¹ (vdudarev@mail.ubc.ca), James Enns¹, Connor Kerns¹, Daniela Palombo¹; ¹University of British Columbia

Topic Area: LONG-TERM MEMORY: Episodic

A64 - Investigating the neural signature of individual differences in emotional episodic memory

Anna Blumenthal¹, Megan McConnell, Isabella Hewardt, Alyssa Behuniak, Katey O'Brien, Justina Buccini, Sara Bunzey, Kyra Chen; ¹Marist University

Topic Area: LONG-TERM MEMORY: Episodic

A65 - A meta-analysis of hippocampal indirectly targeted stimulation (HITS) effects on episodic memory

Joel Voss¹ (joelvoss@uchicago.edu), Arantazu San Agustin¹, Elena Badillo Goicoechea¹, Phillip Agres¹, Johanna Rau¹; ¹The University of Chicago

Topic Area: LONG-TERM MEMORY: Episodic

A66 - Effects of Social Stress on Direct and Inferential Learning

Yuju Hong¹ (yujuhong@uwm.edu), Christine Larson¹, Caitlin Bowman¹; ¹University of Wisconsin-Milwaukee

Topic Area: LONG-TERM MEMORY: Episodic

A67 - Neural mechanisms of insight: nonlinear cortical representational change with hippocampal and catecholamine engagement

Dr. Maxi Becker¹ (maxi_becker@gmx.net), Dr. Simon Davis, Dr. Roberto Cabeza; ¹Duke University

Topic Area: LONG-TERM MEMORY: Episodic

A68 - Retrieval Practice Drives Integration Across Related Memories: A Candidate Mechanism for the Testing Effect

Lauren Homann¹ (lauren.homann@mail.utoronto.ca), Morgan Barese^{1,2}; ¹University of Toronto, ²Rotman Research Institute

Topic Area: LONG-TERM MEMORY: Episodic

A69 - Do Item-Context Bindings Distort Subsequent Memory for Details of the Source Context?

Ryan O'Donnell¹ (ryanodonnell7@gmail.com), Alexa Tompany¹; ¹Drexel University

Topic Area: LONG-TERM MEMORY: Episodic

A70 - Music-evoked memory engages similar behavioural and neurophysiological patterns in mild cognitive impairment and healthy controls

Veronica Vuong^{1,2} (veronica.vuong@utoronto.ca), Michael H. Thaut¹, Claude Alain^{1,2}; ¹University of Toronto, ²Baycrest

Topic Area: LONG-TERM MEMORY: Episodic

A71 - Sleep enhances haptic memory of novel objects

Laura Cacciamani¹, Kaelynn Hernandez¹, Sasha Kennedy¹, Zoe Meyer¹, Sofia Gurevich¹, Katharine C. Simon^{2,3}; ¹California Polytechnic State University, San Luis Obispo, ²School of Medicine, UC Irvine, ³Rady Children's Hospital

Topic Area: LONG-TERM MEMORY: Episodic

A72 - Can Machine Learning Predict Naturalistic Episodic Memory Performance?

Lexi Golestani¹ (lexi.golestani@utah.edu), Tyler Friedholm¹, Cory Inman¹; ¹University of Utah

Topic Area: LONG-TERM MEMORY: Episodic

A73 - Hippocampal and cortical coding of relational memory types

Weijia Cao¹ (weijia.cao@duke.edu), Paul Bogdan¹, Cortney Howard¹, Simon Davis², Roberto Cabeza¹; ¹Duke University, ²Indiana University Bloomington

Topic Area: LONG-TERM MEMORY: Episodic

A74 - Memory Without Imagery: Episodic Recall And Meta-Cognitive Performance in Individuals with Aphantasia

Anjou Sharma¹, Andrea Blomkvist², Raquel Krempel³, Emily Walsh⁴, Katherine Boere⁵, Felipe DeBrigard¹; ¹Duke University, ²University of Glasgow, ³Federal University of ABC, ⁴University of Central Florida, ⁵University of Victoria

Topic Area: LONG-TERM MEMORY: Episodic

A75 - Individual Differences in Memory Generalization

Dagmar (Dasa) Zeithamova¹, Cheyna Warner¹, Lainey Costa¹, Nash Unsworth¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

A76 - Important real-life events temporally organize our memories and dilate remembered time

Sarita Raghunath¹ (saritara@usc.edu), Wilma Bainbridge², Nina Rouhani¹; ¹University of Southern California, ²The University of Chicago

Topic Area: LONG-TERM MEMORY: Episodic

A77 - Effects of transcranial alternating current stimulation and context reinstatement on wakeful episodic memory consolidation

Jonathan S. Morrow¹ (jonmorrow@ucla.edu), Jesse Rissman¹; ¹University of California, Los Angeles

Topic Area: LONG-TERM MEMORY: Episodic

A78 - Long-term memory never turns itself off: Evidence for long-term memory potentials related to change-detection performance

Ella E. Weeks¹, Seth A. Marx¹, Geoffrey F. Woodman¹; ¹Vanderbilt University

Topic Area: LONG-TERM MEMORY: Other

A79 - Medial temporal default mode network selectively encodes autobiographical visual imagery

andrew anderson¹ (andanderson@mcw.edu); ¹Medical College of Wisconsin

Topic Area: LONG-TERM MEMORY: Other

A80 - Depth-of-processing-like computations explain visually-evoked activity in the human medial temporal lobe

Aalap Shah¹ (aalap.shah@yale.edu), Yuchang Tian¹, Qi Lin², Runnan Cao³, Shuo Wang³, Ilker Yildirim¹; ¹Yale University, ²Institute for Basic Science, Republic of Korea, ³Washington University in St. Louis

Topic Area: LONG-TERM MEMORY: Other

A81 - Catastrophizing is associated with subjective, but not objective, prospective memory in treatment-seeking veterans

Donni Staley¹ (dstaley@ucla.edu), Barbara Knowlton¹, Delany Thrasher^{2,3}, Sabine Kunrath², Kevin Bickart³, Joshua Goldberg², Mercy Huang², Robert Asarnow^{1,2}; ¹University of California, Los Angeles, ²Semel Institute for Neuroscience and Human Behavior, ³David Geffen School of Medicine at UCLA

Topic Area: LONG-TERM MEMORY: Other

A82 - Examining the diversity of repeated events, single instances of repeated events, and unique events

Oliver R. Bontkes¹ (obontkes@student.ubc.ca), Daniela J. Palombo¹, Eva Rubinová²; ¹The University of British Columbia, ²University of Aberdeen

Topic Area: LONG-TERM MEMORY: Other

A83 - Remembered but Absent Landmarks Enhance Path Integration

Yue Chen¹ (chen27@ualberta.ca), Weimin Mou¹; ¹University of Alberta

Topic Area: LONG-TERM MEMORY: Other

A84 - Schematic prior knowledge modulates covert visual attention

Emiko Osborne¹ (emikoo@uvic.ca), Anna K. Lawrence¹, Tarek Amer¹, Jordana Wynn¹; ¹University of Victoria

Topic Area: LONG-TERM MEMORY: Semantic

A85 - Disentangling exposure- and retrieval-based mechanisms of word-image associative learning through repeated recognition practice

Janvi Subramanian¹ (janvisubramanian2023@u.northwestern.edu), Paul J. Reber¹; ¹Northwestern University

Topic Area: LONG-TERM MEMORY: Semantic

A86 - A cluster-based method for the detection of planar traveling waves in the EEG

Jakob Schwenk¹ (jakob.schwenk@cnrs.fr), Andrea Alamia¹; ¹Centre de Recherche Cerveau et Cognition (CerCo), CNRS, Université de Toulouse, France

Topic Area: METHODS: Electrophysiology

A87 - Studying cognitive processes using mobile EEG in VR: studying possible artifacts and signal validation

Cezary Zając¹ (zajac.cezary@gmail.com), Karina Maciejewska¹; ¹University of Silesia in Katowice, Poland

Topic Area: METHODS: Electrophysiology

A88 - NeuroVLM: A Bi-Directional Vision-Language Framework Linking Brain Activation Maps and Cognitive Functions

Borngreat Omoma-Edosa¹, Ryan Hammonds², Jerjes Aguirre Chavez³, Bradley Voytek⁴; ¹University of California San Diego

Topic Area: METHODS: Neuroimaging

A89 - What effect sizes can we expect in functional neuroimaging?

Hallee Shearer¹, Matt Rosenblatt², Jean Ye², Rongtao Jiang², Link Tejavibulya², Maya Foster², Qinghao Liang², Javid Dadashkarimi³, Margaret Westwater², Iris Cheng², Max Rolison⁷, Hannah Peterson², Brendan Adkinson², Saloni Mehta², Chris Camp², Alexandra Fischbach¹, Fabricio Cravo¹, Amanda Meija⁴, Thomas Nichols⁵, Joshua Curtiss^{1,6}, Dustin Scheinost^{2,7}, Stephanie Noble^{1,2}; ¹Northeastern University, ²Yale University, ³University of Pennsylvania, ⁴Indiana University, ⁵University of Oxford, ⁶Massachusetts General Hospital, ⁷Yale School of Medicine

Topic Area: METHODS: Neuroimaging

A90 - The Impact of Age on the Cortical Excitatory/Inhibitory Ratio Across the Lifespan

Attakias Mertens¹ (attakias.mertens@boystown.org), Derek Pavelka¹, Katrina Myers¹, Ryan Glesinger¹, Grace Ende¹, Jason John¹, Anna Coutant¹, Lucy Horne¹, Grant Garrison¹, Molly Voller¹, Kyla De Luca¹, Lan Volberding¹, Olivia Carusi¹, Hannah Okelberry¹,

Hallie Johnson¹, Madelyn Willet¹, Jacob Oleson², Seth Bashford¹, Tony W. Wilson¹, Gaelle E. Doucet¹; ¹Boys Town National Research Hospital, ²University of Iowa

Topic Area: METHODS: Neuroimaging

A91 - Heterogeneity of Thalamus-Default Mode Network Connectivity in Schizophrenia

Milong Zhao¹ (milong45@outlook.com); ¹UC Davis

Topic Area: METHODS: Neuroimaging

A92 - Reproducibility Crisis in Functional Connectivity Analyses of EEG and MEG: An Approach to Reduce False Connectivity Findings

Anthony Herdman¹ (aherdman@audiospeech.ubc.ca); ¹University of British Columbia

Topic Area: METHODS: Neuroimaging

A93 - Validation of SpAM for product packaging: a comparative analysis with PRaM

Koki Amano¹ (a21.npkw@g.chuo-u.ac.jp), Ken Kumakura¹, Ippeita Dan¹; ¹Chuo University

Topic Area: METHODS: Other

A94 - A proof-of-concept (POC) study for using Phybrata sensing for assessing sensory reweighting and cognitive associations in neurodivergent youth

Budhachandra Khundrakpam¹ (budhachandra.khundrakpam@nrc-cnrc.gc.ca), Erfan Ghalibaf¹, Catherine Pagiatakis¹, Parastoo Hajiaikhondi Meybodi¹, Francis Thibault¹, Nicholas Vanliar², Nathalie Jack^{2,3}, Rachel Cluett^{2,3}, Louise Loiselle⁴, John Ralston⁵, Armando Bertone^{2,3}; ¹National Research Council Canada, ²PNLab, ³McGill University, ⁴Summit School, ⁵Neursantys

Topic Area: METHODS: Other

A95 - Reimagining the Measurement of Mental Imagery

Cassandra G Ivie¹ (ci2383a@american.edu), Sarah E Wene¹, Elshadai Melkam², Emily G Peterson¹; ¹American University, Washington, D.C., ²Kennedy Krieger Institute, Baltimore, MD

Topic Area: METHODS: Other

A96 - Beyond the Test Room: Performance Validity Tests and Real-World Functioning

Sage Radlmeier¹ (sage.radlmeier@gmail.com), Amir Sepehry², Izabela Schultz³; ¹UBC

Topic Area: METHODS: Other

A97 - A no-brainer! A general education neuroscience course for non-STEM undergraduates.

Carole Scherling¹ (carole.scherling@belmont.edu); ¹Belmont University, Nashville, TN

Topic Area: OTHER

A98 - Discrete resting-state functional connectivity patterns predict premorbid eating attitudes in healthy adults

Bianca Borsarini¹ (bianca.borsarini@unige.ch), Stefania V. Konstantopoulou¹, Emilie Marti¹, Sélim Coll¹, Radek Ptak^{1,2}; ¹Network Plasticity Modulation (NetPM) Lab, Department of Clinical Neurosciences, Faculty of Medicine, University of Geneva, Geneva, Switzerland, ²Division of Neurorehabilitation, Department of Clinical Neurosciences, Geneva University Hospitals, Geneva, Switzerland

Topic Area: OTHER

A99 - Using The Virtual Brain to probe the effects of senescence-driven alterations in neuronal firing activity on brain dynamics in Alzheimer's disease

Cathlin Jiaqi Han¹ (cjh26@sfu.ca), Alex I. Wiesman¹, Anthony Randal McIntosh¹; ¹Simon Fraser University

Topic Area: OTHER

A100 - Precision Aging: Profiles of Risk Related to Cognitive Impairment Among Older Adults

Lee Ryan¹ (ryant@arizona.edu), Olivia Ortiz¹, Matthew Huentelman²; ¹University of Arizona, ²Translational Genomics Institute

Topic Area: OTHER

A101 - Associations Between Longitudinal Handgrip Strength and Striatal Dopamine in Aging

Patrick Cao^{1,2}, Hsiang-Yu Chen¹, Claire Ciampa³, Jacob Hooker², Anne Berry^{1,4}; ¹Department of Psychology, Brandeis University, Waltham, MA 02453, USA, ²Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA 02155, USA, ³Department of Biology, Brandeis University, Waltham, MA 02453, USA, ⁴Volen Center for Complex Systems, Brandeis University, Waltham, MA 02453, USA

Topic Area: OTHER

A102 - Exploring the interplay between age-related hearing loss and cognitive decline through the lens of sensory and cognitive event-related potentials.

Sara Jani^{1,2} (sara.jani@mail.utoronto.ca), Claude Alain^{1,2}; ¹University of Toronto, ²Rotman Research Institute at Baycrest Hospital, Toronto, Ontario

Topic Area: PERCEPTION & ACTION: Audition

A103 - Pure-Tone Audiometry Fails to Predict Real-World Speech-in-Noise Perception: Insights From a Multi-Talker Spatial Attention Paradigm

Nina E. Wade^{1,2} (ninawadeucla@g.ucla.edu), Brett M. Bormann^{1,3}, Daniel C. Comstock¹, Kelsey Manke^{1,4,5}, Soukhin Das^{1,6}, Hilary Brodie⁷, Doron Sagiv⁷, Lee M. Miller^{1,7,8}; ¹Center for Mind and Brain, University of California, Davis, ²Fielding School of Public Health, University of California, Los Angeles, ³Neuroscience Graduate Group, University of California, Davis, ⁴Institute for Intelligent Systems, University of Memphis, ⁵School of Communication Sciences & Disorders, University of Memphis, ⁶Psychology Graduate Group, University of California, Davis, ⁷Department of Otolaryngology | Head and Neck Surgery, University of California, Davis, ⁸Neurobiology, Physiology and Behavior, University of California, Davis

Topic Area: PERCEPTION & ACTION: Audition

A104 - Predicting Pure Tone Audiometry using Auditory Brainstem Responses to Continuous Speech

Neejata Shrestha¹ (neejata.shrestha@gmail.com), Brett M. Bormann^{1,2}, Daniel C. Comstock¹, Kelsey Manke^{1,3,4}, Soukhin Das^{1,5}, Hilary Brodie⁶, Doron Sagiv⁶, Lee M. Miller^{1,6,7}; ¹Center for Mind and Brain, University of California, Davis, ²Neuroscience Graduate Group, University of California, Davis, ³Institute for Intelligent Systems, University of Memphis, ⁴School of Communication Sciences & Disorders, University of Memphis, ⁵Psychology Graduate Group, University of California, Davis, ⁶Departments of Otolaryngology | Head and Neck Surgery, University of California, Davis, ⁷Neurobiology, Physiology, and Behavior, University of California, Davis

Topic Area: PERCEPTION & ACTION: Audition

A105 - Age-related Changes in Brain Connectivity: Cross-sectional and Longitudinal Effects

Quan Zhou¹ (violetz@umich.edu), Noah Reardon², David Francis³, Mark Zuppichini⁴, Esther Kim¹, Kayla Wyatt⁵, Shuhao Cao¹, Thad Polk¹; ¹University of Michigan, ²Indiana University, ³University of Houston, ⁴Montclair State University, ⁵Washington University in St. Louis

Topic Area: PERCEPTION & ACTION: Development & aging

A106 - Parkinson's Disease impairs motor imagery performance: An oscillatory investigation

Kathryn JM Lambert¹, Yvonne Y Chen², Ada WS Leung^{3,5}, Anthony Singhal^{4,5}; ¹Department of Kinesiology, University of Calgary,

²Department of Psychology, University of Nevada Las Vegas,

³Department of Occupational Therapy, University of Alberta,

⁴Department of Psychology, University of Alberta, ⁵Neuroscience and Mental Health Institute, University of Alberta

Topic Area: PERCEPTION & ACTION: Motor control

A107 - Obligatory Co-opting of Motor Control by Awareness

Zengbo Xie¹, Huijun Wang², Feng Shu², Yuhui Huang², Pingping Qiu², Yiting Liu², Lanting Qiu¹, Qiu Hai Yue², René Marois^{1,3,4};

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Topic Area: PERCEPTION & ACTION: Motor control

A108 - Cerebellar Cognition: Cerebellar Prediction Errors in Reinforcement and Statistical Learning

Juliana E. Trach¹ (juliana.trach@yale.edu), Yiran Ou¹, Samuel D. McDougle^{1,2}; ¹Department of Psychology, Yale University, ²Wu Tsai Institute, Yale University

Topic Area: PERCEPTION & ACTION: Motor control

A109 - Concurrently tracking two rhythms with eye and finger movements

Abigail Liu¹ (abliu@u.northwestern.edu), Kezhen Qi¹, Khayla Santiago¹, Marcia Grabowecky¹, Satoru Suzuki¹; ¹Northwestern University

Topic Area: PERCEPTION & ACTION: Motor control

A110 - Neural and Behavioural Correlates of Audiovisual Gaze-Orienting in Common Marmosets

Tyler Cook¹, Maëva Gacoin², Justine Cléry³; ¹McGill University, ²Montreal Neurological Institute and Hospital

Topic Area: PERCEPTION & ACTION: Multisensory

A111 - Neural State Segmentation in Naturalistic Goal-directed Activities

Yining Ding¹ (d.yining@wustl.edu), Tan T. Nguyen¹, Jeffrey M. Zacks¹; ¹Washington University in St. Louis

Topic Area: PERCEPTION & ACTION: Multisensory

A112 - Audiovisual temporal synchrony modulates fast sensorimotor transformation in smooth pursuit eye movements

Hui Mei Chow¹ (dorischi@gmail.com), Gavin Woodward¹, Beatrix Culligan¹; ¹St. Thomas University, Fredericton, Canada

Topic Area: PERCEPTION & ACTION: Multisensory

A113 - Dissociating Predictive and Postdictive Audiovisual Inference

Manda Fischer¹ (manda.fischer@utoronto.ca), Keisuke Fukuda^{1,2}; ¹University of Toronto Mississauga, ²University of Toronto

Topic Area: PERCEPTION & ACTION: Multisensory

A114 - Comparing cognitive modes underlying pain experience and pain empathy

Amber Lu^{1,2} (alu10@student.ubc.ca), Ava Momeni^{1,2}, Todd Stephen Woodward^{1,2}; ¹BC Mental Health and Addictions Research Institute, Vancouver, Canada, ²Faculty of Medicine, University of British Columbia

Topic Area: PERCEPTION & ACTION: Multisensory

A115 - Investigating Leakage in Visual Perceptual Decision-Making

Eusabeia Silfanus¹, Aaron Schurger¹; ¹Chapman University

Topic Area: PERCEPTION & ACTION: Vision

A116 - Neural responses in the macaque inferotemporal cortex to translucent-object images

Hoko Nakada¹ (h.nakada@aist.go.jp), So Fujimoto², Takeshi Matsuo³, Keisuke Kawasaki⁴, Shin'ya Nishida⁵, Ryusuke Hayashi¹; ¹Natl. Inst. of Advanced Industrial Sci. and Technol. (AIST), Tsukuba, Japan, ²Mitsui Mem. Hosp., Tokyo, Japan, ³Tokyo Metropolitan Neurolog. Hosp., Tokyo, Japan, ⁴Niigata Univ. Med. Sch., Niigata, Japan, ⁵Kyoto Univ., Kyoto, Japan

Topic Area: PERCEPTION & ACTION: Vision

A117 - Neural Correlates of Visual Awareness and Unconscious Visual Processing: A Concurrent TMS-EEG Study

Zhilin Zhang¹ (zzhang5@gradcenter.cuny.edu), Tony Ro¹; ¹The Graduate Center, City University of New York

Topic Area: PERCEPTION & ACTION: Vision

A118 - Alpha phase dependence of orientation adaptation revealed by a closed-loop EEG system

Ryohei Nakayama¹, Kyuto Uno¹, Kaoru Amano¹; ¹The University of Tokyo

Topic Area: PERCEPTION & ACTION: Vision

A119 - Decoding the grating position and orientation under lateral eye position using optically pumped magnetometers (OPMs)

Yuri Takaki¹ (pon9q9@g.ecc.u-tokyo.ac.jp), Ryohei Nakayama¹, Tsuda Tomoaki², Koki Yoshida², Kazunori Takahashi², Tomohiro Gomi², Sadamu Tomita², Ayumu Yamashita¹, Jiro Saikawa²,

Tatsuya Munaka², Kaoru Amano¹; ¹The University of Tokyo,
²Technology Research Laboratory, Shimadzu Corporation

Topic Area: PERCEPTION & ACTION: Vision

A120 - The role of schemas in extrapolating beyond visual boundaries

Maria S. Orlando^{1,2} (morlando@yorku.ca), Syeda Jabeen¹, R. Shayna Rosenbaum^{1,2}; ¹York University, ²Centre for Vision Research

Topic Area: PERCEPTION & ACTION: Vision

A121 - A dominant exploration-exploitation axis shapes individual differences in sequential decision-making

Mojtaba Abbaszadeh¹ (mojtaba.abbaszadeh@umontreal.ca), Erica Ozanick¹, Noa Magen¹, David Darrow², Xinyuan Yan², Nicola Grissom², Alexander Herman², Becket R. Ebitz¹; ¹University of Montreal, ²University of Minnesota

Topic Area: THINKING: Decision making

A122 - Common electrophysiological dynamics of human posterior cingulate cortex engagement during memory and value based decisions

Seth Koslov¹ (seth.koslov@pennteam.upenn.edu), Sofia Dominguez Zesati³, Hernan Rey³, Sameer Sheth², Kathryn Davis¹, Isaac Chen¹, Joseph Kable¹, Benjamin Hayden², Brett Foster¹; ¹University of Pennsylvania, ²Baylor College of Medicine, ³Medical College of Wisconsin

Topic Area: THINKING: Decision making

A123 - Focal Human CA1 Lesion Potentiates Avoidance Behaviour During Approach-Avoidance Conflict Decision-Making

Willem Le Duc¹, Rutsuko Ito¹, Andy Lee^{1,2}; ¹University of Toronto Scarborough, ²Rotman Research Institute, Bacyrest Centre, Toronto, Canada

Topic Area: THINKING: Decision making

A124 - Gender Differences Across Age in Financial Positive-Skew Bias Under Dual-Task Cognitive Load

Sara Juneja¹ (sara.juneja@utdallas.edu), Kendra Seaman^{1,2}; ¹Behavioral and Brain Sciences, University of Texas at Dallas, ²Center for Vital Longevity

Topic Area: THINKING: Decision making

A125 - Investigating the Neural Dynamics Underlying Different Modes of Thought using Precision fMRI

Desmond Wood-Anderson¹ (dwoodanderson@psych.ubc.ca), Andre Zamani¹, Jennifer Burrell¹, Douglas Forrest¹, Kalina Christoff Hadjiilieva¹; ¹University of British Columbia

Topic Area: THINKING: Other

A126 - Investigating the effects of Alpha and Gamma band EEG oscillations over parietal cortex on creative cognition using tACS

Gian Nouel¹ (nouelgian@gmail.com), Necla Ece Yilmaz¹, Evangelia G. Chryssikou¹; ¹Drexel University

Topic Area: THINKING: Problem solving

A127 - The impact of learning preferences, perceptual differences, and cognitive control for fixation to pictorial examples in design problem solving

Evangelia G. Chryssikou¹ (lilachryssikou@gmail.com), Leah Downie¹, Alexandra E. Kelly¹, Hannah Maisano¹, Dong Ho Kim², John Gero¹; ¹Drexel University, ²Northwestern University

Topic Area: THINKING: Problem solving

A128 - Creativity and the Hypnagogic State

Alissa Gomez¹ (alissagomez@u.northwestern.edu), Nia McClendon¹, Mark Beeman¹; ¹Northwestern University

Topic Area: THINKING: Problem solving

A129 - Identifying critical conceptual moments during a lecture where neural encoding patterns distinguish successful from unsuccessful learners

Yeongji Lee¹ (yeongji.lee.gr@dartmouth.edu), David Kraemer; ¹Dartmouth College

Topic Area: THINKING: Reasoning

Poster Session B

Sunday, March 8, 2026, 8:00 – 10:00 am, Fairview/Kitsilano Ballrooms

B1 - Assessment of Auditory Cognitive Resource Deployment on the Modified Paced Auditory Serial Addition Task using Pupillometry and fNIRS

Jeremy Loebach¹ (loebach@stolaf.edu), Mary Hendrickson², Aaron Thomsas Rejimon³, Amara Geibel⁴, Alexis Long⁵, Elizabeth Pederson⁶; ¹St. Olaf College

Topic Area: ATTENTION: Auditory

B2 - The role of attention in shaping neural entrainment across development

Elena Greatti^{1,2} (egreatti@sissa.it), Levi Antle³, Elaine Guan³, Maria Romero Ochoa³, Davide Crepaldi^{1,4}, Amy Finn³; ¹International School for Advanced Studies (SISSA), ²University of Camerino, ³University of Toronto, ⁴University of Pavia

Topic Area: ATTENTION: Development & aging

B3 - Decoding Engagement in Live Lectures with EEG and Eye-Tracking

Yimeng Wang¹ (yimengw@umass.edu), Sidharth Anupkrishnan, Lisa D. Sanders; ¹University of Massachusetts Amherst

Topic Area: ATTENTION: Multisensory

B4 - The Effects of Frequency and Duration of Thinking Periods on Science Learning

Vishal Easwar¹ (easwarv@bc.edu), Ido Davidesco¹; ¹Boston College

Topic Area: ATTENTION: Other

B5 - Detecting mind wandering in real classrooms using eye-tracking and machine learning

Xiaorui Xue¹ (xuexd@bc.edu), Ido Davidesco¹, Na'ama Av-Shalom¹, Marina Vasilyeva¹, Nanyu Zhang¹, Rachael Sabelli¹, Jason Geller¹; ¹Boston College

Topic Area: ATTENTION: Other

B6 - Alterations of Oscillatory Activity Underlying Visual Attention in Children and Adolescents with Mild-to-Severe Hearing Loss

Clare Reinhart^{1,2} (clarereinhart@gmail.com), Zhiying Shen^{1,2,3}, Jack Carroll^{1,2}, Grace Salloum^{1,2}, Maggie Rempe^{1,4}, Elizabeth Walker⁵, Ryan W. McCreery^{2,6}, Elizabeth Heinrichs-Graham^{1,2,3,4}; ¹Cognitive and Sensory Imaging Laboratory, Institute for Human Neuroscience, Boys Town National Research Hospital, Omaha, NE, ²Center for Pediatric Brain Health, Boys Town National Research Hospital, Omaha, NE, ³Creighton University School of Medicine, Omaha, NE, ⁴College of Medicine, University of Nebraska Medical Center, Omaha, NE, ⁵Pediatric Audiology Lab, University of Iowa, Iowa City, Iowa, ⁶Audibility, Perception, and Cognition Laboratory, Boys Town National Research Hospital, Omaha, NE

Topic Area: ATTENTION: Spatial

B7 - Functional Stability and Similarity of Whole-brain and Social Brain Connectomes across Development

Jacqueline Lee¹ (jlee330@student.ubc.ca), Rebecca Todd¹, Tamara Vanderwal¹; ¹University of British Columbia

Topic Area: EMOTION & SOCIAL: Development & aging

B8 - The behavioural and neural effect of hearing aids during speech emotion perception in older adults using functional near-infrared spectroscopy (fNIRS)

Carmen Dang¹ (c1dang@torontomu.ca), Gurjit Singh^{1,2,3}, Brandon T. Paul¹, Frank A. Russo^{1,2}; ¹Toronto Metropolitan University, ²University of Toronto, ³Sonova Canada

Topic Area: EMOTION & SOCIAL: Development & aging

B9 - Ventromedial Prefrontal Cortex Thickness Mediates Age-Related Shifts in Valence Bias

Laelle Novotny¹ (lnovotny11@huskers.unl.edu), Jordan E. Pierce¹, Maital Neta¹, Hillary Schwab¹; ¹University of Nebraska--Lincoln

Topic Area: EMOTION & SOCIAL: Development & aging

B10 - Longitudinal mapping of social brain development in common marmosets

Maëva Gacoin¹ (maeva.gacoin@mcgill.ca), Tyler Cook¹, Justine Clery^{1,2}; ¹McGill University, ²Azrieli Center for Autism Research

Topic Area: EMOTION & SOCIAL: Development & aging

B11 - Real-Time Neural and Autonomic Correlates of Perseverative Cognition in Intracranial EEG

Michael Abad¹ (mpabad@uci.edu), Sean Young¹, Kurt Qing¹; ¹University of California, Irvine

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B12 - Clarifying the DMN-Depression Connectivity Paradox: Functional Connectivity Associations between Specialized DMN Subnetworks and Depression Severity

Joanna Ladopoulos¹ (jlado@usc.edu), Mackenzie Tremaine¹, Sarah Modesitt¹, Niceidy Green¹, Estrella Calvo Jung¹, Jonas Kaplan¹, Bruna Martins-Klein¹; ¹University of Southern California

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B13 - Neural Signatures and Personality Predictors of Belief Updating on Controversial Issues

Jia-Ho Chu¹, Francis Pingfan Chien², Po-Jang Hsieh³; ¹Taipei American School, ²Taiwan International Graduate Program in Interdisciplinary Neuroscience, National Taiwan University and Academia Sinica, Taipei, Taiwan, ³Department of Psychology, National Taiwan University, Taipei, Taiwan

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B14 - Fc-MVPA reveals migraine-related differences in connectivity during emotional audiovisual processing

Keva Klamer¹, Joshua Craig¹, Christina Haines¹, KiAnna Sullivan¹, Shaylyn Kress¹, Jane O'Connor¹, Peter Seres²; ¹University of Lethbridge, ²University of Alberta

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B15 - PTSD Memory Deficits Bias Towards Pattern Completion Strategies of Negative Stimuli in Ambiguous Situations

Jaime Garcia Quiles¹ (jrg23e@fsu.edu), Ellee Quattrochi, Norman Schmidt, Molly Hermiller; ¹Florida State University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B16 - Dissociable emotional and social influences on facets of associative memory

Khushi Sharma¹ (khushi.sharma@ubc.ca), Chantelle M. Cocquyt¹, Daniela J. Palombo^{1,2}; ¹University of British Columbia, ²Djavad Mowafaghian Centre for Brain Health

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B17 - Title: Emotional and Cognitive Disruption of Sexual Identity Development in Adults with Elevated ADHD Symptoms

David M. Roberts¹ (drober05@student.ubc.ca), Alannah T. Wallace², Todd C. Handy³; ¹University of British Columbia

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B18 - Phenomenological and physiological differences between forgiven and not forgiven remembered wrongdoings in samples from Colombia and the United States

Gabriela Fernández-Miranda¹ (gabriela.fernandez@duke.edu), Leonard Faul², Santiago Amaya³, Pablo Abitbo⁴, Kevin Labar¹, Felipe De Brigard¹; ¹Duke University, ²Boston College, ³Rice University, ⁴Universidad Tecnológica de Bolívar

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B19 - Feel Less, Remember Less: The Blunting-Induced Forgetting Effect

Mohith Verma¹ (mohith.verma@mrc-cbu.cam.ac.uk), Michael Anderson¹; ¹MRC Cognition and Brain Sciences Unit, University of Cambridge

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B20 - Surprise? Surprise! Learned helplessness with/without action

Jialin Shi¹ (jialinshi.ivy@gmail.com), Robin A. Murphy¹; ¹University of Oxford

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

B21 - Loneliness effects on selective attention to emotional faces

Adriana Patrizia González Pizzio^{1,2} (adriana.gonzalez@ufv.es), Anna Pecchinenda²; ¹Universidad Francisco de Vitoria, Madrid, ²Università La Sapienza, Roma

Topic Area: EMOTION & SOCIAL: Emotional responding

B22 - A study of low-frequency brain activity during narrative processing and rest.

Helen Mengxuan Wu^{1,2} (mengxuan@usc.edu), Jiayi Jiang^{1,3}, Madeleine Grace Cornejo Carrillo^{1,2}, Jonas T. Kaplan^{1,2}; ¹Brain and Creativity Institute, University of Southern California, Los Angeles, CA, ²Department of Psychology, University of Southern California, Los Angeles, CA, ³Alfred E. Mann Department of Biomedical Engineering, University of Southern California, Los Angeles, CA

Topic Area: EMOTION & SOCIAL: Other

B23 - Modality-Specific Influences in Audio-visual Emotion Perception: Valence and Arousal Representations

Yongseong Lee¹ (mhh11111@gmail.com), Youngju Lee¹, Dongha Lee¹; ¹Korea Brain Research Institute

Topic Area: EMOTION & SOCIAL: Person perception

B24 - The involvement of heart rate variability in the updating process of internal models during emotion recognition of others

Eita Hirayama¹ (eita.hirayama.07@keio.jp), Mai Sakuragi^{1,2}, Yuri Terasawa³; ¹Graduate School of Human Relations, Keio University, ²Japan Society for the Promotion of Science, ³Department of Psychology, Keio University

Topic Area: EMOTION & SOCIAL: Person perception

B25 - Neural correlates of memory generalization in young monolingual and bilingual children

Xiaoqiao Wang¹ (xiaoqiao.wang@utexas.edu), Stephanie Castro, Maria Arredondo; ¹The University of Texas at Austin

Topic Area: EXECUTIVE PROCESSES: Development & aging

B26 - Neural Mechanisms Underlying Cognitive Control: Frontal Midline Theta and Pre-Cue Alpha in Healthy Controls and People with Schizophrenia

Jie Zheng¹ (zheng.2848@osu.edu), Nicole Ogbuagu¹, Charlotte Li¹, Molly Erickson¹; ¹University of Chicago

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

B27 - Locus coeruleus–norepinephrine (LC-NE) system and cognitive and behavioral flexibility in autism

Yesol Kim¹ (kim3455@purdue.edu), Yao Yao¹, Seung-Yeol Yoon¹, Rachel Rieck¹, Grace Scott¹, Brandon Keehn¹; ¹Purdue University

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

B28 - Transient frontopolar cortex stimulation induces prolonged disruption to counterfactual processing

Mark Buckley¹ (buckley@psy.ox.ac.uk), Juan Galeazzi Gonzalez¹, Mark Stokes¹, Carlos Pedreira¹, Matthew Ainsworth¹; ¹University of Oxford

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

B29 - The Demands of Beginning of Extended Tasks are Categorically Different from Control Demands During Their Subsequent Execution

Elif Oymagil^{1,2} (elifoymagil@gmail.com), Tamer Gezici^{1,2}, Adem Yazıcı^{1,2}, Berhan F. Akgür^{1,2}, İpek Çiftçi^{1,2}, Ausaf A. Farooqui^{1,2,3}; ¹Bilkent University, Ankara, Türkiye, ²Aysel Sabuncu Brain Research Center, Ankara, Türkiye, ³National Magnetic Resonance Research Center, Ankara, Türkiye

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

B30 - Integrated uncertainty modulates frontoparietal hub connectivity profiles for flexible control

Stephanie Leach¹, Shannon Stokes¹, Hannah Hollow¹, Jiefeng Jiang¹, Kai Hwang¹; ¹University of Iowa

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

B31 - Real-world cognitive benefits of acute classroom-based exercise in a large-scale sample of schoolchildren

Weijia Zhu^{1,2} (wzhu297@uwo.ca), Zhihao Zhang², Xun Luo^{1,2}, Liye Zou², Matthew Heath¹; ¹University of Western Ontario, ²Shenzhen University

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

B32 - Adaptive recovery under motivation: Characterizing multimodal signatures of post-error effort adjustment in an incentivized cognitive control task

Evrin Baykal¹ (evrin.baykal@du.edu), Kimberly S. Chiew¹; ¹University of Denver

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

B33 - Deficits of response inhibition in depression arise from subphases of inhibitory control

Darcy Waller¹ (darcy_diesburg@brown.edu), Eric Tirrel², Linda Carpenter^{1,2}, Stephanie Jones¹; ¹Brown University, ²Butler Hospital, Providence, RI

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

B34 - Widespread Network Functional Changes Including Sensory Cortices in Temporal Lobe Epilepsy

İlknur Yaren Pala^{1,2,5} (palailknuryaren@gmail.com), Tamer Gezici^{1,5}, Berfin Gürçan^{1,5}, Zaur Guliyev³, Aslı Akyol Gürses³, Burak Karaaslan³, İrem Yıldırım³, Tuğba Hırfanoğlu³, Ausaf Ahmed Farooqui^{1,4,5}; ¹Bilkent University, Ankara, Türkiye, ²Ankara Hacı Bayram Veli University, Ankara, Türkiye, ³Gazi University, Ankara, Türkiye, ⁴National Magnetic Resonance Research Center, Ankara, Türkiye, ⁵Aysel Sabuncu Brain Research Center, Ankara, Türkiye

Topic Area: EXECUTIVE PROCESSES: Other

B35 - When Control Loses Control: Disordered Activation of Frontoparietal Networks in Temporal Lobe Epilepsy

Tamer Gezici^{1,3,4}, İlknur Yaren Pala^{1,3,4}, Berfin Gürçan^{1,3,4}, Zaur Guliyev², Aslı Akyol Gürses², Burak Karaaslan², İrem Yıldırım², Tuğba Hırfanoğlu², Ausaf Ahmed Farooqui^{1,3,4}; ¹Bilkent University, Ankara Türkiye, ²Gazi University Faculty of Medicine, Ankara Türkiye, ³Aysel Sabuncu Brain Research Center, Ankara Türkiye, ⁴National Magnetic Resonance Research Center, Ankara Türkiye

Topic Area: EXECUTIVE PROCESSES: Other

B36 - Daily Yoga on Working Memory and Symptomology of Attention Deficit Hyperactivity

Lilly Moody¹, Amy Jo Stavnezer², Grit Herzmann³; ¹College of Wooster

Topic Area: EXECUTIVE PROCESSES: Working memory

B37 - Functional connectivity of alpha-oscillations varies across task conditions.

A. Lenartowicz¹ (aleno@ucla.edu), S. Esfand², K. Null², T. Kelley¹, T.V. Román-López¹, F.Y. Chang¹, A. Friedman-Jha¹, H.V. Truong¹, J.P. Diaz-Fong³, A. Dillon¹, S.K. Loo¹; ¹Department of Psychiatry & Biobehavioral Sciences, UCLA, ²Department of Psychology, UCLA, ³Institute of Medical Sciences, University of Toronto

Topic Area: EXECUTIVE PROCESSES: Working memory

B38 - Dynamics of motor code formation in working memory

Şahcan Özdemir^{1,2} (oezdemir@ifado.de), Nursena Ataseven^{1,2}, Wouter Kruijne², Elkan Akyurek², Daniel Schneider¹; ¹Leibniz Research Centre for Working Environment and Human Factors, ²University of Groningen

Topic Area: EXECUTIVE PROCESSES: Working memory

B39 - Successive Task Steps Elicit Orthogonal Activity Patterns in Widespread Brain Regions

İrem Giray^{1,3,4} (iremgiray1@gmail.com), Gülsüm Özge Şengil², Ausaf A. Farooqui^{1,3,4}; ¹Bilkent University, ²Goldsmiths University of London, ³Aysel Sabuncu Brain Research Center, ⁴National Magnetic Resonance Research Center

Topic Area: EXECUTIVE PROCESSES: Working memory

B40 - The Effects of Hearing Loss on Age-related Changes in Neural Oscillatory Activity Underlying Spatial Working Memory Processing in Youth

Grace Salloum^{1,2} (grace.salloum@boystown.org), Zhiying Shen^{1,2,3}, Jack Carroll^{1,2}, Clare Reinhart^{1,2}, Elizabeth Walker⁴, Ryan W. McCreery^{2,5}, Elizabeth Heinrichs-Graham^{1,2,3}; ¹Cognitive and Sensory Imaging Laboratory, Institute for Human Neuroscience, Boys Town National Research Hospital, Omaha, NE, ²Center for Pediatric Brain Health, Boys Town National Research Hospital, Omaha, NE, ³Creighton University School of Medicine, Omaha, NE, ⁴Pediatric Audiology Lab, University of Iowa, Iowa City, Iowa, ⁵Audibility, Perception, and Cognition Laboratory, Boys Town National Research Hospital, Omaha, NE

Topic Area: EXECUTIVE PROCESSES: Working memory

B41 - The effect of ketamine on the activities of and interactions between interneurons and principal cells in the dorsal hippocampus

Audrey White¹ (aewhite1423@gmail.com), Yana M. Surtchev¹, Gabe Holguin¹, Krystina Jorgensen¹, Andrew K. Tapia¹, Zoe H. Huestis¹, Sydney H. Marean¹, Katelyn Boone¹, Carol A. Barnes^{1,2}, Torsten Falk¹, Stephen L. Cowen^{1,2}; ¹University of Arizona, ²Evelyn F. McKnight Brain Institute

Topic Area: EXECUTIVE PROCESSES: Working memory

B42 - Dual Mechanisms of Music Effects on Working Memory: Timing-Dependent Neural and Autonomic Signatures of Arousal and Interference

Atsuko Miyazaki¹; ¹The University of Tokyo

Topic Area: EXECUTIVE PROCESSES: Working memory

B43 - Age-Dependent Shifts in Functional Correlates of the Tip-of-the-Tongue Phenomenon

Yu Fang¹ (fangy35@bu.edu), Wen Wen¹, Chengyang Lin¹, Senthil Palanivelu¹, Robert M. G. Reinhart¹; ¹Boston University

Topic Area: LANGUAGE: Development & aging

B44 - Tracing the Emergence of Classifier Use in Mandarin-Speaking Children: Insights from Longitudinal Naturalistic Data

Shan An¹ (sa3826@tc.columbia.edu); ¹Teachers college

Topic Area: LANGUAGE: Development & aging

B45 - Neural Oscillatory Dynamics Serving Lexical Decision-Making in Youth with Mild-to-Severe Hearing Loss

Jack Carroll^{1,2}, Zhiying Shen^{1,2,3}, Clare Reinhart^{1,2}, Grace Salloum^{1,2}, Nathan Petro^{1,2}, Elizabeth A. Walker⁴, Ryan W. McCreery^{2,5}, Elizabeth Heinrichs-Graham^{1,2,3}; ¹Cognitive and Sensory Imaging Laboratory, Institute for Human Neuroscience, Boys Town National Research Hospital, Omaha, NE, USA, ²Center for Pediatric Brain Health, Boys Town National Research Hospital, Omaha, NE, USA, ³Creighton University School of Medicine, Omaha, NE, USA, ⁴Pediatric Audiology Lab, University of Iowa, Iowa City, IA, USA, ⁵Audibility, Perception, and Cognition Laboratory, Boys Town National Research Hospital, Omaha, NE, USA

Topic Area: LANGUAGE: Lexicon

B46 - Earlier sensory encoding for surprising words in connected speech

David Hernández-Gutiérrez¹ (david_hernandezgutierrez@urmc.rochester.edu), Shyanthony Synigal¹, Judy Thompson¹, Edmund Lalor¹; ¹University of Rochester

Topic Area: LANGUAGE: Lexicon

B47 - Optimizing the multivariate stimulus-response framework for identifying EEG responses to statistically-dependent stimulus representations

Konrad Dapper¹ (kdapper@uwo.ca), Sarah Hollywood¹, Taylor Dool¹, Blake Butler^{1,2}, Marc Joanisse^{1,3}; ¹Department of Psychology, University of Western Ontario, London, Canada, ²National Centre for Audiology, University of Western Ontario, London, ON, Canada, ³Haskins Laboratories, New Haven CT, USA

Topic Area: LANGUAGE: Other

B48 - Bilingual arithmetic in the brain: an ERP study of simple multiplication in balanced bilinguals and English speakers with limited L2

CaraNina Parker¹, Maria Diaz¹, Sarah Martinez¹, Sissy De Los Reyes¹, Vanessa Cerda¹; ¹Texas A&M International University

Topic Area: LANGUAGE: Other

B49 - Talker accent modulates neural processing of Mandarin-English code-switched speech

Khushi Nilesh Patil¹ (k.patil@mail.utoronto.ca), Chao Han¹, Philip J. Monahan¹; ¹University of Toronto

Topic Area: LANGUAGE: Other

B50 - Combining MEG with Real-Time Measures of Articulation to Examine Motor Sequencing in Speech and Nonspeech Tasks

Ioanna Anastasopoulou¹ (ioanna.anastasopoulou@sickkids.ca), Cecilia Jobst¹, Gloria Lai¹, Silvia Isabella², Douglas Cheyne^{1,2,3}; ¹The Hospital for Sick Children, Peter Gilgan Centre for Research and Learning, ²Baycrest Academy for Research and Education, Baycrest, Toronto, ON, Canada, ³Institute of Biomedical Engineering, University of Toronto, Toronto, ON, Canada

Topic Area: LANGUAGE: Other

B51 - Processing of Diphthongs by Turkish English Bilinguals: An ERP Study

ecem kopuz¹ (ekopuz@gradcenter.cuny.edu), daniel schwartz², ebony egoldman¹, valerie shafer¹; ¹CUNY Graduate Center, Department of Speech Language and Hearing Sciences, ²CUNY Graduate Center, Department of Linguistics

Topic Area: LANGUAGE: Other

B52 - Right hemisphere capacity for language: A scoping review of lesion studies

Venu Balasubramanian^{1,2} (venugopal.balasubramanian@shu.edu), Brittany Hague^{1,2}, Reagan Bonforte^{1,2}, Charlotte Lavander^{1,2}; ¹Seton Hall University, ²Communication Neuroscience & Aphasia Research Lab

Topic Area: LANGUAGE: Other

B53 - Differences in electrocortical activity during preparation for inner vs. spoken speech

Electra Zatorski¹ (edzatorski01@gmail.com), Reiko Graham¹; ¹Department of Psychology, Texas State University

Topic Area: LANGUAGE: Other

B54 - Modality-Specific Effects of Bilingualism and Musical Experience on Executive Control

Alla Spinu¹ (spinu.alla@gmail.com), Caitlin O'Riordan, Lazaros Maroulis, Ellen Bialystok; ¹York University

Topic Area: LANGUAGE: Other

B55 - Do Monolingual Norms Reflect Bilingual Expectations? Cloze and Association Consistency in English, Spanish-English and Mandarin-English Speakers

Sarah Wang^{1,3} (ssiwang@ucdavis.edu), Katherine Sendek², Tamara Swaab^{1,3}; ¹University of California, Davis, ²UiT The Arctic University of Norway, ³Center for Mind and Brain, University of California, Davis

Topic Area: LANGUAGE: Semantic

B56 - Altered age-related changes in theta and beta oscillatory dynamics serving semantic processing in children who are hard-of-hearing

Zhiying Shen^{1,2,3} (mike.shen@boystown.org), Jack Carroll^{1,2}, Clare Reinhart^{1,2}, Grace Salloum^{1,2}, Elizabeth A. Walker⁴, Ryan W. McCreery^{2,5}, Elizabeth Heinrichs-Graham^{1,2,3}; ¹Institute for Human Neuroscience, Boys Town National Research Hospital, Omaha, NE, USA, ²Center for Pediatric Brain Health, Boys Town National Research Hospital, Omaha, NE, USA, ³Creighton University School of Medicine, Omaha, NE, USA, ⁴Wendell Johnson Speech and Hearing Center, University of Iowa, Iowa City, IA, USA, ⁵Audibility, Perception, and Cognition Laboratory, Boys Town National Research Hospital, Omaha, NE, USA

Topic Area: LANGUAGE: Semantic

B57 - Memory for Category Exemplars and Hippocampal Connectivity in Aging

Shijing Zhou¹ (shijingz@uoregon.edu), Troy Houser, Caitlin R. Bowmar², Dagmar Zeithamova; ¹University of Oregon, ²University of Wisconsin Milwaukee

Topic Area: LONG-TERM MEMORY: Development & aging

B58 - High-Level Visual Representations Drive Memory Errors in Older Adults

Ricardo Morales-Torres¹ (ricardo.morales.torres@duke.edu), Loris Nasp², Simon W. Davis³, Roberto Cabeza¹; ¹Duke University, ²Humboldt University of Berlin, ³Indiana University

Topic Area: LONG-TERM MEMORY: Development & aging

B59 - Effects of Motherhood Experience and Menopause Type on Estrogen-Related Cognitive Function in Female Rats

Yasmiere Burke¹, Olga Lipatova¹; ¹Christopher Newport University

Topic Area: LONG-TERM MEMORY: Development & aging

B60 - Default mode and salience network connectivity interactions underlying the positivity effect across the adult lifespan

Michael DiCalogero¹ (mjd499@drexel.edu), Meghan D. Caulfield², Kathryn Devlin¹, Irene P. Kan³, Maria T. Schultheis¹, Evangelia G. Chryssikou¹; ¹Drexel University, ²Seton Hall University, ³Villanova University

Topic Area: LONG-TERM MEMORY: Development & aging

B61 - Hypertension Modifies Age-Related Change of Hippocampal Subfield Volumes: A Four-Year Longitudinal Study

Roya Homayouni¹ (rhomayouni@wayne.edu), Alexis N. Chargo¹, Samaah Saifullah¹, Kelsey L. Canada², Cheryl L. Dahle¹, Naftali Raz³, Ana M. Daugherty¹; ¹Wayne State University, MI, ²University of Massachusetts Amherst, MA, ³Stony Brook University, NY

Topic Area: LONG-TERM MEMORY: Development & aging

B62 - Distinct Domains of Psychosocial Stress Impact Brain and Behavior Function Across Working Memory and Episodic Memory Tasks

Alin Alshaheri Durazo¹, Hillary B. Erwin², Hannah L. Apostolou², Alissa C. McIntyre², Martha R. Crowther², Rebecca S. Allen², Ian McDonough¹; ¹Department of Psychology, SUNY Binghamton University, ²Department of Psychology, The University of Alabama

Topic Area: LONG-TERM MEMORY: Development & aging

B63 - Neural correlates of implicit associative memory in younger and older adults

Emily E. Davis¹ (emily.davis@utoronto.ca), Simon W. Davis², Karen L. Campbell³; ¹University of Toronto, ²Indiana University, ³Brock University

Topic Area: LONG-TERM MEMORY: Development & aging

B64 - Predictions and declarative memory encoding: two fMRI paradigms provide slim pickings for SLIMM

Petar Raykov¹, Kshipra Gurunandan¹, Andrea Greve¹, Richard Henson^{1,2}; ¹Medical Research Council Cognition and Brain Sciences Unit, University of Cambridge, ²Department of Psychiatry, University of Cambridge

Topic Area: LONG-TERM MEMORY: Episodic

B65 - Prior knowledge modulates curiosity-driven learning: An ERP analysis

Axel Mecklinger¹ (mecklinger@mx.uni-saarland.de), Julia Meßmer¹, Tim Rüterbories¹, Regine Bader¹; ¹Saarland University

Topic Area: LONG-TERM MEMORY: Episodic

B66 - Age-related differences in the relationship between creative thinking and false memory

Preston P. Thakral¹ (pthakral@smith.edu), Patrizia Picado¹, Winta G. Kebede¹, Alea L. Devitt²; ¹Smith College, ²The University of Waikato

Topic Area: LONG-TERM MEMORY: Episodic

B67 - When space divides, time expands: the role of boundaries in retrospective duration

Omran K. Safi¹ (omranksafi@gmail.com), Charles Y. Lin¹, Kimberley Marty¹, Daniela J. Palombo¹; ¹University of British Columbia

Topic Area: LONG-TERM MEMORY: Episodic

B68 - Scene Construction under Constraint: Neural Reorganization of Imagination in Limbic Encephalitis

Julia Taube^{1,2} (julia.taube@ukbonn.de), Maren Bilzel³, Pitshaporn Leelaarporn^{1,2}, Sarah Dumitrescu^{1,2}, Tobias Baumgartner^{1,2}, Randi von Wrede¹, Rainer Surges¹, Christoph Helmstaedter¹, Cornelia McCormick^{1,2}; ¹University Hospital Bonn, ²German Center for Neurodegenerative Diseases, ³University Bonn

Topic Area: LONG-TERM MEMORY: Episodic

B69 - Associations between encoding-related neural selectivity and retrieval-related reinstatement are robust and age-independent.

Ambereen Kidwai¹ (amber.kidwai@utdallas.edu), Marianne de Chastelaine¹, Sarah Monier¹, Michael D. Rugg¹; ¹University of Texas at Dallas

Topic Area: LONG-TERM MEMORY: Episodic

B70 - Relationships between neural selectivity at encoding and retrieval in face- and scene-selective neural regions in young and middle-aged adults

Marianne de Chastelaine¹ (mad106120@utdallas.edu), Ambereen Kidwai¹, Sarah Monier¹, Michael Rugg¹; ¹UTD, Center for Vital Longevity, Behavioral and Brain Sciences

Topic Area: LONG-TERM MEMORY: Episodic

B71 - Mnemonic effect of category exception learning as a function of prediction error type

Yongzhen Xie¹ (yongzhen.xie@mail.utoronto.ca), Linda He¹, Michael L. Mack¹; ¹Department of Psychology, University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

B72 - Exploring the Neural Mechanisms underlying the Impact of Emotion on Temporal Distance Memory

Gahyun Kim¹ (gh.kim@mail.utoronto.ca), Aicha Belghiti¹, Kristin Langohr¹, Andy C.H. Lee^{1,2}; ¹University of Toronto, Canada., ²Rotman Research Institute, Baycrest Centre, Toronto, Canada.

Topic Area: LONG-TERM MEMORY: Episodic

B73 - Optimal encoding time windows for memory precision

Troy Houser¹ (thouser@uoregon.edu), Riley Acker¹, Dasa Zeithamova¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

B74 - Reinstatement of Complex Semantic Memory Representations for Visual Scenes Captured through Language Embeddings

Frederik Bergmann¹, Roland Benoit¹; ¹University of Colorado at Boulder

Topic Area: LONG-TERM MEMORY: Episodic

B75 - Reshaping Self-Identity Through Memory Replay: Integrating Schema-Congruent and -Incongruent Learning with a Smartphone-Based Intervention

Aidan Steeves¹ (aidan.steeves@mail.utoronto.ca), Sophie Kudryk², Rotem Paz^{2,3}, David Moscovitch², Morgan Barese^{1,3}; ¹Department of Psychology, University of Toronto, ²Department of Psychology, Centre for Mental Health Research and Treatment, University of Waterloo, ³Rotman Research Institute, Baycrest Hospital

Topic Area: LONG-TERM MEMORY: Episodic

B76 - Cortical traveling wave pattern reinstatement supports successful associative memory formation and retrieval in humans

Uma Mohan¹ (uma.mohan@nih.gov), Molly Baumhauer², Kareem Zaghloul¹; ¹National Institutes of Health, ²University of Michigan Medical School

Topic Area: LONG-TERM MEMORY: Episodic

B77 - Both viewing entropy and hippocampal structure are related to spatial memory success in healthy aging

Hyeon Jung (Judith) Heselton¹ (29112417@nebraska.edu), Michael R. Dulas², Hillary Schwarb¹; ¹University of Nebraska - Lincoln, ²Binghamton University

Topic Area: LONG-TERM MEMORY: Episodic

B78 - How emotional appraisal during encoding impacts subsequent memory reactivation and recall.

Vishnu Murty¹, Lena Skalaban¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

B79 - EEG Correlates of Memory in a Naturalistic Spatial Environment

Joyce Li¹ (joyceji@sas.upenn.edu), Adam Broitman¹, Michael Kahana¹; ¹University of Pennsylvania

Topic Area: LONG-TERM MEMORY: Episodic

B80 - Incidental visual attention and subsequent memory for landmarks during real-world navigation

Lensky Augustin¹ (lensky.augustin@psych.utah.edu), Alireza Kazemi¹, Luis Garcia¹, Uros Topalovic², Mauricio Vallejo Martelo²,

Matthias Stangl², Tyler Davis¹, Martina Hollearn¹, Justin Campbell¹, Kiersten Olson¹, Dawn Eliashiv¹, Vikram Rao³, Itzhak Fried², Nick Hasulak⁴, Sonja Hiller², Nanthia Suthana², Cory Inman¹; ¹University of Utah, ²UCLA, David Geffen School of Medicine, ³UCSF Department of Neurology, ⁴Phoenix Research Consulting

Topic Area: LONG-TERM MEMORY: Episodic

B81 - Computational Sentiment in Narratives: Links Between Depressive Symptoms and Film-Based Episodic Memory

Daisy Kiyemba¹, Johanna Matulonis^{1,2}, Alex Adornato¹, Mariah Lewis¹, Jacob Hooker², Anne Berry^{1,2}; ¹Brandeis University, ²Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA.

Topic Area: LONG-TERM MEMORY: Episodic

B82 - Does sensitivity to novelty relate to memory organization of narrative events?

Erin Welch¹ (ewew2153@columbia.edu), Tianyu Gu¹, David Clewett², Lila Davachi^{1,3}; ¹Columbia University, ²UCLA, ³Nathan Kline Institute

Topic Area: LONG-TERM MEMORY: Episodic

B83 - Tracking memory for a positive collective event: A longitudinal study of the 2024 solar eclipse

Signy Sheldon¹ (signy.sheldon@mcgill.ca), Lauren Nordstrom¹, Azara Lalla¹, Jade Gordon¹, Daniela Palombo²; ¹McGill University, ²University of British Columbia

Topic Area: LONG-TERM MEMORY: Other

B84 - The Impact of Mental Health Symptoms on Relational Memory Performance

Jessica Zaffino¹ (jesszaffino@hotmail.com), Malcolm Binns^{1,2}, Jennifer D. Ryan^{1,2}; ¹University of Toronto, ²Rotman Research Institute; Baycrest Academy for Research and Education

Topic Area: LONG-TERM MEMORY: Other

B85 - Associative inference and self-derivation of knowledge involve the same underlying process of relational generalization

Lainey Costa¹ (laineyc@uoregon.edu), Cheyna Warner², Dagmar Zeithamova³; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Other

B86 - Effectiveness of Memory Reactivation during Wake Depends on Brain State

Erin Wamsley¹ (erin.wamsley@furman.edu), Yasmin Wali¹, Rachel Hodge¹, William Livingston¹; ¹Furman University, Department of Psychology and Program in Neuroscience

Topic Area: LONG-TERM MEMORY: Other

B87 - NOVITAS: A stimulus database with new tasks and metrics for assessing absolute and associative novelty detection in objects and scenes

Anaïs Servais¹ (anaïs.servais@uliege.be), Christine Bastin¹; ¹GIGA Neurosciences, University of Liège, Belgium

Topic Area: LONG-TERM MEMORY: Other

B88 - Concept cells in the temporal pole and the posterior cingulate cortex: testing memory systems at the neuronal level?

Vincent Dornier¹ (vincent.dornier@cnr.fr), Leila Reddy¹, Aube Darves-Bornoz¹, Adrien Causse², Luc Valton^{1,3}, Marie Denuelle^{1,3}, Jean-Albert Lotterie^{4,5}, Amaury de Barros^{4,6}, Annabelle Goujon⁷, Jonathan Curot^{1,3}, Emmanuel J. Barbeau¹; ¹Univ Toulouse, CNRS, Brain and cognition research centre (CerCo), Toulouse, France, ²Medical Research Council Brain Network Dynamics Unit, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, UK, ³Electrophysiology, epilepsy & sleep unit, Toulouse University Hospital, ⁴Univ Toulouse, INSERM, TONIC, Toulouse, France, ⁵Stereotactic radiosurgery, Toulouse University Hospital, ⁶Neurosurgery, Toulouse University Hospital, ⁷Université Marie et Louis Pasteur, INSERM, UMR 1322 LINC, F-25000 Besançon, France

Topic Area: LONG-TERM MEMORY: Semantic

B89 - EEG microstates and its cortical sources during single nostril breathing

Kumar Abhishek¹ (krabhishek.0592@gmail.com), Sweta Sweta¹, Prashant Tayade¹, Suriya Prakash Muthukrishnan¹, Simran Kaur¹, Ratna Sharma¹; ¹All India Institute of Medical Sciences, New Delhi, India

Topic Area: METHODS: Electrophysiology

B90 - PRISME: A MATLAB Toolbox for Multi-Method Statistical Power Analysis in Neuroimaging

Fabricio Cravo¹, Alex Fischbach¹, Hallee Shearer¹, Stephanie Noble^{1,2,3,4}; ¹Department of Psychology, Northeastern University, Boston, MA, ²Department of Bioengineering, Northeastern University, Boston, MA, ³Center for Cognitive & Brain Health, Northeastern University, Boston, MA, ⁴Department of Radiology & Biomedical Imaging, Yale University, New Haven, CT

Topic Area: METHODS: Neuroimaging

B91 - Structural alterations in the brain associated with sensory processing sensitivity

Lorna Jakobson¹ (lorna.jakobson@umanitoba.ca), Amanda McQuarrie¹, Jennifer Kornelsen^{1,2}, Stephen Smith^{1,2}; ¹University of Manitoba, ²University of Winnipeg

Topic Area: METHODS: Neuroimaging

B92 - Neurosynth Compose: A platform for transparent and reproducible meta-analyses

James Kent¹ (james.kent@austin.utexas.edu), Nicholas Lee², Taylor Salo³, Katherine Bottenhorn⁴, Jerome Dockes⁵, Ross Blair⁶, Thomas Nichols⁷, Angela Laird⁴, Jean-Baptiste Poline², Tal Yarkoni¹, Alejandro De La Vega¹, Grace Robertson⁸, Amy Ramage⁸; ¹University of Texas at Austin, ²McGill University, ³University of Pennsylvania, ⁴Florida International University, ⁵Inria, France, ⁶Stanford University, ⁷University of Oxford, ⁸University of New Hampshire

Topic Area: METHODS: Neuroimaging

B93 - Cognitive underpinnings of hallucinations derived from the fMRI literature

Sebastian Brstilo¹ (sbrstilo@student.ubc.ca), Abhijit Chinchani¹, Todd S. Woodward¹; ¹University of British Columbia

Topic Area: METHODS: Neuroimaging

B94 - Automated network labeling with contrastive neuroimage-language models

Ryan Hammonds¹ (rphammonds@ucsd.edu), Jerjes Aguirre-Chavez¹, Borngreat Omoma-Edosa¹, Bradley Voytek^{1,2,3}; ¹Halicioğlu Data Science Institute, UC San Diego, ²Neurosciences Graduate Program, UC San Diego, ³Department of Cognitive Science, UC San Diego

Topic Area: METHODS: Neuroimaging

B95 - Individual Differences in Functional Brain Network Integration in Tourette Syndrome: An Exploratory Precision Mapping Study in a Sibling Pair

Damion Demeter¹ (ddemeter@ucsd.edu), Abigail Baim¹, Ji Hyuk Ahn¹, Julia Wang¹, Sujin Park¹, Sarah Chang¹, Jonathan Ahem¹, Sana Ali¹, Emily Koithan¹, Deanna Greene¹; ¹University of California, San Diego

Topic Area: METHODS: Neuroimaging

B96 - Individual Differences in Visual Perspective: Validation of the Visual Perspective Questionnaire (VPQ)

Claudia Morales Valiente¹ (cmorale2@ualberta.ca), Peggy L. St. Jacques¹; ¹University of Alberta

Topic Area: METHODS: Other

B97 - bWell-D: Novel virtual reality cognitive remediation for depression; preliminary feasibility trial findings and improved construct validity

Pooria Ahmadi¹ (pooria.ahmadi@ubc.ca), Inaya Bhimani¹, Jenna Ramji¹, Hitika Gosal², Rayne Inkster², Benjamin Schwartzmann², Mark Hewko³, Nusrat Choudhury³, Budhachandra Khundrakpam³, Faranak Farzan², Trisha Chakrabarty¹; ¹University of British Columbia, ²Simon Fraser University, ³National Research Council Canada

Topic Area: METHODS: Other

B98 - VisDeep: Distribution-Matched Stimulus Selection Using Earth Mover's Distance

Deepkhushi Baidwan¹ (deepkhushibaidwan@gmail.com), Eric Mah, Jim Tanaka; ¹University of Victoria, ²Different Minds Lab

Topic Area: METHODS: Other

B99 - Morphometric Correlates of Executive Functioning Dimensions in Children

Nicole Greenwood¹ (nicole.greenwood@siu.edu), Connor Watkinson¹, Michelle Kibby¹; ¹Southern Illinois University Carbondale

Topic Area: NEUROANATOMY

B100 - Lateral Prefrontal Cortex Functional Connectivity Suggests Different Retrieval Strategies for Spatial Source Memory and Color Source Memory

Carolina E Carneiro¹ (carneir@bc.edu), Haley A Fritch², Ashley C Steinkrauss¹, Robert S Ross³, Scott D Slotnick¹; ¹Boston College, ²Broad Institute, Massachusetts Institute of Technology & Harvard University, ³Johns Hopkins University

Topic Area: OTHER

B101 - The Brain Resilience Study: Circadian rhythm amplitude is associated with cognitive performance in older adults

Stephanie R. U^{1,2}, Kelly Sher², Tegan Soroka¹, Kashish Mehta¹, Aina Roenningen¹, Ralph E. Mistlberger¹, Parveen Bhatti^{3,4}, Anthony R. McIntosh^{1,2}, Brianne A. Kent^{1,2}; ¹Simon Fraser University, ²Institute of Neuroscience and Neurotechnology, Simon Fraser University, ³The University of British Columbia, ⁴British Columbia Cancer Research Institute

Topic Area: OTHER

B102 - Children's Enhanced Sensory Processing After Intense Music or Visual Art Training

Jennifer Bugos¹ (bugosj@usf.edu), Faith Nwosu¹, Steven Nguyen¹; ¹University of South Florida

Topic Area: PERCEPTION & ACTION: Audition

B103 - PRoMiSS: EEG Posterior Neural Correlates of Autobiographically Salient Music

David Rosen¹ (drosen9@jh.edu), Riddhima Chandra², Frederick Barrett³; ¹Johns Hopkins University

Topic Area: PERCEPTION & ACTION: Audition

B104 - Blindness reorganizes the cortical network beyond the occipital cortex for lexical tone perception

Qiu Hai Yue¹, Linjun Zhang²; ¹School of Psychology, Shenzhen University, Shenzhen, China, ²School of Chinese as a Second Language, Peking University, Beijing, China

Topic Area: PERCEPTION & ACTION: Audition

B105 - Modeling the Missing Fundamental: Effects of Musical Exposure in Humans and Neural Networks

Lukas Grasse¹ (lukas.grasse@uleth.ca), Matthew S. Tata; ¹University of Lethbridge

Topic Area: PERCEPTION & ACTION: Audition

B106 - Electrophysiology and Modelling Highlight Diverse Strategies During Speech Perception

Evan Hare¹ (evan.hare@duke.edu), Weitong Liang⁴, Surya Tokdar^{2,4}, Tobias Overath^{1,2,3}; ¹Department of Psychology and Neuroscience, Duke University, ²Duke Institute for Brain Sciences, Duke University, ³Center for Cognitive Neuroscience, Duke University, ⁴Department of Statistical Science, Duke University

Topic Area: PERCEPTION & ACTION: Audition

B107 - Temporal Hierarchy and Contextual Facilitation in Mandarin Nasal Coda Processing: A Time-Resolved MEG-MVPA Study

Xiaoshan Ying¹ (yxs7049@hotmail.com), Li Zhong¹, Yiqing Li¹, Mengyuan Lin¹, Xiaoqi Yang¹, Ling Liu; ¹Beijing Language and Culture University, Beijing, China

Topic Area: PERCEPTION & ACTION: Audition

B108 - Electrophysiological Correlates of Misokinesia: ERP Evidence for Rapid Aversive Processing of Triggering Movements

Drishti Datta¹, Dipansha Tokas¹, Todd C. Handy¹; ¹University of British Columbia

Topic Area: PERCEPTION & ACTION: Motor control

B109 - State-dependent motor associative plasticity relies on parietal activity during action planning

Taylor Finkelstein¹ (taylorfi@umich.edu), Francesco Mirabelli², Taraz Lee¹, Ambra Bisio², James Brissenden¹, Stephan Taylor¹, Thad Polk¹, George Wittenberg³, Michael Vesia¹; ¹University of Michigan, ²University of Genoa, ³University of Pittsburgh

Topic Area: PERCEPTION & ACTION: Motor control

B110 - Cognitive Stress and Environmental Recovery: Evidence from EEG and Physiological Measurements

Elena Cravero^{1,2} (cravero@lens.unifi.it), Chiara Noferini^{3,4}, Rachele Fabbri³, Francesco Goretti⁴, Saqib Hayat^{1,4}, Letizia Chiodo¹, Alessandro Scaglione^{3,4}, Francesco Saverio Pavone^{2,3,4}; ¹Campus Bio Medico University of Rome, ²The National Institute of Optics (CNR-INO), ³Dept. of Physics and Astronomy, Univ. of Florence, ⁴LENS - European Laboratory for Non-Linear Spectroscopy

Topic Area: PERCEPTION & ACTION: Multisensory

B111 - Eye Hear You: Eye movements to mental imagery during speech comprehension in noise

Geneva Mariotti^{1,2} (gmariotti@research.baycrest.org), Jennifer D. Ryan^{2,1,3}, Björn Herrmann^{2,1}; ¹University of Toronto, Department of Psychology, ²Rotman Research Institute, Baycrest Academy of Research and Education, ³University of Toronto, Department of Psychiatry

Topic Area: PERCEPTION & ACTION: Multisensory

B112 - Effects of Cathodal HD-tDCS to the rSTS on Symptoms and Audiovisual Integration in People with Psychosis Spectrum Disorders

Rebekah L Trotti¹ (rtrotti@bidmc.harvard.edu), Nicolas Raymond¹, David A Parker², Prachi Patel¹, Brendan Stiltner¹, Daphne Ying¹, Willa Molho¹, Robert MG Reinhart³, Matheri Keshavan¹, Paulo Lizano^{1,4}; ¹Beth Israel Deaconess Medical Center, ²Emory University School of Medicine, ³Boston University, ⁴University of Rochester Medical Center

Topic Area: PERCEPTION & ACTION: Multisensory

B113 - Neural encoding of visually and acoustically derived speech features during multimodal narrative listening

Jacqueline von Seth¹ (jacqueline.vonseth@mrc-cbu.cam.ac.uk), Máté Aller¹, Matthew H. Davis¹; ¹University of Cambridge

Topic Area: PERCEPTION & ACTION: Multisensory

B114 - Enhancing Music Perception Through Auditory-Vibrotactile Training

Etienne Abassi¹ (etienne.abassi@mcgill.ca), Philippe Albouy², Emily Coffey³, Andréanne Sharp², Robert Zatorre¹; ¹McGill university, ²Laval university, ³Concordia university

Topic Area: PERCEPTION & ACTION: Multisensory

B115 - Event Segmentation Patterns of Real-World Navigation from a First-Person Perspective

Sydney Josifek¹ (ssjos521104@gmail.com), Luis Garcia², Uros Topalovic³, Mauricio Vallejo Martelo³, Matthias Stangi³, Tyler Davis¹, Martina Hollearn¹, Kiersten Olson¹, Amanda Holt¹, Justin Campbell¹, Lensky Augustin¹, Aydin Tasevac¹, Wyatt Wilson¹, Dawn Eliashiv¹, Nick Hasulak⁴, Sonja Hiller³, Itzhak Fried³, Nanthia Suthana³, Cory S. Inman¹; ¹University of Utah, ²University of Southern California, ³University of California Los Angeles, ⁴Phoenix Research Consulting

Topic Area: PERCEPTION & ACTION: Other

B116 - Modulation of visual recognition is manifested through sleep in lower and higher-level visual processing

Fumiaki Sato¹ (fumiaki.sato@riken.jp), Ryosuke Katsumata¹, Takeru Matsuda^{1,2}, Masako Tamaki^{1,3}; ¹RIKEN Center for Brain Science, Japan, ²The University of Tokyo, ³RIKEN Cluster for Pioneering Research, Japan

Topic Area: PERCEPTION & ACTION: Vision

B117 - Neural object representations predict visual discrimination success in adolescents and adults

Merron Woodbury¹ (merron.woodbury@mail.utoronto.ca), Sagana Vijayarajah, Margaret L. Schlichting; ¹University of Toronto

Topic Area: PERCEPTION & ACTION: Vision

B118 - Causal chains as a distinct type of event in visual perception

Emily Wedin¹ (emily.wedin@gmail.com), Joan Danielle K. Ongchoco¹; ¹University of British Columbia

Topic Area: PERCEPTION & ACTION: Vision

B119 - Large lump-sum vs. small sequential monetary loss: A comparison of relevant neural substrates

Dr Masayo Noda¹ (masanoda@kinjo-u.ac.jp), Hiroki C. Tanabe², Ayumi Yoshioka³, Masato Kimura⁴; ¹Kinjo Gakuin University, ²Nagoya University, ³Ritsumeikan University, Research Organization of Science and Technology, ⁴KONICA MINOLTA, INC.

Topic Area: THINKING: Decision making

B120 - Decisions at your fingertips: Characterizing object-oriented decision making with hand movements in older adults

Valerie Sainterant¹ (sainterant@psy.fsu.edu), Chloe Davis², Chris Martin^{1,2}; ¹Program in Neuroscience, Florida State University, ²Department of Psychology, Florida State University

Topic Area: THINKING: Decision making

B121 - Tracking sampling strategies during value construction to guide novel choice

Ata Karagoz¹ (atak@uchicago.edu), Akram Bakkour¹; ¹University of Chicago

Topic Area: THINKING: Decision making

B122 - Temporal Decoding of Reward Processing using MEG

Chris Pirrung¹ (chrispirrung@gmail.com), Chris Baker¹; ¹Laboratory of Brain and Cognition, National Institutes of Health

Topic Area: THINKING: Decision making

B123 - Neural mechanisms of decision making when sensory evidence and priors conflict

Stephanie L Wert¹ (stephaniewert@g.ucla.edu), Jesse Rissman^{1,2}, Barbara J Knowlton¹; ¹University of California, Los Angeles, Department of Psychology, ²University of California, Los Angeles, Department of Psychiatry & Biobehavioral Sciences

Topic Area: THINKING: Decision making

B124 - The Influence of Episodic Memory on Creativity and its Prefrontal Correlates in Children and Adults

Alexander W. D. McArthur¹ (alex.mcarthur@mail.utoronto.ca), Madison B. Narciso¹, Margaret L. Schlichting¹; ¹University of Toronto

Topic Area: THINKING: Development & aging

B125 - Examining Posterior Parietal Cortex Contributions to Cognitive Flexibility With Noninvasive Electric Brain Stimulation

Kate Chin¹ (kc3828@drexel.edu), Kent Hubert², Evangelia G. Chrysikou¹; ¹Drexel University, ²University of Arkansas

Topic Area: THINKING: Problem solving

B126 - Exploring the effects of self-generated and induced insight on incidental memory and pupil dilation

Linda He¹ (linda.he@mail.utoronto.ca), Michael L. Mack¹; ¹University of Toronto

Topic Area: THINKING: Problem solving

B127 - Decoding Abstract Relations: Investigating the Neural Representation of Relational Categories in the Human Brain

Anthony Dunn¹ (anthony.t.dunn.gr@dartmouth.edu), Katherine Alfred¹, Nicholas Ichien³, Brianna Aubrey¹, Sophia Baia², Silvia Bunge², David Kraemer¹; ¹Dartmouth College, ²University of California, Berkeley, ³University of California, Los Angeles

Topic Area: THINKING: Reasoning

B128 - Age-related changes in attentional control during speech-in-competition comprehension: neurophysiological evidence

Erick I. Correa-Medina^{1,2} (neurick.psi@gmail.com), E. Sebastian Lelo de Larrea-Mancera³, Rodolfo Solis-Vivanco^{1,2}; ¹Laboratory of Cognitive and Clinical Neurophysiology, Instituto Nacional de Neurología y Neurocirugía, ²Faculty of Psychology, Universidad Nacional Autónoma de México, ³Center for Cognitive and Brain Health, Northeastern University

Topic Area: ATTENTION: Auditory

Poster Session C (Ice Cream Social)

Sunday, March 8, 2026, 5:00 – 7:00 pm, Fairview/Kitsilano Ballrooms

C1 - Individual differences in sensory processing patterns and attention influence speech motor control in children

Rita Bishal¹ (bish9250@mylaurier.ca), Adrianna Molenaar¹, Nichole Scheerer¹; ¹Wilfrid Laurier University

Topic Area: ATTENTION: Auditory

C2 - Neural Signatures of Event Segmentation During Narrative Listening in Background Noise

Ryan Panella^{1,2} (ryan.panella@utoronto.ca), Aysha Motala³, Ingrid Johnsrude^{4,5}, Björn Herrmann^{1,2}; ¹Rotman Research Institute, Baycrest Academy for Research and Education, ²Department of Psychology, University of Toronto, ³Department of Psychology, University of Stirling, ⁴Department of Psychology, University of Western Ontario, ⁵School of Communication Sciences & Disorders, University of Western Ontario

Topic Area: ATTENTION: Auditory

C3 - Do inattention traits relate to N2 and P3b ERP responses to novel versus target stimuli? A comparative analysis of youth and young adults

Erin J. Panda¹ (epanda@brocku.ca), Holly A. Lockhart¹, Lauren Stepien¹, Zihang Bu¹, Tyler K. Collins¹, Tinashe Buckenham Dziva¹, Sidney J. Segalowitz¹, Ayda Tekok-Kilic¹, Brock University-Pathstone Mental Health Collaborative Research Program¹; ¹Brock University

Topic Area: ATTENTION: Development & aging

C4 - Does coherence facilitate memory encoding?

Justine A. Vorvis^{1,2} (justine.vorvis@mail.utoronto.ca), Julie Tseng², Katherine Duncan¹, Donald J. Mabbott^{1,2}, Amy S. Finn¹; ¹University of Toronto, ²The Hospital for Sick Children

Topic Area: ATTENTION: Development & aging

C5 - The exposome predicts youth sustained attention and attention-related brain network strength.

Nia Berrian^{1,2} (niab@uchicago.edu), Arielle S. Keller³, Alfred Chao², Andrew J. Stier⁴, Omid Kardan⁵, Tyler M. Moore⁶, Ran Barzilay^{6,7}, Marc G. Berman^{2,8}, Monica D. Rosenberg^{2,8}; ¹MSTP, University of Chicago Medicine, ²The University of Chicago, ³University of Connecticut, ⁴Sante Fe Institute, ⁵University of Michigan, ⁶University of Pennsylvania, ⁷Children's Hospital of Philadelphia, ⁸Neuroscience Institute, The University of Chicago

Topic Area: ATTENTION: Development & aging

C6 - Audiovisual Simultaneity Judgment Training Improves Cortical Efficiency

Andrew Kim¹ (andrew.s.kim@vanderbilt.edu), Ansley Kunnath^{2,3}, Nabin Koirala⁴, Mark Wallace^{1,3}, Rene Gifford⁵; ¹Vanderbilt University, ²Vanderbilt University School of Medicine, ³Vanderbilt Brain Institute, ⁴Child Study Center, Yale School of Medicine, ⁵Hearts for Hearing

Topic Area: ATTENTION: Multisensory

C7 - Unfolding the Wandering Mind: Deconvolving Fixation-Related Potentials Reveals Early and Late Attentional Decoupling During Natural Reading

Lincoln Lewis Esquerre¹ (llewises@uvm.edu), Haorui Sun¹, Dave Jangraw¹; ¹University of Vermont Glass Brain Lab

Topic Area: ATTENTION: Multisensory

C8 - Guiding attention to fixed-feature singletons: Top-down control settings for features and singletonness.

Rebecca Carson¹ (rrc15@sfu.ca), John McDonald¹; ¹Simon Fraser University

Topic Area: ATTENTION: Other

C9 - Context Matters: Accuracy Shapes the Link Between Neural Variability and Behavior in ADHD

Alessandra DallaVecchia¹, Nicolas Zink^{1,2}, Christian Beste³, Agatha Lenartowicz¹; ¹University of California, Los Angeles, California, USA, ²Humboldt-Universität zu Berlin, Berlin, Germany, ³Dresden University of Technology, Dresden, Germany

Topic Area: ATTENTION: Other

C10 - Spatiotemporal Profile of the Temporoparietal Junction in Theory of Mind: Insights from Intracranial EEG

Shweta Soni¹ (shwetanbr@gmail.com), Paolo Federico¹, Walter Hader¹, Julia W.Y. Kam¹, Fady Girgis¹; ¹University of Calgary

Topic Area: ATTENTION: Other

C11 - Effect of working memory load on smooth pursuit eye movements

Beatrix Culligan¹ (beatricxculligan@gmail.com), Serena Bunin^{1,2}, Hui Mei Chow¹; ¹St. Thomas University, ²University of Guelph

Topic Area: ATTENTION: Other

C12 - Theta-rhythmic dynamics in human thalamus and cortex during cued visuospatial attention

Emily Cunningham¹, Cindy Lustig¹, William Stacey¹, David Brang¹; ¹University of Michigan

Topic Area: ATTENTION: Spatial

C13 - Sex Differences in Childhood Trauma and Medical Comorbidities in Individuals with Psychosis: A Bipolar-Schizophrenia Network Study

Prachi Patel¹ (ppatel44@bidmc.harvard.edu), Rebekah Trotti¹, Brendan Stiltner¹, Victor Zheng¹, Pegah Seif¹, David Parker², Elliot Gershon³, Godfrey Pearson⁴, Sarah Keedy³, Brett Clementz², Carol Tamminga⁵, Matcheri Keshavan¹, Elisabetta del Re¹; ¹Department of Psychiatry, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, USA., ²Departments of Psychology and Neuroscience, Bioluminescence Research Center, University of Georgia, Athens, GA, USA., ³Department of Psychiatry and Behavioral Neuroscience, University of Chicago, Chicago, IL, USA., ⁴Departments of Psychiatry and Neuroscience, Yale University School of Medicine, New Haven, CT, USA., ⁵Department of Psychiatry, UT Southwestern Medical Center, Dallas, TX, USA.

Topic Area: EMOTION & SOCIAL: Development & aging

C14 - Molecular and Psychosocial Markers of Cognitive Resilience in a Super-Ager Cohort: Insights from Santiago, Chile

Angela C. Sierra¹ (angelacsierra2017@gmail.com), María Paulina Correa², Moisés Sandoval González², Lindsay Kobayashi³; ¹The Graduate Center of the City University of New York, ²Institute of Nutrition and Food Technology of the University of Chile, ³University of Michigan School of Public Health

Topic Area: EMOTION & SOCIAL: Development & aging

C15 - Rhythm of Connection: Music-Based Intervention to Slow Cognitive Decline in Nigerian Older Adults

Bolanle Otegbayo¹ (bolajimail@gmail.com); ¹University College Hospital(UCH), Ibadan

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C16 - Cross-Modal Auditory Habituation in Visual Affective Contexts

Hafsa B. Siddiqui¹ (hasiddiq@lakeheadu.ca), James H. Kryklywy¹; ¹Lakehead University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C17 - Affective Framing of Information Influences Engagement, Donations, and Memory

Alyssa Sinclair¹ (sinclair.allie@gmail.com), Danielle Cosme¹, José Carreras-Tartak¹, Omayya Torres-Grillo¹, Benjamin Muzekani¹, Christian Benitez¹, Emily Falk¹; ¹University of Pennsylvania

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C18 - The effects of Heartfulness meditation on emotional and neural processes: Preliminary behavioral and fMRI findings

Shiqi He¹, Aravind Komuravelli^{2,4}, Jayaram Thimmapuram^{3,4}, Jack Benton¹, Rebecca Elliott¹; ¹The University of Manchester, ²Mersey Care NHS Trust, ³WellSpan York Hospital, ⁴Heartfulness Institute

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C19 - Persistent deficits in attention errors and emotion regulation in young adults with a history of mTBI

Tala Tayem¹ (ttayem@uwaterloo.ca), Adam Cox², Myra Fernandes¹; ¹University of Waterloo, ²Children's Hospital of Eastern Ontario

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C20 - A Topological Principle of Parent-Child Brain Morphological Similarity

Qingyi Li¹ (qingyil@vt.edu), Ya-Yun Chen¹, Tae-Ho Lee^{1,2}; ¹Department of Psychology, Virginia Tech, ²School of Neuroscience, Virginia Tech

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C21 - Socioeconomic status and emotion regulation: A systematic review and meta-analysis

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Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C22 - The Effect of Emotional Valence on Directed Forgetting and Source Memory

Bianka Bernhofer¹, James Randle¹; ¹Arden University, UK

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C23 - Psychopathology and Dimensional Anxiety Shifts Brain State Landscapes Away From Affective-Control Attractor Dynamics

Chichi Chang¹ (cc4870@columbia.edu), Stone Su¹, Hengda He¹, Paul Sajda¹; ¹Columbia University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C24 - Redemptive narratives are contagious: Positivity in personal memories of hardship emerges after learning about others' redemptive life events.

Dhaval Bhatt¹ (dhaval.b@columbia.edu), Meghan Meyer¹; ¹Columbia University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

C25 - Resting-State Functional Connectivity of Brain Areas Related to Empathy Influenced by Sensory Processing Sensitivity

Amanda M. McQuarrie¹, Lorna S. Jakobson¹, Stephen D. Smith^{1,2}; ¹University of Manitoba, ²University of Winnipeg

Topic Area: EMOTION & SOCIAL: Emotional responding

C26 - Inhibitory Control Network Connectivity and Social Adjustment After Pediatric Brain Tumour Treatment

Katie Wade Alonso^{1,2,3} (katie.wadealonso@sickkids.ca), Laura Ferlanti^{1,2}, Fatma Al-Rubeye^{1,2}, Michael Zara^{1,2}, Julie Tseng^{1,2}, Eden Cohen^{1,2}, Suzanne Laughlin², Donald J Mabbott^{1,2,3}; ¹Neurosciences and Mental Health Program, ²The Hospital for Sick Children, ³The Department of Psychology, University of Toronto

Topic Area: EMOTION & SOCIAL: Other

C27 - Behavioral and neural mechanisms of face identity learning and generalization: a magnetoencephalography (MEG) study

Jieun Cho¹ (jieun.cho@ubc.ca), Sung Jun Joo², Sang Chul Chong³, Hee Yeon Im^{1,4}; ¹University of British Columbia, ²Pusan National University, ³Yonsei University, ⁴BC Children's Hospital Research Institute

Topic Area: EMOTION & SOCIAL: Person perception

C28 - Effects of loneliness on ERP responses to supportive speechLuisa Elena Hernández Melo¹*(luisa.hernandezmelo@mail.mcgill.ca)*, Marc D. Pell¹; ¹McGill University

Topic Area: EMOTION & SOCIAL: Person perception

C29 - The Long Shadow of Childhood Trauma: Associations with Self-Esteem in Emerging AdultsAram Akbari¹ (*aram.akbari@bruins.belmont.edu*), Ella Seely², Dara Olopade³, Jasmine Clark⁴, Helan Al⁵, Jasper Walsh Belliveau⁶, Alex Bertsekas⁷, Vincent Flegeance⁸, Michael Oliver, PhD⁹; ¹Belmont University,

Topic Area: EMOTION & SOCIAL: Self perception

C30 - Exploring Gait Related Changes in Brain Activation in Super MoversMaya Hoff¹, Joe Verghese², Pierfilippo De Sanctis¹; ¹Albert Einstein College of Medicine, ²Renaissance School of Medicine at Stony Brook University

Topic Area: EXECUTIVE PROCESSES: Development & aging

C31 - EEG Decoding of Goal Representations During Multistep ActionsBettina Bustos¹ (*bettinanicolebustos@gmail.com*), Jiefeng Jiang, Eliot Hazeltine; ¹University of Iowa, Psychological and Brain Sciences

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

C32 - Neighbourhood disadvantage and neural correlates of inhibitory control in early adolescenceLisa Brooks¹ (*lab1@ualberta.ca*), Jaron Tan¹, Pan Liu¹; ¹University of Alberta

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

C33 - Memory suppression training improves sleep qualities and mental health outcomesXibo ZUO¹ (*u3011276@connect.hku.hk*), Xiao Yi¹, Keying LIU², Xiaoqing HU¹; ¹Department of Psychology, The University of Hong Kong, Hong Kong SAR, China, ²Queen Square Institute of Neurology, University College London, London, United Kingdom

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

C34 - Mind-Wandering Partially Mediates the Relationship Between Psychedelic Use and Enhanced Cognitive Flexibility: An Online Survey in University StudentsStefanie Todesco¹ (*todescos@student.ubc.ca*), Christian Schütz^{1,2}; ¹University of British Columbia, ²British Columbia Mental Health & Substance Use Services

Topic Area: EXECUTIVE PROCESSES: Other

C35 - Chunking in Verbal Learning is Linked to Prefrontal Cortex DevelopmentParker Younger^{1,2} (*parker.younger@utdallas.edu*), David Chen³, Noa Ofen^{1,2,3}; ¹The University of Texas at Dallas, Dallas, TX, ²Center for Vital Longevity, Dallas, TX, ³Wayne State University, Detroit, MI

Topic Area: EXECUTIVE PROCESSES: Working memory

C36 - Priority-Driven Transformation of Visual Working Memory ContentJung Woo Hur¹ (*jhur9@wisc.edu*), Brad Postle¹; ¹University of Wisconsin-Madison

Topic Area: EXECUTIVE PROCESSES: Working memory

C37 - Testing the causal role of traveling waves in short-term memory with tDCSJenna N. Pablo¹ (*jpablo@unr.edu*), Arianna Thoksis¹, Ali Caron¹, Marian E. Berryhill¹, Edward F. Ester¹; ¹University of Nevada, Reno

Topic Area: EXECUTIVE PROCESSES: Working memory

C38 - Cognitive Modes Detectable by fMRI during the Sternberg TaskErica Zeng^{1,2} (*ericayzeng@gmail.com*), Linda Chen¹, Eva Feredoes³, John Shakk², Todd S. Woodward^{1,2}; ¹University of British Columbia, Canada, ²BC Mental Health and Substance Use Services, Canada, ³University of Reading, United Kingdom

Topic Area: EXECUTIVE PROCESSES: Working memory

C39 - Neural activation mediates age-related differences in cognition across memory domainsXiaoxiao Sun^{1,2} (*xiaoxiao.sun@columbia.edu*), Xiaoyu Ye¹, Kavya Jhaveri¹, Zhiyu Sun¹, Leila Simani², Paul Sajda^{1,2}, Victoria M. Leavitt²; ¹Columbia University, ²Columbia University Irving Medical Center

Topic Area: EXECUTIVE PROCESSES: Working memory

C40 - Tracking Words in Noise: How Classroom Acoustics Shape Children's Statistical Learning of Speech

Meli R. Ayala¹ (aayala@udel.edu), Jacob P. Momser², Xinyi Zoe Mao³, Jennie K. Grammer³, Julie M. Schneider³; ¹University of Delaware, ²Yale University, ³University of California, Los Angeles

Topic Area: LANGUAGE: Other

C41 - Divergent sentence processing strategies following mild traumatic brain injury: evidence from pupillometry

Addison Vogt¹ (vogt17@purdue.edu), Ileana Ratiu², Arianna LaCroix¹; ¹Purdue University, ²Arizona State University

Topic Area: LANGUAGE: Other

C42 - Language-based statistical learning is a stable individual trait

Amiya Aggarwal¹ (aaggar7@uwo.ca), Laura Batterink¹; ¹University of Western Ontario

Topic Area: LANGUAGE: Other

C43 - Presurgical right-hemisphere language network connectivity predicts spared language function after left-hemisphere tumor surgery.

Emma Strawderman^{1,2} (emma_strawderman@umc.rochester.edu), Conor O'Hara², Madalina Tivarus², Michelle C. Janelins², Tyler Schmidt², Kevin A. Walter², Webster H. Pilcher², Bradford Z. Mahor^{2,3}, Frank E. Garcea^{2,4}; ¹University of Rochester School of Medicine and Dentistry, ²University of Rochester Medical Center, ³Carnegie Mellon University, ⁴University of Rochester

Topic Area: LANGUAGE: Other

C44 - Identifying Distinct Activation Patterns of Visual and Auditory Language Processing Across Reading Abilities

Addison Cavender¹ (addison.c.cavender@vanderbilt.edu), Sarah Hughes-Berheim¹, Catie Chang¹, Dario Englot^{1,2}, Laurie Cutting¹; ¹Vanderbilt University, ²Vanderbilt University Medical Center

Topic Area: LANGUAGE: Other

C45 - Predictive Control and Self-Monitoring in Covert and Overt Speech Explored with Intracranial Directed Connectivity

Taisha Donnelly¹ (taisha.donnelly@univ-grenoble-alpes.fr), Ioana Mîndruță^{2,3}, Andrei Barborica⁴, Andrei-Alexandru Vasiliu⁴, Romain Grandchamp¹, Jean-Baptiste Eichenlaub^{1,5}, Irina Oane^{2,3}, Monica Baci¹, H el ene L evenbruck¹; ¹Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, LPNC, Grenoble, France, ²Epilepsy Monitoring Unit, Department of Neurology, Emergency University Hospital Bucharest, Bucharest, Romania, ³Department of Clinical Neuroscience, Carol Davila University of Medicine and Pharmacy

Bucharest, Bucharest, Romania, ⁴Department of Physics, University of Bucharest, Bucharest, Romania, ⁵Institut Universitaire de France (IUF), Paris, France

Topic Area: LANGUAGE: Other

C46 - How Representational Geometry Aligns Between Brains and Anchors to Semantics During Live Verbal Communication

Yulei Shen¹ (yulei.shen@riken.jp), Takahiko Koike¹; ¹Inter-Individual Brain Dynamics Collaboration Unit, Center for Brain Science, RIKEN.

Topic Area: LANGUAGE: Semantic

C47 - N400 Splitting Reveals Unexpectedly Early Effects of Semantics on ERPs

Pinning He^{1,2} (pinning.he@mail.mcgill.ca), J. Bruno Debruille^{1,2}; ¹McGill University, ²Douglas Mental Health University Institute

Topic Area: LANGUAGE: Semantic

C48 - Poor sleep habits in adolescents are associated with disrupted memory encoding and sleep-dependent offline consolidation

Rebecca Crowley¹ (becky.crowley@rhul.ac.uk), Jessie Ricketts¹, Lisa Henderson², Gareth Gaskell², Jakke Tamminen¹; ¹Royal Holloway, University of London, United Kingdom, ²University of York, United Kingdom

Topic Area: LONG-TERM MEMORY: Development & aging

C50 - Connectome-based modelling of inter-individual variability in perceptual and mnemonic fidelity in healthy ageing

Helena M. Gellersen^{1,2,3} (hg424@cam.ac.uk), Isabella Hendricks^{2,4}, Elora Graham², Richard N. Henson^{1,5}, Jon S. Simons²; ¹MRC Cognition and Brain Sciences Unit, University of Cambridge, UK, ²Department of Psychology, University of Cambridge, UK, ³German Center for Neurodegenerative Diseases, Magdeburg, Germany, ⁴Columbia University Vagelos College of Physicians and Surgeons, New York, USA, ⁵Department of Psychiatry, University of Cambridge, UK

Topic Area: LONG-TERM MEMORY: Development & aging

C51 - Category learning in adults but not children benefits from delayed introduction of exceptions

Jessie Song¹ (jjaxinjessie.song@mail.utoronto.ca), Frida Printzlau¹, Sagana Vijayarajah¹, Dana Huang¹, Stephanie Cardillo¹, Margaret L. Schlichting¹, Michael L. Mack¹; ¹University of Toronto

Topic Area: LONG-TERM MEMORY: Development & aging

C52 - Sex and menopause differences in how hippocampal subfield volumes predict spatial source memory at midlife

Sara Ahmed¹ (sara2.ahmed@torontomu.ca), Savannah Tremblay^{2,5}, Sricharana Rajagopal¹, Julia Kearley³, Rosanna K. Olsen^{4,5}, M. Natasha Rajah¹; ¹Toronto Metropolitan University, ²University of Toronto, ³McGill University, ⁴Rotman Research Institute, ⁵Baycrest Academy for Research and Education

Topic Area: LONG-TERM MEMORY: Development & aging

C53 - Effects of amnesic mild cognitive impairment on cardiac manipulations of familiarity and interoception

Hannah Del Gatto^{1,2} (hdelgatto@research.baycrest.org), Evi Myftaraj^{1,2}, Nicole Anderson^{1,2}; ¹Rotman Research Institute, ²University of Toronto

Topic Area: LONG-TERM MEMORY: Development & aging

C54 - Delaying exception introduction enhances children's hippocampal engagement during category learning

Sagana Vijayarajah¹, Michael L. Mack, Margaret L. Schlichting; ¹University of Toronto

Topic Area: LONG-TERM MEMORY: Development & aging

C55 - How Does Race Influence the Hypertension–Cognition Link? Evidence From Two Community-Level Cohort Studies

Michael Oliver¹ (michael.oliver@belmont.edu), Jessica Hocking¹, Katja Gehr¹, Marquinta Harvey¹; ¹Belmont University

Topic Area: LONG-TERM MEMORY: Development & aging

C56 - Effects of an acute exercise intervention on levels of hippocampal GABA and Glx in young and older adults

Owen Benzley¹ (owen.benzley@utah.edu), Abigail White¹, Jet Taylor¹, Anke Van Roy¹, Xiaoxi Pan¹, Ryder Robins¹, Richard AE Edder², Ying Li¹, Alan Maschek¹, Adriana Coletta¹, Genevieve Albouy¹, Bradley R. King¹; ¹University of Utah, ²Johns Hopkins School of Medicine

Topic Area: LONG-TERM MEMORY: Development & aging

C57 - Effects of chronic trazodone administration on cognitive performance in the APPNL-F mouse model of Alzheimer's disease

Robert Gibson^{1,2} (robert_gibson_2@sfu.ca), Taha Yildirim^{1,2}, Hillary Han¹, Kiana Shakiba¹, Artemis Kohanfekr¹, Sofiya Soboleva¹, Daniela Purvica¹, Sarah McGuire¹, Dana Braynina¹, Jefferey Yue^{1,2}, Mayuko Ara^{1,3}, Brianne Kent^{1,2}; ¹Simon Fraser University, ²Institute for Neuroscience and Neurotechnology, ³University of California, Davis

Topic Area: LONG-TERM MEMORY: Development & aging

C58 - Interaction between Residential Segregation and Genetic Susceptibility to Alzheimer's Disease Among Racially and Ethnically Diverse Older Adults

Yemi L. Tchala¹, Abbey M. Hamlin¹, Vincent T. Holm¹, Christian J. Jackson¹, Alexandra L. Clark¹; ¹University of Texas at Austin

Topic Area: LONG-TERM MEMORY: Development & aging

C59 - Network Activation During Sleep Slow Oscillations Differs Based on Their Coupling with Spindles.

Sounak Dey^{1,2} (sounakd2@illinois.edu), Sara Mednick³, Paola Malerba^{2,4}; ¹Carle Illinois College of Medicine, ²The Research Institute at Nationwide Children's Hospital, ³University of California Irvine, ⁴The Ohio State University School of Medicine

Topic Area: LONG-TERM MEMORY: Episodic

C60 - Dream incorporation of emotional and narrative movie features during sleep

Jessica Palmieri¹ (jessica.palmieri@psychologie.uni-freiburg.de), Tobias Debor¹, Susanne Fritz¹, Lea Velthuysen¹, Georgina Reichelt¹, Monika Schönauer¹; ¹University of Freiburg, Department of Psychology, Freiburg im Breisgau, Germany

Topic Area: LONG-TERM MEMORY: Episodic

C61 - Arousal state modulation of human hippocampal ripples across wake and sleep

Elizabeth M. Siefert¹ (sieferte@pennmedicine.upenn.edu), Yvonne Y. Chen², Kathryn A. Davis¹, H. Issac Chen¹, Anna C. Schapiro¹, Brett L. Foster¹; ¹University of Pennsylvania, ²University of Nevada, Las Vegas

Topic Area: LONG-TERM MEMORY: Episodic

C62 - The American Dream: Election Night Dreams Predict Overnight Change in Feelings about the Election and the Future

William H. Livingston¹ (will.livingston0@furman.edu), Adam L. Putnam¹, Erin J. Wamsley¹; ¹Furman University Department of Psychology

Topic Area: LONG-TERM MEMORY: Episodic

C63 - Reactivating spatial memories during sleep using multi-sensory cueing and an immersive virtual environment

Gautam Narayan^{1,2} (narayag1@uci.edu), Amit Sofer³, Hansen Zhang^{1,2}, Evelyn M. Le^{1,2}, Christian Piedra^{1,2}, Kara Syn^{1,2}, Matthew Cho^{1,2}, Katharine C. Simon^{2,4,5}, Anat Arzi³, Eitan Schechtman^{1,2},
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Topic Area: LONG-TERM MEMORY: Episodic

C64 - Adjacent but Dissociable: Content-selective and generic retrieval-related effects

Sarah Monier¹ (sxm200026@utdallas.edu), Marianne de Chastelaine¹, Ambereen Kidwai¹, Michael D. Rugg¹; ¹The University of Texas at Dallas

Topic Area: LONG-TERM MEMORY: Episodic

C65 - Gradients of Hippocampal-Cortical Connectivity Capture Traits in Autobiographical Memory

Shikang Peng^{1,2} (speng@research.baycrest.org), Bradley Buchsbaum^{1,2}, Brian Levine^{1,2}, ¹Rotman Research Institute, Baycrest Academy and Education, ²University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

C66 - Neural Signatures of False and Veridical Remembering for Faces Shared by Perceptual and Semantic Similarity: A Preliminary fMRI Study

Asa Umeda¹ (umeda.asa.35y@st.kyoto-u.ac.jp), Akiho Kamo¹, Takashi Tsukiura¹; ¹Kyoto University

Topic Area: LONG-TERM MEMORY: Episodic

C67 - Distinct Neural Pathway for Knowledge- and Event-Based Social Impression Formation

Akiho Kamo¹ (kamo.akiho.48r@st.kyoto-u.ac.jp), Moe Mihara¹, Takashi Tsukiura¹; ¹Kyoto University

Topic Area: LONG-TERM MEMORY: Episodic

C68 - Effects of Self-Other Perspectives on Neural Mechanisms Underlying Survival-Related Memory Enhancement

Yasuko Shiomi¹ (yasukoshiomi.otenki@gmail.com), Akiho Kamo¹, Moe Mihara¹, Takashi Tsukiura¹; ¹Kyoto University

Topic Area: LONG-TERM MEMORY: Episodic

C69 - Memory reactivation during slow oscillation up-state was associated with reduced sigma-band entropy

Zexuan Mu¹ (evokee@connect.hku.hk), Sen Mu¹, Xiaoqing Hu¹; ¹University of Hong Kong

Topic Area: LONG-TERM MEMORY: Episodic

C70 - Neural Signatures of Event Boundary Effects in Episodic Memory Retrieval

Doruntinë Zogaj¹ (doruntine.zogaj@uni-saarland.de), Regine Bader¹, Axel Mecklinger¹; ¹Saarland University, Germany

Topic Area: LONG-TERM MEMORY: Episodic

C71 - Temporal Flow of Emotional Experiences Influences How Neutral Cues Reconstruct Memory

Chantelle Cocquyt¹ (ccocquyt@psych.ubc.ca), Isabel Wilson¹, Khushi Sharma¹, Daniela Palombo^{1,2}; ¹University of British Columbia, ²Djavad Mowafaghian Centre for Brain Health

Topic Area: LONG-TERM MEMORY: Episodic

C72 - Semantic and episodic memory retrieval as internal attention

Matthew Bair¹ (www5kc@virginia.edu), Nicole Long¹; ¹University of Virginia

Topic Area: LONG-TERM MEMORY: Episodic

C73 - How do children represent the world? Examining representational similarity for repeated and related stimuli in children and adults

Bailey Agard¹, Amy S. Finn¹; ¹University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

C74 - ERP Evidence for Distinct Temporal Dynamics of Masked Conceptual and Repetition Priming in Recognition Memory

Hera Y-J Baek¹ (younji.baek@manchester.ac.uk), Alex Kafkas¹, Jason R Taylor¹; ¹University of Manchester

Topic Area: LONG-TERM MEMORY: Episodic

C75 - Visual attention's role in memory interference and hippocampal repulsion

America Romero¹ (america@uoregon.edu), Soroush Mirjalili¹, Brice Kuhl¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

C76 - Hippocampal modulation via indirectly targeted noninvasive stimulation is intensity-dependent and region-selective

Arantazu San Agustín¹ (asanagustin@uchicago.edu), Robert B. Baudo¹, Johanna M.H. Rau¹, James E. Kragel¹, Joel L. Voss¹;
¹University of Chicago

Topic Area: LONG-TERM MEMORY: Episodic

C77 - Distinct roles of the anterior and posterior medial temporal lobe in memory retrieval revealed by intracranial EEG

Qin Yin¹ (qin.yin@utdallas.edu), Elizabeth Johnson², Robert Knight³, Eishi Asano^{4,5}, Noa Ofen^{1,5}; ¹University of Texas at Dallas, Dallas, TX, ²Northwestern University, Chicago, IL, ³University of California, Berkeley, CA, ⁴Children's Hospital of Michigan, Detroit, MI, ⁵Wayne State University, Detroit, MI

Topic Area: LONG-TERM MEMORY: Episodic

C78 - Decoding Memory from Empty Space: Neural Reactivation During Gaze Reinstatement

Hannah Herschel¹ (hannah.herschel@psy.lu.se), Andrey R. Nikolaev¹, Bardur Hofgaard Joensen¹, Inês Bramão¹, Roger Johansson¹, Mikael Johansson¹; ¹Lund University

Topic Area: LONG-TERM MEMORY: Episodic

C79 - Remembering when: neural mechanisms underlying repetition effects

Yoonjung Lee¹, Futing Zou², J. Benjamin Hutchinson¹, Brice A. Kuhl¹; ¹University of Oregon, ²Brown University

Topic Area: LONG-TERM MEMORY: Episodic

C80 - Emotions in motion: The influence of emotions on memory for videos

Priscilla Castillo-Madrigal¹, Lily Yoder¹, Regan Christian¹, Carmen E Westerberg¹; ¹Texas State University

Topic Area: LONG-TERM MEMORY: Episodic

C81 - Effects of Medial Temporal Lobe Damage on Autobiographical Memory: A Meta-Analysis of Studies Using the Autobiographical Interview

Krista Mitchnick¹ (kmitchnick@research.baycrest.org), Jennifer Zhavoronkova², Mona Eskandaripour³, Stephanie Simpson⁴, Brian Levine¹; ¹Rotman Research Institute at Baycrest, ²University of Ottawa, ³University of Toronto, ⁴Centre for Addiction and Mental Health

Topic Area: LONG-TERM MEMORY: Episodic

C82 - Using Virtual Scenes to Examine the Neural Correlates of Spatial Recognition Memory

Katherine McNeely-White¹ (kmcneelywhite@ucdavis.edu), Catherine Liégeois-Chauve², Anne Cleary³, Noah Okada⁴, Raul Castillo Astorga¹, Joseph Neissel⁵, Daniel Drane⁶, Nigel Pedersen¹;
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Topic Area: LONG-TERM MEMORY: Episodic

C83 - Astrocytic role in second-order threat conditioning in the amygdala-piriform cortex circuit

Negar Nazari¹ (nnazari@mun.ca), Tayebeh Sepahvand¹, Tian Qin¹, Qi Yuan¹; ¹Faculty of Medicine, Memorial University of Newfoundland

Topic Area: LONG-TERM MEMORY: Other

C84 - Modelling Strength-Based Representations in Memory Using Spiking Neural Networks

Patrick Tsapoitis¹ (patrick.tsapoitis@uwaterloo.ca), Jakeb Chouinard¹, Myra Fernandes¹; ¹University of Waterloo

Topic Area: LONG-TERM MEMORY: Other

C85 - From flexible to anticipatory processing: alpha and beta oscillatory signatures of feedback-guided strategy adaptation and memory updating

Maya Al Safadi¹ (almy055@mymail.unisa.edu.au), Alex Chatburn¹, Zachariah Cross², Ina Bornkessel-Schlesewsky¹; ¹Adelaide University, Adelaide, Australia, ²La Trobe University, Melbourne, Australia

Topic Area: LONG-TERM MEMORY: Other

C86 - Feedforward and reconstructive computations engage dissociable neural modules during memory encoding

Gracie Shao¹ (gshao02@student.ubc.ca), Aalap Shah², Ilker Yildirim², Qi Lin³; ¹University of British Columbia, ²Yale University, ³Institute for Basic Science, Republic of Korea

Topic Area: LONG-TERM MEMORY: Other

C87 - Rehearsal supports the rapid emergence of semantic and detail-rich memories in the neocortex

Lena Schroeder¹ (lena.schroeder@tuebingen.mpg.de), Svenja Klinkowski², Sebastian Müller¹, Svenja Brodt¹; ¹Max Planck Institute for Biological Cybernetics, ²University of Tübingen

Topic Area: LONG-TERM MEMORY: Other

C88 - Two wrongs make a right? Electrophysiological and behavioural comparisons of reward prediction error and prediction error in memory consolidation

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Topic Area: LONG-TERM MEMORY: Semantic

C89 - Unsupervised Machine Learning Identifies Unique Brain Structural Markers of Learning on a Gamified Working Memory Task in Older Adults

Dr. Chandramallika Basak¹ (cbasak@utdallas.edu), Soham Ghaisas², Yiyao Liu¹, Anirudh Sowrirajan³, Kshitij Jhadhav³; ¹Center for Vital Longevity, ²Sardar Patel Institute of Technology, ³Indian Institute of Technology Bombay

Topic Area: LONG-TERM MEMORY: Skill Learning

C90 - Enhanced Cognitive Processing in Musicians: A Comparative ERP Study of Executive Functions

Manal LAMOUIE¹ (manallamouine95@gmail.com), Jannifer A. Bugos²; ¹Al Akhawayn University Ifrane, ²University of South Florida

Topic Area: METHODS: Electrophysiology

C91 - Dynamic Temporal Alignment of EEG and Music: A Novel Framework for Real-Time Music Cognition Research

Oguzhan Tugral¹ (otugral@umass.edu); ¹University of Massachusetts Amherst - Department of Music and Dance

Topic Area: METHODS: Electrophysiology

C92 - A multi-stage real-time pipeline for intraoperative iEEG processing and functional mapping

Teruaki Kimishima¹ (kimishim@umich.edu), Emily Cunningham¹, David Brang¹, Shawn Hervey-Jumper²; ¹University of Michigan, ²University of California, San Francisco

Topic Area: METHODS: Electrophysiology

C93 - Short-Range Structural Connectivity Supports Local Structure–Function Coupling in Functional Network Patches Mapped with Precision Functional Mapping

Parsa Nilchian^{1,2} (pan4004@med.cornell.edu), Megan Chang¹, Keith Jamison¹, Charles Lynch¹, Immanuel Elbau¹, Conor Liston^{1,2}; ¹Weill Cornell Medicine, ²Tri-Institutional MD-PhD Program

Topic Area: METHODS: Neuroimaging

C94 - Quality Assessment of Task-Based fMRI Data Obtained Using Single-Echo and Multi-Echo Sequences

John Shahki^{1,2} (jshahki@gmail.com), Mariana Mascarenhas^{1,2}, Abhijit Chinchani^{1,2}, Laura Barlow¹, Elham Shahinfard¹, Vesna Sossi¹, Irene Vavasour¹, Ellen Chen¹, Solana Redway^{1,2}, Dolphin Chan^{1,2}, Erica Zeng^{1,2}, Ava Momeni^{1,2}, Todd S. Woodward^{1,2}; ¹University of British Columbia, Canada, ²BC Mental Health and Substance Use Services Research Institute, Canada

Topic Area: METHODS: Neuroimaging

C95 - Neuroimaging Biomarkers for Predicting Substance Use Trajectories in Adolescents: Insights from the ABCD Study

Alex Xinyue Teng¹ (xinyue.teng@manchester.ac.uk), Rebecca Elliott¹, Tim Cootes¹; ¹University of Manchester

Topic Area: METHODS: Neuroimaging

C96 - Comparing voxel- and deformation-based morphometry in pediatric ADHD

Connor Watkinson¹ (connor.watkinson@siu.edu), Michelle Y. Kibby¹; ¹Southern Illinois University Carbondale

Topic Area: METHODS: Neuroimaging

C97 - From Empirical to Simulated Brains: Using Digital Twin Models to Identify Therapeutic Targets in MCI

Jinyu Wang¹ (jinyu.wang.csu@gmail.com), Kim Cuong Tran Dang¹, Psyche Lou¹; ¹Northeastern University

Topic Area: METHODS: Neuroimaging

C98 - White matter integrity in early midlife women with bilateral salpingo-oophorectomy

Sophia Zhao¹ (sophiayt.zhao@mail.utoronto.ca), Lindsey Thurston¹, Michael Howard¹, Gillian Einstein^{1,2}; ¹University of Toronto, ²Rotman Research Institute, Baycrest Academy for Research and Education

Topic Area: METHODS: Neuroimaging

C99 - Endogenous estrogen levels moderate the effects of transcranial direct current stimulation on working memory

Eda Yavuz¹, Jill Noorily¹, Zeina Ghanem¹, Alexandra Gaynor¹; ¹Department of Psychology, Montclair State University

Topic Area: METHODS: Other

C100 - “Netflix” for Lucid Dreams: can preselected narrative cues during REM guide lucid dream content?

Claudia M. Gonciulea¹ (claudia.gonciulea.gr@dartmouth.edu), Jeremy R. Manning¹; ¹Dartmouth College

Topic Area: METHODS: Other

C101 - Can we reactivate a memory during sleep to improve respiration in people who stop breathing due to a sleep disorder?

Erika M. Yamazaki¹, Hrayr Attarian², Phyllis C. Zee^{1,2}, Ken A. Paller¹; ¹Northwestern University, ²Northwestern University, Feinberg School of Medicine

Topic Area: OTHER

C102 - Mental Time Travel without Visual Experience

Nadja Abdel Kafi^{1,2} (nadja.abdelkafi@dzne.de), Marie Malinowski², Anja Essmann², Pitshaporn Leelaarporn^{1,2}, Julia Taube^{1,2}, Sven Lange², Katharina Wall³, Bettina Wabbels³, Cornelia McCormick^{1,2}; ¹Department of Old Age Psychiatry and Cognitive Disorders, University Hospital Bonn, Bonn, Germany, ²German Center for Neurodegenerative Diseases, Bonn, Germany, ³Department of Ophthalmology, University Hospital Bonn, Bonn, Germany

Topic Area: OTHER

C103 - High field strength fMRI reveals Reward Prediction Error-based learning signals in the Ventral Tegmental Area

Negar Yazdi¹ (nyazdi2@uwo.ca), J Bruce Morton¹; ¹University of Western Ontario

Topic Area: OTHER

C104 - Interhemispheric EEG connectivity before and after callosotomy

Henri Etel Skinner^{1,2} (henri@ucsb.edu), Lukas J. Volz⁴, Tyler Santander^{1,2}, Selin Bekir¹, Christian G. Bien³, Michael S. Gazzaniga¹, Michael B. Miller^{1,2}, Barry Giesbrecht^{1,2}; ¹University of California, Santa Barbara, ²Institute for Collaborative Biotechnologies, ³Krankenhaus Mara, Bethel Epilepsy Center, Medical School OWL, Bielefeld University, Germany, ⁴Medical Faculty, University of Cologne, University Hospital Cologne, Germany

Topic Area: OTHER

C105 - Timbral context modulates the frequency following response

Praveena Satkunarajah¹ (psatkunaraja@mun.ca), Benjamin Zendel; ¹Memorial University of Newfoundland, St. John's, NL, CA

Topic Area: PERCEPTION & ACTION: Audition

C106 - Causal mechanisms linking the reward system to sleep-dependent memory consolidation

Sofia Simonetto-Rizk¹, Yanan Lui², Robert Zatorre², Emily Coffey¹; ¹Concordia University, ²McGill University

Topic Area: PERCEPTION & ACTION: Audition

C107 - Auditory hemispheric lateralization for speech and melody: from cortex to subcortex

J r mie Ginzburg^{1,2} (jeremie.ginzburg@mcgill.ca), Alberto Ara^{1,3}, Juliana Gelber¹, Philippe Albouy², Robert J Zatorre¹; ¹Montreal Neurological Institute, McGill University, Montreal, Canada, ²CERVO research center, Laval University, Qu bec, Canada, ³Department of Basic and Clinical Psychology and Psychobiology, Basic Psychology area, Universitat Jaume

Topic Area: PERCEPTION & ACTION: Audition

C108 - FNIRS resting-state frontoparietal dysconnectivity in older adults with MCI predicts spatial navigation in a virtual floor maze test

Ian McDonough¹ (imcdonough@binghamton.edu), Zahra Bassiri², Dalton Burchardt², Sunil Agrawal³, Joe Verghese⁴, Dario Martelli⁵; ¹Binghamton University, ²The University of Alabama, ³Columbia University, ⁴Stony Brook Neurosciences Institute, ⁵Medstar Health Research Institute

Topic Area: PERCEPTION & ACTION: Development & aging

C109 - Inverted U-shaped prefrontal activation during speech-in-noise perception reflects neural inefficiency in older adults

Maxime Perron¹ (maxime.perron@torontomu.ca), Danielle L. Kloepfer¹, Frank A. Russo^{1,2}; ¹Toronto Metropolitan University, ²University of Toronto

Topic Area: PERCEPTION & ACTION: Development & aging

C110 - The differential effects of ketamine on principal neurons and interneurons in the ventral posteromedial nucleus (VPM) of the thalamus

Yana M. Surtchev¹ (yana.mms@gmail.com), Audrey White¹, Gabe Holguin¹, Krystina Jorgensen¹, Andrew K. Tapia¹, Zoe H. Huestis¹, Sydney H. Marean¹, Katelyn Boone¹, Carol A. Barnes^{1,2}, Torsten Falk¹, Stephen L. Cowen^{1,2}; ¹University of Arizona, ²Evelyn F. McKnight Brain Institute

Topic Area: PERCEPTION & ACTION: Motor control

C111 - Functional Brain Networks Underlying Motor Area Activation During Motor Execution and Motor Imagery Tasks

Mariana Mendonca Mascarenhas^{1,2}, Solana Redway^{1,2}, Todd Stephen Woodward^{1,2}; ¹BC Mental Health and Addictions Research Institute, Vancouver, Canada, ²Faculty of Medicine, University of British Columbia, Vancouver, Canada

Topic Area: PERCEPTION & ACTION: Motor control

C112 - Elucidating the Neurodevelopment of Multisensory Integration in the Common Marmoset

James Wang¹ (james.wang@mail.mcgill.ca), Tyler Cook¹, Maeva Gacoin¹, Justine Clery¹; ¹McGill University

Topic Area: PERCEPTION & ACTION: Multisensory

C113 - Working Memory Prioritization Effects on Neurophysiological Mechanisms of Sensory and Motor Processing Using EEG

Allison N. Marino¹, Akina Umemoto¹, Timothy J. Ricker², Joshua Sandry¹; ¹Department of Psychology, Montclair State University, ²Department of Psychology, University of South Dakota

Topic Area: PERCEPTION & ACTION: Other

C114 - Striatal and hippocampal theta neuromodulation split human timing

Chenyang (Leo) Lin¹ (clin25@bu.edu), Wen Wen¹, Wai Zeng¹, Anna (Xinze) Zhang¹, Rui Cao^{1,2}, Sara Bissell¹, Shrey Grover¹, Jiating (Sophie) Zhu¹, Seth Schallies¹, Robert M.G. Reinhart¹; ¹Boston University, ²University of Tennessee Knoxville

Topic Area: PERCEPTION & ACTION: Other

C115 - How Semantic and Perceptual Information Shape Object Memorability

Rosa E. Torres¹ (rt18dk@brocku.ca), Karen L. Campbell¹, Stephen M. Emrich¹; ¹Brock University

Topic Area: PERCEPTION & ACTION: Vision

C116 - Does the Visual Word Form Area Exist for a Non-Latin Script?

Ahmet Cihan Uzun^{1,4} (ahmetcihanuzun@gmail.com), Adem Yazıcı^{2,4}, Ausaf Ahmed Farooqui^{1,2,4}, Sami Boudelaa³; ¹Department of Neuroscience, Bilkent University, Ankara, Türkiye, ²Department of Psychology, Bilkent University, Ankara, Türkiye, ³Department of Linguistics, United Arab Emirates University, Al Ain, United Arab Emirates, ⁴Aysel Sabuncu Brain Research Center (ASBAM) and National Magnetic Resonance Research Center (UMRAM), Bilkent University, Ankara, Türkiye

Topic Area: PERCEPTION & ACTION: Vision

C117 - Decoding neural activity patterns during perception and visual mental imagery

Alyssa M.L. Thibeault¹, Luke Atack¹, Stephen M. Emrich¹; ¹Brock University

Topic Area: PERCEPTION & ACTION: Vision

C118 - Aesthetic appreciation is modulated by emotional valence, psychological and physical distance of visual images

Tzu-Hsin Hsu¹ (rita112825009@g.ncu.edu.tw), Denise Hsien Wu²; ¹Institute of Cognitive Neuroscience, National Central University, Taiwan

Topic Area: PERCEPTION & ACTION: Vision

C119 - Is spontaneous level-1 visual perspective taking modulated by the constancy of another agent's presence?

Chen LI¹ (theodorjapan@gmail.com), Hiroyuki Muto¹; ¹Osaka Metropolitan University

Topic Area: PERCEPTION & ACTION: Vision

C120 - Age-Related Difference in Peripheral Information Benefits for Face Perception

M. Eric Cui^{1,2} (mcui@research.baycrest.org), Rojin Firooz^{1,3}, Konka Paul¹, Janet Pham¹, Yifei Wang¹, Sarah Creighton¹, Björn Herrmann^{1,2}, Allison Sekuler^{1,2,4}; ¹Rotman Research Institute, Baycrest Academy for Research and Education, ²Department of Psychology, University of Toronto, ³Department of Psychology, University of Toronto Scarborough, ⁴Department of Psychology, Neuroscience & Behaviour, McMaster University

Topic Area: PERCEPTION & ACTION: Vision

C121 - Neural and Behavioural Time Courses of Rapid Danger Detection

Kathleen Botha¹ (kathleen.a.botha@gmail.com), Freya Chaytor¹, Evelyn Young¹, Dominika Prihodova², Adrian Bartolome¹, Hee Yeon Im^{1,3}; ¹University of British Columbia, ²University of Edinburgh, ³BC Children's Hospital Research Institute

Topic Area: PERCEPTION & ACTION: Vision

C122 - Analyzing distinct and overlapping neural circuits that process spatial and non-spatial context cues during hierarchical decision-making

Omar Zeid¹ (ozeid3@gatech.edu), Eric Schumacher¹, Thackery Brown¹; ¹Georgia Institute of Technology

Topic Area: THINKING: Decision making

C123 - When Reward and Punishment are Both Present: Optimistic Learning Bias in Approach-Avoidance Conflict Reinforcement Learning

Haoyu (Allen) Zhang¹, Cendri Hutcherson¹, Yanxi (Elinor) Zhu², Charl Margaux Elcano¹, Zhen Wu², Rutsuko Ito¹, Andy Lee¹; ¹University of Toronto, ²Tsinghua University

Topic Area: THINKING: Decision making

C124 - Neural representations of metacognitive learning and the organization of future decision-making

Yoshinori Nanjo¹; ¹RIKEN Center for Brain Science, Japan,
²Hitotsubashi University, Japan

Topic Area: THINKING: Decision making

C126 - Effects of a memory-minimizing strategy on individual differences in neural activity during consumer decision making in older age

Louis J. Giacalone¹ (louisgiacalone2027@gmail.com), Christina Yu¹,
 Eric J. Juarez¹, Joanna Salerno¹, Kennedy A. Black¹, Elizabeth J.
 Marsh¹, Felipe De Brigard¹, Roberto Cabeza¹, Gregory R. Samanez-
 Larkin¹; ¹Duke University

Topic Area: THINKING: Development & aging

C127 - Associations between motivated learning and iron in brain tissue across adolescence

Brianna M. Aubrey¹ (aubrey.b@northeastern.edu), Nicholas
 Kathios¹, Kelsie L. Lopez¹, Erica Niemiec¹, Haley M. Hegefeld¹,
 Valur Olafsson¹, Francesca Morfini^{2,3}, Rebecca R. Hennessy⁴,
 Laurel J. Gabard-Dumam¹, Psyche Loui¹, Juliet Y. Davidow¹;
¹Northeastern University, ²McLean Hospital, ³Harvard Medical
 School, ⁴Emory University

Topic Area: THINKING: Development & aging

C128 - Fractionation of the default network during visual and verbal forms of imaginative thinking

Mariam Hovhannisyan¹ (mhovhannisyan@arizona.edu), Shanshan
 Ma¹, Matthew D. Grilli¹, Jessica R. Andrews-Hanna¹; ¹University of
 Arizona

Topic Area: THINKING: Other

C129 - Bluntly Speaking: The Influence of Cannabis on Thought Content and Dynamics

Jen Burrell¹ (jenbur@psych.ubc.ca), Alina Buschhueter², Hamidreza
 Jamalabadi², Kalina Christoff¹; ¹University of British Columbia,
²Philipps-Universität Marburg

Topic Area: THINKING: Other

Poster Session D

Monday, March 9, 2026, 8:00 – 10:00 am, Fairview/Kitsilano
 Ballrooms

D1 - Auditory task-related aperiodic EEG activity in autism spectrum disorder (ASD)

Miguel A. Velasquez¹, Mya V. Scott¹, Charlie R. Weinstein¹, Debra
 S. Karhson¹; ¹University of New Orleans

Topic Area: ATTENTION: Auditory

D2 - Math Among the Stars: an ERP Study of Narrative Framing Effects on Children's Arithmetic Processing

Sarah Martinez¹ (sarah-alyssa@live.com), Vanessa Cerda¹; ¹Texas
 A&M International University

Topic Area: ATTENTION: Development & aging

D3 - Modulation of Target-Related Spectral Dynamics Induced by Methylphenidate During an Oddball Task: A Pilot Study in a Mexican ADHD Population

Paloma Acacia Guzman Garcia^{1,2}, Claudia Xochitl Perez Ortiz¹,
 Ricardo Caraza¹; ¹Neurociencias Cognitivas y Neuroplasticidad,
 Hospital Zambrano-Hellion, ²Escuela de Medicina y Ciencias de la
 Salud, Tecnológico de Monterrey

Topic Area: ATTENTION: Development & aging

D4 - Attentional State, Not Trait, Predicts Learning from Educational Videos

Jens Madsen¹ (jmadsen@ccny.cuny.edu), Lucas Parra¹; ¹The City
 College of New York

Topic Area: ATTENTION: Multisensory

D5 - Attentional engagement strengthens the neural representation fidelity of narrative features

Anna Corriveau^{1,2} (corriveau@uchicago.edu), Jin Ke³, Monica D.
 Rosenberg^{1,2,4}; ¹Department of Psychology, University of Chicago,
²Institute for Mind and Biology, University of Chicago, ³Department of
 Psychology, Yale University, ⁴Neuroscience Institute, University of
 Chicago

Topic Area: ATTENTION: Multisensory

D6 - Effects of Perceptual Load on Sustained Attention States

Rodolfo Solís-Vivanco¹ (rsolis@innn.edu.mx), Louise Barne², Nilli
 Lavie³; ¹Instituto Nacional de Neurología y Neurocirugía, ²University
 of Cambridge, ³University College London

Topic Area: ATTENTION: Nonspatial

D7 - Neurophysiological basis underlying transition between attentional states

Sairamya Nanjappan Jothiraj¹ (sairamya.nanjappanjo@ucalgary.ca),
Julia Kam²; ¹Postdoctoral Associate, ²Associate Professor

Topic Area: ATTENTION: Other

D8 - Novelty-Driven Attentional Shifts During Concept Learning

Madeline Bloomberg¹ (madeline.bloomberg@mail.utoronto.ca),
Michael L. Mack¹; ¹University of Toronto

Topic Area: ATTENTION: Other

D9 - Cognitive modes underlying attentional control deficits in schizophrenia: A functional magnetic resonance imaging (fMRI) study

Madeleine Evora¹, Ava Momeni², Paul Metzak³, Aida Momeni⁴,
Amber Lu⁵, Helen Hsiao⁶, Todd S. Woodward⁷; ¹BC Mental Health
and Addictions Research Institute, ²Faculty of Medicine, University of
British Columbia, ³Hotchkiss Brain Institute, University of Calgary

Topic Area: ATTENTION: Other

D10 - Impaired slow temporal sampling and cortical network coordination during natural speech listening in children with developmental language disorder

Mahmoud Keshavarzi¹ (mk919@cam.ac.uk), Georgia Feltham¹, Lyla
Parvez¹, Susan Richards¹, Usha Goswami¹; ¹University of
Cambridge

Topic Area: ATTENTION: Other

D11 - Does a “wait-and-search” strategy account for the item heterogeneity benefit in multiple object tracking?

Rachel A. Eng¹ (engr@uoquelph.ca), Naseem Al-Aidroos¹, Lana M.
Trick¹; ¹University of Guelph

Topic Area: ATTENTION: Spatial

D12 - Decoding target validity in probabilistic cueing conditions using ERPs and alpha oscillations

Grace Lim¹, Lee A. Holcomb¹, Sreenivasan Meyyappan¹, Lana A.
Abreva¹, George R. Mangun¹; ¹University of California, Davis

Topic Area: ATTENTION: Spatial

D13 - APOE4-Related Alterations in Reward Circuitry and Prosocial Effort-Based Decision Making in Older Adults at Risk for Alzheimer's Disease

Caitlin Walker^{1,2} (caitlin.walker@mail.mcgill.ca), Garance Barnoin¹,
Mitchell Bennett¹, Jennifer Tremblay-Mercier³, Sylvia Villeneuve^{1,3},
PREVENT-AD Research Group³, Maiya Geddes^{1,2,3}; ¹McGill

University, ²Montreal Neurological Institute, ³Douglas Mental Health
University Institute

Topic Area: EMOTION & SOCIAL: Development & aging

D14 - Targeted memory reactivation of rescripted content during sleep to reduce intrusive memories of traumatic film content

Neda R. Morakabati^{1,2} (nmorakab@uci.edu), Ria Karve^{1,2}, Megan E.
Vermillion^{1,2}, Andrea S. Gutierrez^{1,2}, Maya Pourreza^{1,2}, Hannah H.
Kim^{1,2}, Eitan Schechtman^{1,2}; ¹University of California, Irvine, ²Center
for the Neurobiology of Learning and Memory, UC Irvine

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D15 - Affective neural processing during sleep correlates with depression symptoms

Eitan Schechtman¹, Xuanyi Lin², Matthew Cho¹, Ken Paller²;
¹University of California Irvine, ²Northwestern University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D16 - Conversational engagement predicts interpersonal neural synchrony

Peter C.H. Lam¹ (cheuk.lam@mail.mcgill.ca), Marcos E. Domínguez-
Arriola¹, Alejandro Pérez², Marc D. Pell¹; ¹McGill University,
²Universidad de La Laguna

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D17 - Adaptive Changes in Spontaneous Brain Activity After Virtual Reality Height Training in Healthy Individuals

LINGFEI GUAN^{1,2} (guan.lingfei.r5@dc.tohoku.ac.jp), Denilson
BRILLIANT T^{1,2}, Yuhui WANG³, Xiaoqian CHANG^{1,2}, Wenyu
ZHANG^{2,4}, Sachihito SHIRAHAMA^{1,2}, Yu'ang CHEN^{1,2}, Kazufumi
KARUBE^{1,2}, Ayumi TAKEMOTO^{2,4}, Motoaki SUGIURA^{2,4,5};
¹Graduate School of Medicine, Tohoku University, ²IDAC, Dept.
Tohoku University, ³Graduate School of Information Science, Tohoku
University, ⁴Cognitive Neuroscience Application Center, Tohoku
University, ⁵IRIDeS, Tohoku University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D18 - Comparing effects of reward and punishment motivational contexts on cognitive control and downstream memory

Kimberly S. Chiew¹ (kimberly.chiew@du.edu), Rachel E. Brough¹,
Sloan E. I. Ferron², Alyssa J. Asmar¹, Lucas Lattanzio³, Isabelle
Buard³; ¹University of Denver, ²Pennsylvania State University,
³University of Colorado-Anschutz

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D19 - When Avatars Go To School: The Effect of Virtual Reality on Learning

Lauren Barack¹ (lbarack@gmail.com); ¹The Graduate Center, CUNY

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D20 - Emotional contexts stored in long-term memory modulate delayed neural responses during scene recognition

Bo-Cheng Kuo¹ (bckuo@ntu.edu.tw), Ya-Chen Lin¹; ¹National Taiwan University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D21 - Inhibitory stimulation of the dorsolateral cortex impairs emotional regulation via disrupted frontoparietal and cingulo-opercular connectivity

Mirosław Wyczesany¹ (m.wyczesany@uj.edu.pl), Agnieszka K Adamczyk¹; ¹Jagiellonian University, Krakow, Poland

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D22 - Breathprints of bilingual proficiency: Exhaled Volatile Organic Compound (VOC) biomarkers and GSR indexed cognitive load in English and Hindi

Insha Amin^{1,2} (insha.amin@cacs.iitm.ac.in), Amrutha MS^{1,2}, Ankit Patel^{1,2}, Arjuman R Reshi^{1,2}, Aishwarya Singh^{1,2,3}, Rahul R. Marathe⁴, Ravikrishna R^{2,5}, Pengfei Liu⁶, Scot T. Martin⁷, Sachin S. Gunthe^{1,2}; ¹Environmental Engineering Division, Department of Civil Engineering, Indian Institute of Technology Madras, Chennai 600036, India, ²Centre for Atmospheric and Climate Sciences, Indian Institute of Technology Madras, Chennai 600036, India, ³Aerosol Chemistry Department, Max-Planck-Institute for Chemistry, Mainz 55128, ⁴Department of Management Studies, Indian Institute of Technology Madras, Chennai, India; ⁵Robert Bosch Center for Data Science and Artificial Intelligence, Chennai, India, ⁶Department of Chemical Engineering, Indian Institute of Technology Madras, Chennai 600036, India, ⁷School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, Georgia 30332-0340, United States, ⁸School of Engineering and Applied Sciences and Department of Earth and Planetary Sciences, Harvard University, Cambridge, Massachusetts 02138, United States

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D23 - Neural Correlates of Curiosity: A Scoping Review

Sarah Wene¹ (sw0661a@american.edu), Cassandra Ivie¹, Kou Murayama², Emily Peterson¹; ¹American University, ²University of Tübingen

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D24 - Machine Learning Decoding of Emotional Valence from Intracranial Cortical and Subcortical Electrophysiological Signals

Max Zhu¹ (max.zhu2@ucsf.edu), Jinxiao Zhang¹, Clay Smyth^{1,2}, Lexin Li², Philip Starr¹, Simon Little¹; ¹University of California, San Francisco, ²University of California, Berkeley

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D25 - Neural state shifts in response to changing affective context

Rohini Kumar¹ (rohini.kumar@emory.edu), Tejas Savalia¹, Alexandra Cohen¹; ¹Emory University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

D26 - Dynamic Reconfiguration of Large-Scale Brain Networks During Naturalistic Emotional Stimulation

Elena Skoullou¹, Hoshinori Kanazawa¹, Shogo Yonekura¹, Yasuo Kuniyoshi¹; ¹The University of Tokyo

Topic Area: EMOTION & SOCIAL: Emotional responding

D27 - Uncertain Hearts: Imprecise Interoceptive Beliefs in Alexithymia

Naho Suzuki^{1,2} (suzuki.naho@keio.jp), Satoshi Umeda^{3,4}, Yuri Terasawa^{3,4}; ¹Graduate School of Human Relations, Keio University, ²Japan Society for the Promotion of Science, ³Keio University Global Research Institute, ⁴Department of Psychology, Faculty of Letters, Keio University

Topic Area: EMOTION & SOCIAL: Other

D28 - White Matter Integrity and Creativity in the Aging Mind

Michelle L. Houston¹ (michelle.houston@vumc.org), Tara Kirkpatrick², James R. Houston², Katherine A. Gifford³, Kimberly R. Pechman¹, Niranjana Shashikumar¹, Bennett Landman¹, Elizabeth E. Moore⁴, Timothy J. Hohman¹, Angela L. Jefferson¹, Philip A. Allen⁵; ¹Vanderbilt University Medical Center, ²Middle Tennessee State University, ³Boston University, ⁴Mass General Brigham, ⁵University of Akron

Topic Area: EXECUTIVE PROCESSES: Development & aging

D29 - Does Bilingualism Protect against Cognitive Decline? Cross-sectional and Longitudinal Evidence from Ethnically Diverse Older Adults

Lihua Xia^{1,2} (lihuaxia@hust.edu.cn), Ina Demetriou², Kshipra Gurunandan², Karin Meeker³, Didac Vidal-Pineiro⁴, Richard Henson²; ¹Huazhong University of Science and Technology, ²MRC Cognition and Brain Sciences Unit, University of Cambridge,

³University of North Texas Health Science Center, ⁴University of Oslo

Topic Area: EXECUTIVE PROCESSES: Development & aging

D30 - Associations Between Early Life Adversity, Brain Aging Trajectories, and Impulsivity in Youth

Sripama Sen¹, Jamie Hanson¹; ¹University of Pittsburgh

Topic Area: EXECUTIVE PROCESSES: Development & aging

D31 - Neural Correlates of Menopause: An investigation of Working Memory and Grey Matter Volume Changes in the UK Biobank Database

Prerita Chawla¹, Harriet Allen², Lucy Cragg³; ¹University of Nottingham

Topic Area: EXECUTIVE PROCESSES: Development & aging

D32 - Neural and behavioral mechanisms of cognitive control in patients with movement disorders undergoing deep brain stimulation surgery

Archana Shashidhar Mysore¹ (amysore@uab.edu), Marshall Holland¹, Jasmine Thum¹, Harrison Walker¹, Nicole Bentley¹; ¹University of Alabama at Birmingham

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

D33 - Susceptibility to proactive interference contributes to depression-related episodic memory impairments across the adult lifespan.

Sarah E. Henderson¹, Kyoungun Lee², Alexandra L. Clark¹, Vionetta M. Dotson², Audrey Duarte¹; ¹University of Texas at Austin, ²Georgia State University

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

D34 - Neural evidence of suppression failure in working memory under high semantic activation

Edward Leung¹ (edjoeleung@utexas.edu), Jarrod Lewis-Peacock¹; ¹The University of Texas at Austin

Topic Area: EXECUTIVE PROCESSES: Working memory

D35 - The Neural Mechanisms of Working Memory Under Acute Stress

Jenna Al Taher^{1,2} (ja4261@nyu.edu), Gayathri Sathesh^{1,2}, Kartik K Sreenivasan^{1,2}; ¹Center for Brain and Health, New York University Abu Dhabi, ²Division of Science and Mathematics, New York University Abu Dhabi

Topic Area: EXECUTIVE PROCESSES: Working memory

D36 - Cardiovascular Risk Moderates the Association Between Traumatic Brain Injury Severity and Attention in Hispanic/Latino Adults

Alyssa Lawrence¹ (aharris9801@sdsu.edu), Ariana Stichel¹; ¹San Diego State University

Topic Area: EXECUTIVE PROCESSES: Working memory

D37 - Cortical latency predicts reading fluency from late childhood to early adolescence

Fang Wang¹ (fangwang@stanford.edu), Quynh Trang Nguyen¹, Blair Kaneshiro¹, Anthony Norcia^{2,3}, Bruce McCandliss^{1,2,3}; ¹Graduate School of Education, Stanford University, ²Department of Psychology, Stanford University, ³Wu Tsai Neurosciences Institute, Stanford

Topic Area: LANGUAGE: Development & aging

D38 - The Unique Role of Language in Reshaping Perception: Enhanced Neuronal Distinction

Tally McCormick Miller^{1,2} (tally.miller@fu-berlin.de), Friedemann Pulvermüller^{1,2,3}; ¹Freie Universität Berlin, ²School of Mind and Brain, Humboldt Universität zu Berlin, ³Einstein Center for Neuroscience Berlin

Topic Area: LANGUAGE: Other

D39 - In-scanner individualized theta-band tACS as a neuromodulatory pathway for enhancing language processing

Clair Min Kyung Hong¹ (min.kyung.hong@vanderbilt.edu), Andrew Janson², Katherine Aboud³; ¹Vanderbilt University

Topic Area: LANGUAGE: Other

D40 - Extracting visual and linguistic responses to continuous natural sign language

Aaron Nidiffer¹, Chen Guo¹, Matthew Dye², Edmund Lalor¹; ¹University of Rochester, ²Rochester Institute of Technology

Topic Area: LANGUAGE: Other

D41 - Investigating hippocampal predictive processing in speech-based statistical learning

Daniela Herrera Chaves¹, Emily Cordeiro¹, Arun Thurairajah¹, Greydon Gilmore¹, Lyle Muller¹, Ana Suller-Marti¹, Seyed M. Mirsattari², Laura Batterink^{*1}, Stefan Köhler^{*1}; ¹Western University, London, ON, ²Mayo Clinic, Jacksonville, FL

Topic Area: LANGUAGE: Other

D42 - Reading the signs: Encoding models generalize from English to ASL in novice signers

Megan E. Hillis¹ (megan.e.hillis@dartmouth.edu), David J. M. Kraemer¹; ¹Dartmouth College

Topic Area: LANGUAGE: Semantic

D43 - What is so difficult about abstract words, anyways? A neuromechanistic explanation using brain-constrained neural network models

Fynn Dobler^{1,2} (fynndobler@gmail.com), Lorenzo Stoppa^{1,3}, Friedemann Pulvermüller^{1,2,3,4}; ¹Brain Language Laboratory, Department of Philosophy and Humanities, WE4 Freie Universität Berlin, 14195 Berlin, Germany, ²Charité – Universitätsmedizin Berlin, Einstein Center for Neurosciences, 10117 Berlin, Germany, ³Berlin School of Mind and Brain, Humboldt Universität zu Berlin 10117 Berlin, Germany

Topic Area: LANGUAGE: Semantic

D44 - Bilateral Neural Efficiency in Lexical Tone Learning: Evidence from sEEG

Yixiang Liu¹, Hao Zhu¹, Chen Yao², Junxi Chen³, Xing Tian⁴, Xiangbin Teng⁵, Patrick CM Wong^{1,6}; ¹Brain and Mind Institute, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ²Department of Neurosurgery, Shenzhen Second People's Hospital, The First Affiliated Hospital of Shenzhen University, Shenzhen, Guangdong, China, ³Epilepsy Center, Guangdong Sanjiu Brain Hospital, Guangzhou, Guangdong, China., ⁴NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai, Shanghai, China, ⁵Department of Psychology, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ⁶Department of Linguistics and Modern Languages, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China

Topic Area: LANGUAGE: Semantic

D45 - Affect and the neural perception of grammaticality

Veena D. Dwivedi¹ (vdwivedi@brocku.ca), Borbála Dobos¹, Louis A. Schmid², Faith Martin¹, Victoria Lalonde¹; ¹Brock University, ²McMaster University

Topic Area: LANGUAGE: Syntax

D46 - Heritage Bilinguals Adaptively Tune Prediction of Grammatical Category Across Languages

Noemi X. Diaz^{1,2} (nxdiaz@ucdavis.edu), Zoe Yang^{1,2}, Matthew Traxler^{1,2}, Tamara Y. Swaab^{1,2}; ¹University of California-Davis, ²Center for Mind and Brain UC Davis

Topic Area: LANGUAGE: Syntax

D47 - The Neural Dynamics of Hierarchical Syntactic Structures During Language Comprehension

Cheryl Gilford¹, Martin Meyer¹, Balthasar Bickel¹, Nina Kazanina²; ¹University of Zurich, ²University of Geneva

Topic Area: LANGUAGE: Syntax

D48 - The impact of aging on sharp-wave ripple associated slow gamma oscillations: implications for memory consolidation

Taokorn Lim¹ (ataokorn@uw.edu), Gabrielle F. Shvartsman¹, Ian O'Leary¹, Anna K. Gillespie¹; ¹University of Washington, Seattle

Topic Area: LONG-TERM MEMORY: Development & aging

D49 - Dynamics of Emotional States and Event Boundary Perception during Naturalistic Video Viewing

Hsin-Hui Tsao¹ (eileenhtsao@gmail.com), Nora Wolf¹, Ethan Cashatt¹, Shreya Kumar¹, Arvind Karthik Senthilkumar¹, Charan Ranganath¹; ¹University of California, Davis

Topic Area: LONG-TERM MEMORY: Episodic

D50 - Working memory demands modulate memory brain state engagement

DT Nguyen¹ (dt4gn@virginia.edu), Nicole Long¹; ¹University of Virginia

Topic Area: LONG-TERM MEMORY: Episodic

D51 - Shifting Perspectives: The Time Course of Visual Perspective Change in Autobiographical Memory

Nilay Özdemir Haksever¹ (ozdemirh@ualberta.ca), Peggy L. St. Jacques¹; ¹University of Alberta

Topic Area: LONG-TERM MEMORY: Episodic

D52 - The effects of event segmentation on temporal organization of free recall using staged events

Xuan Zhang^{1,2} (xzhang@research.baycrest.org), Asaf Gilboa^{1,2,3}, Brian Levine^{1,2}; ¹Rotman Research Institute, Baycrest Hospital, ²University of Toronto, ³Toronto Rehabilitation Institute, UHN

Topic Area: LONG-TERM MEMORY: Episodic

D53 - Mnemonic Ramping: Exploring the unique temporal dynamics of encoding and retrieval success over time

Matthew Dougherty¹ (matthew.dougherty@mail.utoronto.ca), Thomas Biba¹, Katherine Duncan¹; ¹University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

D54 - Dissociable neural codes for episodic sequence structure across spatial and non-spatial contexts

Molly Hermiller¹ (mhermiller@fsu.edu), Lila Davach²; ¹Florida State University, ²Columbia University

Topic Area: LONG-TERM MEMORY: Episodic

D55 - The impact of conceptual novelty on digital information foraging

Steven Martinez¹ (steven.martinez@temple.edu), Chelsea Helion¹, Jason Chein¹, Vishnu Murty²; ¹Temple University, ²University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

D56 - Associations between memory performance and hippocampal and medial temporal sub-regional volumes in cognitively healthy young and middle-aged adults

Anjana Anandan¹ (anjana.anandan@utdallas.edu), Claire McIntyre¹, Marianne de Chastelaine¹, Ambereen Kidwai¹, Michael Rugg¹; ¹The University of Texas at Dallas

Topic Area: LONG-TERM MEMORY: Episodic

D57 - Comparison of mass univariate and trial-wise measures of neural selectivity and their relationships with memory performance

Ayşe N. Z. Aktas¹ (ayse.aktas@utdallas.edu), Marianne DeChastelaine¹, Amber Kidwai¹, Sarah Monier¹, Michael Rugg¹; ¹Center for Vital Longevity and Department of Behavioral and Brain Sciences, The University of Texas at Dallas

Topic Area: LONG-TERM MEMORY: Episodic

D58 - Dissociable engagement in rostralateral prefrontal cortex during retrieval monitoring and relational reasoning

Allison Chen¹, Margaret Vashel¹, Mariam Aly¹, Silvia Bunge^{1,2}; ¹Department of Psychology, University of California, Berkeley, ²Helen Wills Neuroscience Institute, University of California, Berkeley

Topic Area: LONG-TERM MEMORY: Episodic

D59 - Tracking Event Boundary Processing in Language: Hierarchical Dynamics of Comprehension and Memory

Mar Dominguez-Orfila^{1,2} (mar.dominguez@ub.edu), Ruth De Diego-Balaguer^{1,2,3}, Lluís Fuentemilla^{1,2}; ¹Institute of Neuroscience, University of Barcelona, ²Bellvitge Institute for Biomedical Research, ³Institució Catalana de Recerca i Estudis Avançats (ICREA)

Topic Area: LONG-TERM MEMORY: Episodic

D60 - Schema and Prediction Error in Episodic Memory Encoding: how object–location expectancy in visual scenes influences memory formation

Andrea Greve^{1,2}, Kshipra Gurunandan¹, Petar P. Raykov¹, Richard N. Henson^{1,3}; ¹MRC Cognition and Brain Sciences Unit, ²Department of Psychology, ³Department of Psychiatry, University of Cambridge

Topic Area: LONG-TERM MEMORY: Episodic

D61 - Enhanced semantic encoding underlies the memory benefit of the pretesting effect

Zsuzsanna Némecz¹ (zsuzsanna.nemecz@ur.de), Karl-Heinz Bäuml¹; ¹University Regensburg, Germany

Topic Area: LONG-TERM MEMORY: Episodic

D62 - Retinotopic coding by human hippocampus? An evaluation using intracranial electroencephalography.

Kenneth Rostovsky¹ (rostovsky@uchicago.edu), Joel Voss, James Kragel; ¹University of Chicago

Topic Area: LONG-TERM MEMORY: Episodic

D63 - No Evidence for a Benefit of Theta Band Visual Entrainment on Scene Recognition Memory

Savannah Tremblay^{1,2} (stremblay@research.baycrest.org), Graham Flick^{1,2}, Ariana Giuliano^{1,2}, Rosanna K. Olsen^{1,2}; ¹Baycrest Academy for Research and Education, ²University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

D64 - The Production Effect on Memory is Located at Memory Encoding and Memory Retrieval: An ERP Study

Alexis Kulin¹ (akulin26@wooster.edu), Angela Canda², Grit Herzmann¹; ¹The College of Wooster, ²John Carroll University

Topic Area: LONG-TERM MEMORY: Episodic

D65 - Structural measurement, lesion distribution, and memory performance across 74 selective medial temporal lobe amnesics

Daniela Montaldi¹ (daniela.montaldi@manchester.ac.uk), Rowan Lawrence¹, Alex Kafkas¹, Laura Marsh², Michael Kopelman³, Robin Morris³, Dan Cox¹, Andrew Mayes¹; ¹University of Manchester, ²University of Cambridge, ³King's College London

Topic Area: LONG-TERM MEMORY: Episodic

D66 - Task incorporation into dreams and memory consolidation

Sarah F Schoch¹ (sarah.schoch@kispi.uzh.ch), Somayeh Ataei^{2,3}, Jialin Zhao⁴, Leila C Salvesen⁵, Michael Schredl⁶, Giulio Bernardi⁵, Nikolai Axmacher³, Björn Rasch⁷, Jennifer Windt⁸, Martin Dresler²;

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Topic Area: LONG-TERM MEMORY: Episodic

D67 - Using Naturalistic Neuroimaging to Enhance Knowledge of Sex Differences in Memory Networks

Jane O'Connor¹, Shaylyn Kress², Dave Smith³, Keva Klamer⁴, Joshua Craig⁵, Alireza Taheritorbati⁶, Sabrina Werner⁷, Rylee Wevers⁸, Niayesh Allahdad⁹, Chelsea Ekstrand¹⁰; ¹University of Lethbridge

Topic Area: LONG-TERM MEMORY: Episodic

D68 - A Spectral T+A-G+ of Memory

Adam Broitman¹ (adamwb@sas.upenn.edu), Michael Kahana²; ¹University of Pennsylvania

Topic Area: LONG-TERM MEMORY: Episodic

D69 - Ageing is not all bad: Middle-aged memory shows enhanced recognition of semantic information.

Charlotte Hunt¹ (charlotte.hunt-3@manchester.ac.uk), Oliver Gray¹, Daniela Montaldi¹; ¹University of Manchester

Topic Area: LONG-TERM MEMORY: Episodic

D70 - Computational methods can significantly predict humans' scoring of story recall details

Sevda Hasanli¹ (shasanli@uottawa.ca), Mete Ismayilzada², Vanessa Taler¹, Patrick Davidson¹; ¹School of Psychology, University of Ottawa, ²EPFL - Swiss Federal Technology Institute of Lausanne

Topic Area: LONG-TERM MEMORY: Episodic

D71 - Schema-related memory effects are differentially modulated by age and memory performance

Sophie L. O'Reilly¹ (sophie.oreilly@york.ac.uk), Arianna Moccia¹, Beth Jefferies¹, Aidan J. Horner¹; ¹University of York

Topic Area: LONG-TERM MEMORY: Episodic

D72 - How Valence and Motivation Interact to Shape Autobiographical Memories

Ga In Shin¹ (gshin@uoregon.edu), Vishnu Murty¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

D73 - Vector-Based Analysis of Competitive Memory Biases in Verbal Recall

Anisha Babu¹ (ababu@uoregon.edu), James Murray¹, Brice Kuhl¹; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Episodic

D74 - Boosting the impact of episodic simulations on decisions via semantic scaffolding?

Alex Barone¹ (alex.barone@colorado.edu), Heidrun Schultz², Roland Benoit¹; ¹University Of Colorado Boulder, ²Max Planck Institute for Human Cognition and Brain Sciences

Topic Area: LONG-TERM MEMORY: Episodic

D75 - Compensatory frontal activity in cancer survivors associated with accurate memory performance but inaccurate metamemory judgments: an ERP study

Alexandra Gaynor¹, Pangzhongyuan Pei², Dishari Azad³, Maria Estelle⁴, Isabella Mohr⁴, Tim Ahles⁴, James Root⁴, Jennifer Mangels^{3,5}; ¹Department of Psychology, Montclair State University, ²Department of Cognitive and Psychological Sciences, Brown University, ³The Graduate Center, The City University of New York, ⁴Department of Psychiatry and Behavioral Sciences, Memorial Sloan Kettering Cancer Center, ⁵Baruch College, The City University of New York

Topic Area: LONG-TERM MEMORY: Episodic

D77 - Learning of motion directions induces rapid and stable changes in the motion-sensitive visual cortex

Marius Kreis¹ (marius.kreis@tuebingen.mpg.de), Sebastian Müller¹, Svenja Brodt^{1,2}; ¹Max Planck Institute for Biological Cybernetics, Germany, ²University of Tübingen, Germany

Topic Area: LONG-TERM MEMORY: Episodic

D78 - Thalamic network organisation across rest and recognition memory

Matt Westerman¹ (matt.westerman@manchester.ac.uk), Yijia Chen¹, Safiya Hussain¹, Alex Kafkas¹; ¹Andrew Mayes Centre for Cognitive Neuroscience, School of Health Sciences, University of Manchester, Manchester, United Kingdom

Topic Area: LONG-TERM MEMORY: Episodic

D79 - Theta-mediated conceptual reinstatement in vmPFC precedes perceptual reinstatement in ventral visual cortex during memory recall

Lei Zhang¹ (lzhang@research.baycrest.org), Mohan Yuan², Asaf Gilboa^{1,2,5}, Claude Alain^{1,2,3,4}; ¹Rotman Research Institute, Baycrest Centre for Geriatric Care, Toronto, ON M6A 2E1, Canada, ²Department of Psychology, University of Toronto, Ontario, Canada, ³Institute of Medical Sciences, University of Toronto, Ontario, Canada, ⁴Music and Health Science Research Collaboratory, University of Toronto, Ontario, Canada, ⁵Toronto Rehabilitation Institute, University Health Network, Toronto, Canada

Topic Area: LONG-TERM MEMORY: Episodic

D80 - Real-time mouse movements reveal decision-making processes between competing goals and predict subsequent memory

Arlene Lormestoire¹, Wangjing Yu², Lila Davachi¹; ¹Columbia University, ²New York University

Topic Area: LONG-TERM MEMORY: Other

D81 - How does offloading generative processes to ChatGPT impact learning and memory?

Anna Kazatchkova¹ (akazatch@uoguelph.ca), Joshua A. Skorburg¹, Christopher M. Fiacconi¹; ¹University of Guelph

Topic Area: LONG-TERM MEMORY: Other

D82 - Contributions of medial temporal lobe structures to viewpoint-invariant visual object familiarity with and without wakeful rest

Pierre-Yves Jonin^{1,2} (pierreyves.jonin@chu-rennes.fr), Camille Hou¹, Gabriel Besson^{3,4,5}; ¹CHU Rennes, Centre Mémoire de Ressources et de Recherches, Rennes, France, ²Univ Rennes, Inria, CNRS, Inserm, IRISA UMR 6074, EMPENN ERL U 1228, Rennes, France, ³CINEICC, Faculty of Psychology and Educational Sciences, University of Coimbra, Portugal, ⁴Proaction Lab, Faculty of Psychology and Educational Sciences, University of Coimbra, Portugal, ⁵GIGA-Cyclotron Research Center Human Imaging, University of Liège, Belgium

Topic Area: LONG-TERM MEMORY: Other

D83 - Environment and expertise shape spatiotemporal variation in conceptual knowledge

Erik A. Wing¹, Jennifer D. Ryan¹, Asaf Gilboa¹; ¹Rotman Research Institute, Baycrest

Topic Area: LONG-TERM MEMORY: Semantic

D84 - Categorical Judgments: Examining the Learned Structure Derived from Implicit Statistical Learning

Alexander N. Lawriw¹ (alawri1@lsu.edu), Christopher R. Cox¹; ¹Louisiana State University

Topic Area: LONG-TERM MEMORY: Semantic

D85 - Imagery and meaning: How individual differences in visual imagery affect conceptual knowledge

Nathan Lautz^{1,2} (nathan.lautz@uconn.edu), Diqing Li¹, Fanola Dede³, Eiling Yee^{1,2}; ¹University of Connecticut, ²Institute for the Brain and Cognitive Sciences, ³New England College of Optometry

Topic Area: LONG-TERM MEMORY: Semantic

D86 - Targeted reactivation of motor and declarative memories linked via higher-order associations

Ainsley Temudo¹ (u1404978@utah.edu), Elise Perry¹, Krista Hamilton¹, Ashmita Karki¹, Bradley R. King¹, Genevieve Albouy; ¹University of Utah

Topic Area: LONG-TERM MEMORY: Skill Learning

D87 - The Brain Resilience Study: Neural signal complexity from low-resolution EEG reflects cognitive performance in aging

Maryam Faeed¹, Leanne Rokos^{1,2}, Kelly Sher², Cathlin J. Han¹, Aina Roenningen¹, Kashish Mehta¹, Anthony Randal McIntosh^{1,2}, Brianne Kent^{1,2}; ¹Simon Fraser University, ²Institute for Neuroscience and Neurotechnology, Simon Fraser University

Topic Area: METHODS: Electrophysiology

D88 - Age-Dependent Acute Responsiveness to Transcranial Photobiomodulation

Dr. Sunghan Kim¹ (kims@ecu.edu), Taylor Everett¹, Annika Bhardwaj¹, Andrew Alfaro¹, Mckinzie Tucker¹, Sushumna Madad², Dhriti Sinha², Deanna Cherry³, Viel Kim⁴; ¹East Carolina University, ²Innovation Early College, ³Farmville High School, ⁴Rose High School

Topic Area: METHODS: Electrophysiology

D89 - Bridging Brain Structure and Function: Structural-Functional Brain Network Coupling and Frontal Midline Theta Connectivity in Cognitive Abilities

Henrike M. Jungeblut¹ (henrike.jungeblut@uni-mainz.de), Mareike J. Hülsemann¹, Erhan Genç², Anna-Lena Schubert¹; ¹Johannes Gutenberg University Mainz, Germany, ²Leibniz Research Center for Working Environment and Human Factors Dortmund, Germany

Topic Area: METHODS: Neuroimaging

D90 - NITRC's Triad of Services: Software, Data, Compute

Christian Haselgrove¹ (christian.haselgrove@umassmed.edu), Richard Brash², Albert Crowley², David Kennedy¹, Abby Paulson³,

Nina Preuss⁴; ¹UMass Chan Medical School, ²Turner Consulting Group, Inc, ³Alpine 22, ⁴Preuss Enterprises, Inc

Topic Area: METHODS: Neuroimaging

D91 - Spatial entropy of brain network landscapes

Clayton McIntyre¹ (clayton.mcintyre@wfusm.edu), Shannon O'Donnell¹, Mohammadreza Khodaei¹, Robert Lyday¹, Jonathan Burdette¹, Paul Laurienti¹; ¹Wake Forest University

Topic Area: METHODS: Neuroimaging

D92 - Iron levels in Deep Grey Matter Structures in Preterm Infants as a Marker for Cognitive Decline following Brain Injury

Ran Mo¹ (ran.mo@bcchr.ca), Floria Lu¹, Cecil Chau¹, Steven Ufkes¹, Jessie van Dyk¹, Steven Miller¹, Ruth Grunau¹, Alexander Mark Weber¹; ¹BC Children's Hospital Research Institute

Topic Area: METHODS: Neuroimaging

D93 - Individualized Parcellation Reveals Specificity of Dorsal Attention Network Function in Sustained Attention

Janet Z. Li¹ (jl4646@drexel.edu), Lotus Shareef-Trudeau¹, Tiara Bounyarith¹, Dave Braun¹, Michael Esterman^{2,3}, Aaron Kucyi¹; ¹1) Department of Psychological and Brain Sciences, Drexel University, ²2) Neuroimaging Research Center for Veterans (151), VA Boston Healthcare System, ³3) Department of Psychiatry, Boston University School of Medicine

Topic Area: METHODS: Neuroimaging

D94 - Exploring behaviour-adaptive and physiology-sensitive stimuli generation in cognitive neuroscience research (Poster abstract for the Sketchpad Series)

Paul Compensis¹ (paul.compensis@fau.de); ¹University of Bamberg

Topic Area: METHODS: Other

D95 - Current Landscape of fMRI and Neurotechnology Infrastructure in Hawai'i: A Comprehensive Overview

Aaron Nakamura¹ (aaronaka@hawaii.edu), Mike Tran¹, Jonas Vibell¹; ¹University of Hawai'i at Mānoa

Topic Area: METHODS: Other

D96 - The Impact of Combining FES Cycling and rTMS on Corticospinal Excitability in People with Motor Incomplete Spinal Cord Injury

Kushal Biswas¹ (kbiswas5@uwo.ca), Siobhan Schabrun¹, Sue Peters¹, Eldon Loh¹, Janelle Unger¹; ¹The University of Western Ontario

Topic Area: METHODS: Other

D97 - Gamma Oscillations in QIF based E-I Network

Qiyun Zheng^{1,2} (qz2049@nyu.edu), John Rinzel²; ¹Cold Spring Harbor Laboratory, ²New York University

Topic Area: OTHER

D98 - Anti-Phase Theta-Gamma Coupling: A Neurodynamic Hypothesis Derived from a Dynamic Self-Model

Wenge Huang¹ (wengehuang2020@gmail.com); ¹Independent Researcher

Topic Area: OTHER

D99 - Sensory and Social Deprivation During a 3-day Dark Retreat

Daniel Morris¹ (danielmorris2027@u.northwestern.edu), Avery Bedows², S. Gabriela Torres-Platas¹, Karen Konkoly¹, Scott Berman³, Nicco Reggente², Ken Paller¹; ¹Northwestern University, ²Institute for Advanced Consciousness Studies, ³Sky Cave Dark Retreat Center

Topic Area: OTHER

D100 - Dreaming of a Better Past: The Role of Dreaming in Modifying Highly Emotional Autobiographical Memories

Henderson S. Holder¹ (henderson.holder@furman.edu), Erin Wamsley¹; ¹Furman University Sleep Lab

Topic Area: OTHER

D101 - Transcranial Electrical Stimulation in Physiological Sleep: A Review

Nur Kader^{1,2} (nkader@bidmc.harvard.edu), Seo Ho Song^{1,2,3}, Brian E. Zirker^{1,2}, Alison I. Poussaint^{1,2,4}, Tony J. Cunningham^{1,2,3}; ¹Beth Israel Deaconess Medical Center, ²Center for Sleep and Cognition, ³Harvard Medical School, ⁴Howard University College of Medicine

Topic Area: OTHER

D102 - A music-reward localizer: using fMRI to identify neural responses to musical pleasure

Vasiliki Provias¹ (vp2774@nyu.edu), Stephanie Yandun-Oyola¹, Atlas Robinson¹, Anna Palumbo¹, Ellie Bean Abrams¹, Pablo Ripollés¹; ¹New York University

Topic Area: PERCEPTION & ACTION: Audition

D103 - Rhythm modulates perception and neural tracking of speech in a speech-in-noise task

T. Christina Zhao¹ (zhaotc@uw.edu), Eloise Schell¹, Tzu-Han Zoe Cheng¹, Yi Shen¹; ¹University of Washington

Topic Area: PERCEPTION & ACTION: Audition

D104 - Sudden Auditory Degradation Elicits Increased Auditory-Frontal Connectivity During Emotional Speech Perception

Katya Tikhostoup¹ (ctikhostoup@torontomu.ca), Carmen Dang, Frank Russo; ¹Toronto Metropolitan University

Topic Area: PERCEPTION & ACTION: Audition

D105 - Musical Preference and Reward Sensitivity Influence Neural Activation During Repeated Listening: An fNIRS Study

Harley Glassman¹, Frank Russo¹; ¹Toronto Metropolitan University

Topic Area: PERCEPTION & ACTION: Audition

D106 - Conversational engagement modulates neural speech tracking in real-time dialogue

Marcos E. Domínguez Arriola¹ (marcos.dominguezarriola@mail.mcgill.ca), Peter C.H. Lam¹, Alejandro Pérez², Marc D. Pell¹; ¹McGill University, ²Universidad de La Laguna

Topic Area: PERCEPTION & ACTION: Audition

D107 - Audiomotor adaptation remaps spatial-auditory representations

Angela Peng¹ (angelaytpeng@gmail.com), Yoonsoo Ham¹, Woonju Park², Hee Yeon Im^{1,3}; ¹University of British Columbia, ²Georgia Institute of Technology, ³BC Children's Hospital Research Institute

Topic Area: PERCEPTION & ACTION: Audition

D108 - Frequency-Dependent Posterior-Anterior Reorganization of Brain Dynamics Across the Adult Lifespan

Shihan Xu¹ (kaylaxu@bu.edu), Wen Wen¹, Yu Fang¹, Robert Reinhart¹; ¹Boston University

Topic Area: PERCEPTION & ACTION: Development & aging

D109 - Awake Infant fMRI and Deep Neural Network Models Reveal Hierarchical Development of Object Feature Tuning in the Ventral Visual Stream

Áine T. Dineen¹ (dineenai@tcd.ie), Cliona O'Doherty^{1,2}, Anna Truzzi^{1,3}, Anna Kravchenko¹, Graham King¹, Alex R. Wade⁴, Lorijn Zaadnoordijk¹, Enna-Louise D'Arcy¹, Tamrin Holloway¹, Jessica White¹, Chiara Caldinelli¹, Angela T. Byrne^{5,6}, Ailbhe Tarrant^{7,8}, Adrienne Foran^{7,8}, Eleanor J. Molloy^{1,5}, Rhodri Cusack¹; ¹Trinity College Dublin, ²Stanford University, ³Queen's University Belfast, ⁴University of York, ⁵The Coombe Hospital, Dublin, Ireland, ⁶Children's Health Ireland at Crumlin, Dublin, Ireland, ⁷The Rotunda Hospital, Dublin, Ireland, ⁸Children's Health Ireland at Temple Street, Dublin, Ireland

Topic Area: PERCEPTION & ACTION: Development & aging

D110 - To Move or to Use: Task Goals Drive Kinematic Differences in Object-Directed Action

Anna M. Keresztesy¹ (anna_keresztesy@urmc.rochester.edu), Marshall Kim¹, Jessica M. Smith², Hugo Angulo², Bradford Z. Mahon¹⁻³, Frank E. Garcea^{1,4-6}; ¹Department of Neurosurgery, University of Rochester Medical Center, USA, ²Department of Psychology, Carnegie Mellon University, USA, ³Neuroscience Institute, Carnegie Mellon University, USA, ⁴Department of Neuroscience, University of Rochester, USA, ⁵Department of Brain and Cognitive Sciences, University of Rochester, USA, ⁶Del Monte Institute for Neuroscience, University of Rochester Medical Center, USA

Topic Area: PERCEPTION & ACTION: Motor control

D111 - Mapping Lesions in Action: Voxel-based Lesion-Activity Mapping

Frank Garcea¹⁻⁴, Emma Strawderman¹⁻², Steven Meyers^{1,5}, Webster Pilcher^{1,4}, Bradford Mahon^{1,6,7}; ¹Department of Neurosurgery, University of Rochester Medical Center, USA, ²Department of Neuroscience, University of Rochester Medical Center, USA, ³Department of Brain and Cognitive Sciences, University of Rochester, USA, ⁴Del Monte Institute for Neuroscience, University of Rochester Medical Center, USA, ⁵Department of Imaging Sciences, University of Rochester Medical Center, USA, ⁶Department of Psychology, Carnegie Mellon University, USA, ⁷Neuroscience Institute, Carnegie Mellon University, USA

Topic Area: PERCEPTION & ACTION: Motor control

D112 - Understanding the Effect of Manipulating Task Importance on Implicit Sequence Learning

Erin Hugee¹, Paul J. Reber¹; ¹Northwestern University

Topic Area: PERCEPTION & ACTION: Motor control

D113 - Crossing the arms impairs vibrotactile frequency perception by degrading sensory evidence: Evaluation with a Drift Diffusion Model.

Naoya Tachibana¹ (tachibana-naoya7086@g.ecc.u-tokyo.ac.jp), Yuko Yotsumoto¹; ¹The University of Tokyo

Topic Area: PERCEPTION & ACTION: Other

D114 - Semantic priming modulates the strength and direction of the Kanizsa illusion

Amir Tal^{1,2} (amir.tal2@mail.huji.ac.il), Nataly Davidson Litvak², Liad Mudrik²; ¹Hebrew University of Jerusalem, ²Tel Aviv University

Topic Area: PERCEPTION & ACTION: Vision

D115 - Faster Alpha Oscillations and Aperiodic Activity Predict Narrower Temporal Binding Windows in ADHD profiles

Gianluca Marsicano^{1,2} (gm3598@nyu.edu), David Melcher^{1,2}; ¹New York University Abu Dhabi, ²Center for Brain and Health, NYUAD Research Institute, New York University Abu Dhabi

Topic Area: PERCEPTION & ACTION: Vision

D116 - The impact of gait complexity on visual information processing

Edmund Wascher¹ (wascher@ifado.de); ¹IfADo

Topic Area: PERCEPTION & ACTION: Vision

D117 - Visual Spatial Frequency Modulates the Polarity of Early ERP Components

Liam Doherty^{1,3} (doherty@nuuron.com), Julian Keil^{1,2,3}, Martin Fischer³; ¹University of Potsdam, ²Charité – Universitätsmedizin Berlin, ³Nuuron GmbH

Topic Area: PERCEPTION & ACTION: Vision

D118 - Arousal Reshapes Perceptual Representations

Nickolas Paternoster¹ (njp66@cornell.edu), Khenia Swallow²; ¹Cornell University

Topic Area: PERCEPTION & ACTION: Vision

D119 - Diurnal variation in alpha oscillations and aperiodic components of patient ECoG

Kempei hoshi¹ (kenmei0404soccer@g.ecc.u-tokyo.ac.jp), Ayumu Yamashita¹, Ryohei Nakayama¹, Masataka Sawayama², Takumitsu Iwata³, Satoru Oshino³, Naoki Tani³, Hui Ming Khoo³, Ryohei Fukuma^{3,4}, Haruhiko Kishima^{3,5}, Takufumi Yanagisawa^{3,4,5}, Kaoru Amano¹; ¹Graduate School of Information Science and Technology, The University of Tokyo, ²Graduate School of Information Science and Technology, ³Graduate School of Medicine, Osaka University, ⁴Institute for Advanced Co-Creation Studies, Osaka University, ⁵Osaka University Hospital Epilepsy Center

Topic Area: PERCEPTION & ACTION: Vision

D120 - Grasping unseen physical properties of objects: The role of the ventral visual pathway in object-directed action

Emefa Akwayena¹ (eakwayen@andrew.cmu.edu), Bradford Z. Mahon^{1,2}; ¹Carnegie Mellon University, ²University of Rochester Medical Center

Topic Area: PERCEPTION & ACTION: Vision

D121 - When How You Measure Time Matters

Kezhen Qi¹ (kezhenqi2028@u.northwestern.edu), Abigail Y. Liu¹, Khayla Santiago¹, Marcia Grabowecky¹, satoru suzuki¹; ¹Northwestern University

Topic Area: PERCEPTION & ACTION: Vision

D122 - BrainTrace: cortical encoding of visual acuity under myopic blur

Katia steinfeld¹ (katia.steinfeld@unil.ch), Olivier Collignon^{2,3}, Micah Murray^{1,3}; ¹Lausanne University and University Hospital, Switzerland, ²University of Louvain, Belgium, ³The Sense Institute, Switzerland

Topic Area: PERCEPTION & ACTION: Vision

D123 - Toward Translational Mechanisms of Learned Helplessness: Linking Behavior, Computation, and Neural Modulation

Adithya Anil¹ (adithya21@iitk.ac.in), Arjun Ramakrishnan²; ¹Indian Institute of Technology Kanpur

Topic Area: THINKING: Decision making

D124 - A Mechanical Analogy for the Observed Oscillations in Choice Behavior of a Population Facing a Time-Varying Reward

Nasim Nozamejad¹ (nna50@sfu.ca), Christopher Lapiush², Jeremy Seaman³, Eldon Emberly¹; ¹Simon Fraser University, ²Indiana University, ³University of British Columbia

Topic Area: THINKING: Decision making

D125 - Effects of Psilocybin Treatment on Cognitive Effort Avoidance in Major Depressive Disorder and Co-Occurring Alcohol Use Disorder

Ceyda Sayali¹, Eli Weisman¹, Frederick Barrett¹; ¹Johns Hopkins University School of Medicine

Topic Area: THINKING: Decision making

D126 - Similar factors predict cognitive effort preferences when working for rewards vs. avoiding losses

Brandon J Forys¹ (brandon.forys@psych.ubc.ca), Nicholas Moise¹, Rebecca M Todd¹, Catharine A Winstanley¹; ¹University of British Columbia

Topic Area: THINKING: Decision making

D127 - Mindfulness Increases Resting State EEG Gamma Power in Mild Cognitive Impairment

Katherine Turk¹ (kturk@bu.edu), Yasemin Yilmaz², Kathy Xie³, Heera Kamara⁴, Brenna Hagan⁵, Christine LoVerde⁶, Sarah Harer⁷, Grace Desmond⁸, Priya Mukhi⁹, Meltem Karaca¹⁰, Brandon Frank¹¹, Andrew Budson¹², Sara Lazar¹³; ¹Boston University School of

Medicine, ²Center for Translational Cognitive Neuroscience, VA Boston Healthcare System, ³Northeastern Medical College, ⁴University of Massachusetts Medical School, ⁵George Washington University School of Medicine, ⁶Massachusetts General Hospital

Topic Area: THINKING: Development & aging

D128 - A pleasant surprise: perplexity from large language models assesses divergent thinking

Yuhua Yu¹ (yuhua@arizona.edu), Quentin Raffaelli², Simone Luchini³, Roger E. Beaty³, Jessica R. Andrews-Hanna¹; ¹Department of Psychology, University of Arizona, ²Department of Psychology, University of Calgary, ³Department of Psychology, Pennsylvania State University

Topic Area: THINKING: Other

D129 - Narratives Have a Persisting Influence on the Tempo of the Brain

Samira Tavassoli¹ (stavass1@jh.edu), Evelyn Allen¹, Joshua Seewald¹, Janice Chen¹; ¹Johns Hopkins University

Topic Area: THINKING: Other

Poster Session E

Monday, March 9, 2026, 2:30 – 4:30 pm, Fairview/Kitsilano Ballrooms

E1 - Neurophysiology of the Ventral Attention Network: Modulating Vigilance Performance with tACS

Corrin Stines¹ (corrin.stines@utsa.edu), Alyssa Randez², Linda Calderon¹, Edward Golob¹, Jeffrey Mock¹; ¹The University of Texas at San Antonio, ²Purdue University

Topic Area: ATTENTION: Auditory

E2 - "Using EEG to Predict Dementia Risk and Cognitive Resilience in Elderly Patients Undergoing Surgery."

Yessica Martinez Serrato^{1,2} (y.martinez-serrato@bham.ac.uk), Thomas Jackson³, Ali Mazaheri^{1,2}; ¹University of Birmingham| School of Psychology, ²Centre for Human Brain Health, ³University of Birmingham| Inflammation and Ageing

Topic Area: ATTENTION: Development & aging

E3 - Shape from shading as a marker of lateralization changes across the lifespan

Marjola Peca¹ (mrp18fqc@bangor.ac.uk), Giovanni d'Avossa¹, Ayelet Sapir²; ¹Bangor University, ²University of Greenwich

Topic Area: ATTENTION: Development & aging

E4 - Frontoparietal functional connectivity underlies top-down control impairments in patients with mild cognitive impairment

Hannah Klink¹ (hannah.klink@med.uni-jena.de), Kathrin Finke¹, Fabian Kattlun¹, Simon Schrenk¹, Stefan Brodoehl¹, Adriana L. Ruiz-Rizzo¹; ¹Jena University Hospital

Topic Area: ATTENTION: Development & aging

E5 - Effects of aging on multisensory attentional control and its association with executive capacity

Edwin Roberto Ramirez Benítez^{1,2} (10081996edwin@gmail.com), Rodolfo Solís-Vivanco^{1,2}; ¹National Institute of Neurology and Neurosurgery, Manuel Velasco Suárez, ²National Autonomous University of Mexico, UNAM

Topic Area: ATTENTION: Multisensory

E6 - Effects of auditory and vibrotactile stimulations on EEG markers of vigilance following sleep deprivation

Morgane Meyer¹ (morgane.meyer@unicaen.fr), Claire Giot¹, Khadijeh Sadatnejad³, Jacques Taillard³, Laure Lejeune², Nicolas Bessot¹; ¹Normandie Univ, UNICAEN, COMETE, GIP CYCERON, Caen, France, ²Normandie Univ, UNICAEN, ENSICAEN, CNRS, GREYC, Caen, France, ³SANPSY, USR 3413, université de Bordeaux, Bordeaux, France

Topic Area: ATTENTION: Other

E7 - High-resolution diffusion tensor imaging of the cerebellum and brainstem in Type I Chiari Malformation: Associations with attention and pain

James Houston¹ (james.houston@mtsu.edu), Tara Kirkpatrick¹, Anna Robison², Shaun Burgess³, Allison Throm¹, Elizabeth Key¹, Talia Sanford¹, Mallory Smith¹, Erika Prante¹, Tiffany Rogers¹, Philip Allen⁴; ¹Middle Tennessee State University, ²University of South Florida, ³Western Carolina University, ⁴University of Akron

Topic Area: ATTENTION: Other

E8 - Exploring the Cognitive Role of the Coupling Between Alpha Power and Autonomic Rhythms During Task Performance

Yuting Xu¹ (xu-yuting@g.ecc.u-tokyo.ac.jp), Ayumu Yamashita¹, Kyuto Uno¹, Kaoru Amano¹; ¹The University of Tokyo

Topic Area: ATTENTION: Other

E9 - Decoding Scalp EEG Signatures of Attentional Switching Using Machine Learning

Melih Keskin¹, Simrit Rai¹, Sairamya Nanjappan Jothiraj¹, Julia Kam¹; ¹University of Calgary

Topic Area: ATTENTION: Other

E10 - Excitatory and inhibitory imbalance in migraine shown by altered oscillatory alpha activity

Leonardo Sutandi¹ (leonardo.sutandi2023@my.ntu.ac.uk), Andrew Clouter¹, Christina J. Howard¹, Louise O'Hare¹; ¹Nottingham Trent University

Topic Area: ATTENTION: Spatial

E11 - Electrophysiological evidence for the voluntary prevention of salience-driven distraction in humans

Daniel Tay¹ (daniel_tay@sfu.ca), John J. McDonald¹; ¹Simon Fraser University

Topic Area: ATTENTION: Spatial

E12 - Hemispheric laterality of the putamen predicts pseudoneglect

Tara Ghafari¹ (tara.ghafari@psych.ox.ac.uk), Mohammad Ebrahim Kateb², Mohammad Hossein Ghafari³, Aliza Finch⁴, Kelly Garner⁵, Ole Jensen¹; ¹University of Oxford, UK, ²Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, ³Shahid Beheshti University of Medical Sciences, Tehran, Iran, ⁴University of Birmingham, UK, ⁵University of New South Wales, Australia

Topic Area: ATTENTION: Spatial

E13 - Calm TMR: Extending Targeted Memory Reactivation for Calmness and Well-Being in At-Home Sleep

Jeongeun Kim¹ (jeongeunkim2029@u.northwestern.edu), Alysiana Martinez¹, Nathan W. Whitmore², Ken Paller¹; ¹Northwestern University, ²Massachusetts Institute of Technology

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E14 - Emotional Arousal is Mediated by a Sense of Presence Elicited by Three-Dimensional Virtual Stimuli

Martin Alexandrov¹ (malexan5@lakeheadu.ca), James Kryklywy²; ¹Lakehead University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E15 - The Impact of Mild Traumatic Brain Injury on Emotion Regulation

Janeen Martin¹ (martin80@myumanitoba.ca), Thomas Rawliuk¹, Ernest Opoku-Agyeman¹, Maria Gershfang¹, Magdalena Wojtowicz², Steven G. Greening¹; ¹University of Manitoba, ²York University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E16 - The Impact of Emotional Salience on Sound localization in Realistic Virtual Environments

Jade Shelp¹ (jadebshelp@gmail.com), Blake Butler¹, Elle Cumming¹, Derek Mitchell¹; ¹Western University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E17 - Sticky Situations and Sticky Thoughts: Investigating Stress, Coping, and Thoughts

Cecilia Liu¹ (cecilia.liu1@ucalgary.ca), Mason Liu¹, Julia Kam¹; ¹University of Calgary

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E18 - Deep Learning-Derived Facial EMG Signatures of Cognitive Workload in Immersive Virtual Reality

Nusrat Choudhury^{1*} (nusrat.choudhury@nrc-cnrc.gc.ca), Zohreh H. Meybodi^{1*}, Francis Thibault¹, Budhachandra Khundrakpam¹, Joshua A. Graneck², Gino De Luca¹; ¹National Research Council Canada, Medical Devices, Boucherville, Canada, ²Defence Research & Development Canada, Toronto Research Centre, Toronto, Canada, ^{3*} equal authors

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E19 - Encoding Emotion Differently: Investigating ERP Correlates of Emotional Memory in Anxiety and Depression

Alexandra Doiron¹, Abby Mander¹, Cassandra Morrison¹; ¹Carleton University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

E20 - Phasic REM TMR reduces subjective valence and physiological arousal for highly negative items

Marta Wawrzuta¹ (martawawrzuta@gmail.com), Charlotte Hall¹, Tamas Foldes², Neil Harrison¹, Peter Simor³, Ferenc Gombos⁴, Penny Lewis¹; ¹Cardiff University, ²Oxford University, ³Eötvös Loránd University, ⁴Pázmány Péter Catholic University

Topic Area: EMOTION & SOCIAL: Emotional responding

E21 - Dissociable Associations Between Stimulus Realism, Valence, and Arousal for Positive and Negative Stimuli

Stephanie L. Souliere¹ (ssoulier@uwo.ca), Abbey M.-Y. Young¹, Liam Xia¹, Derek G.V. Mitchell¹; ¹University of Western Ontario

Topic Area: EMOTION & SOCIAL: Emotional responding

E22 - Dynamics of Respiration-Coupled Neural Activity in REM Sleep for Emotional Memory Learning

Jiahui Li¹ (jiahui76@connect.hku.hk), Tianqi Di¹, Xiaoqing Hu¹; ¹The University of Hong Kong

Topic Area: EMOTION & SOCIAL: Other

E23 - Cerebello-meso-frontal activity is linked to anhedonia and avolition in early psychosis

Linda Hoffman¹ (tuf72977@temple.edu), Ranesh Mopuru², Lauren Ellman³, David Smith⁴, Ingrid Olson⁵; ¹Temple University

Topic Area: EMOTION & SOCIAL: Other

E24 - Individual differences in early attentional orienting to approach- and avoidance-related stimuli

Sophie Wilson¹ (s_w304@txstate.edu), Madison Pittman¹, Anthony Kang¹, Madison Risner¹, Natalie Ceballos¹, Reiko Graham¹; ¹Department of Psychology, Texas State University

Topic Area: EMOTION & SOCIAL: Other

E25 - How Eye Contact Shapes Neural Dynamics of Face Memory

Domilè Tautvydaitė¹ (domile.tautvydaitė@mcgill.ca), Sylvain Baillet; ¹McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University

Topic Area: EMOTION & SOCIAL: Person perception

E26 - AI Faces the Criteria for Being Real; A Behavioral and Pupillary Reactivity Study.

Jessica Samir¹ (jessica.samir@bruins.belmont.edu), Madison Dawes², Kayla Challacombe³, Karlie Souder⁴, Carole Scherling⁵; ¹Belmont University, Nashville, TN

Topic Area: EMOTION & SOCIAL: Person perception

E27 - Frequency-based modulation of internal-external attention switch costs

Jaime Rios¹ (jhr59@duke.edu), Tobias Egner¹; ¹Duke University

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

E29 - Something's Gotta Give: Reward-Induced Effort Modulations in Task Switching Reveals a Trade-Off Between Cognitive Flexibility and Stability

Nathan K. Mathews¹ (nathan.mathews@mail.mcgill.ca), Senne Braem², Eliana Vassena^{3,4}, A. Ross Otto¹; ¹McGill University, ²Ghent University, ³Radboud University Nijmegen, ⁴Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen

Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

E30 - Auditory Network Integration and Neural Representations Collapse Under General Anesthesia: Evidence from Intracranial EEG and Self-Supervised Learning

Hao Zhu¹, Chen Yao⁵, Zhili Han⁶, Patrick C.M. Wong^{1,2,5}, Xing Tian³, Xiangbin Teng^{1,2}; ¹Brain and Mind Institute, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ²Department of Psychology, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ³NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai, Shanghai, China, ⁴Stanley Ho Professorship in Cognitive Neuroscience and Department of Linguistics, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ⁵Department of Neurosurgery, Shenzhen Second People's Hospital, The First Affiliated Hospital of Shenzhen University, Shenzhen, Guangdong, China, ⁶NingboTech University, Ningbo, China

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

E31 - Does Food-Related Inhibitory Control Differ by Eating Tendencies? Evidence from an Event-Related Potential Study

Kaylie Carbine¹ (kaylie_carbine@byu.edu); ¹Brigham Young University

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

E32 - Aperiodic Neural Activity as a Marker of Excitation/Inhibition Balance in Children with Tourette Syndrome

Elizabeth Kaplan¹ (likaplan@ucsd.edu), Sarah Chang¹, Sujin Park¹, Manasa Pooni¹, Tania Munga², Abbigal Baim¹, Jon Ahern¹, Sana Ali¹, Ben Ahn¹, Sarah Hodap², G Reiner², James Friedman³, Christian Cazares¹, Michael-Paul Schallmo², Bradley Voytek¹, Christine Conelea², Sonya Wang⁴, Deanna Greene¹; ¹UC San Diego, ²University of Minnesota, ³Rady Children's Hospital

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

E33 - Human intracranial recordings reveal neural representations of pursuit and avoidance states in a naturalistic paradigm

Blair Vail¹ (vail0048@umn.edu), Seth König¹, Seng Bum Michael Yoo², Benjamin Hayden³, Alexander Herman¹, David Darrow¹; ¹University of Minnesota, ²Sungkyunkwan University, ³Baylor College of Medicine

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

E34 - The immediate effects of cognitive intervention during treadmill running on balance and gait performance in male and female basketball players

Yi-Jia Lin¹ (yijia@mail.ntust.edu.tw), Xin-Cen Wen¹, Viktoria Azoidou², Wei-Chun Hsu¹; ¹National Taiwan University of Science and Technology, ²Wolfson Institute of Preventive Neurology

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

E35 - Changes in the Blind and the Deaf are Not Limited to Sensory Cortices

Ayşe Betül Varol^{1,2}, Tamer Gezici^{1,2}, Şehmus Kurt^{1,2}, Yasemin Güçlütürk⁴, Mohini Verma², Ausaf Ahmed Farooqui^{1,2,3}; ¹Bilkent University, Ankara, Türkiye, ²Aysel Sabuncu Brain Research Center, Ankara, Türkiye, ³National Magnetic Resonance Research Center, Ankara, Türkiye, ⁴Sign Language Program, TÖMER, Ankara University, Ankara, Türkiye

Topic Area: EXECUTIVE PROCESSES: Other

E36 - Cognitive profiles of addictive behaviors: Evidence from work addiction, gaming disorder, and cannabis use disorder

Zsuzsanna Viktória Pesthy^{1,2,3} (zsuzsanna.pesthy@gmail.com), Krisztina Berta^{1,2,3}, Ágnes Zsila¹, Teodóra Vékony⁴, Dezső Németh^{4,5,6}, Bernadette Kun¹; ¹Institute of Psychology, ELTE Eötvös Loránd University, Budapest, Hungary, ²Doctoral School of Psychology, ELTE Eötvös Loránd University, ³Institute of Cognitive Neuroscience and Psychology, HUN-REN Research Centre for Natural Sciences, Budapest, Hungary, ⁴Gran Canaria Cognitive Research Center, Department of Education and Psychology, Atlántico Medio University, Las Palmas de Gran Canaria, Spain, ⁵Centre de Recherche en Neurosciences de Lyon, INSERM, CNRS, Université Claude Bernard Lyon 1, CRNL U1028 UMR5292, BronFrance, ⁶BML-NAP Research Group, Institute of Psychology, Eötvös Loránd University & Institute of Cognitive Neuroscience and Psychology, Research Centre for Natural Sciences, Budapest, Hungary

Topic Area: EXECUTIVE PROCESSES: Other

E37 - Sequential vs. Simultaneous Encoding and Spatial vs. Temporal Retro-Cueing: Dissociating Working Memory Access Mechanisms

Juan Pablo Abril Ronderos¹ (juapabrilron@unal.edu.co), Marisol Lamprea Rodríguez; ¹National University of Colombia

Topic Area: EXECUTIVE PROCESSES: Working memory

E38 - Active removal of information from working memory invokes the concerted recruitment of distributed neocortical regions

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Topic Area: EXECUTIVE PROCESSES: Working memory

E39 - Visuospatial working memory is cortically enabled through veridical, categorical and semantic representations

Joana Pereira Seabra^{1,2} (joana.seabra@bccn-berlin.de), Andreea-Maria Gui^{1,2}, Vivien Chopurian^{1,2}, Alessandra S Souza³, Carsten Allefeld⁴, Thomas B Christophel^{1,2}; ¹Humboldt Universität zu Berlin, ²Bernstein Center for Computational Neuroscience Berlin and Berlin Center for Advanced Neuroimaging, ³University of Porto, ⁴University of London, London

Topic Area: EXECUTIVE PROCESSES: Working memory

E40 - Catching Alpha in the Act: A Closed-Loop EEG Paradigm

Husna Kider¹ (husna.kider@duke.edu), Vada Mayle², Emily B. Finch¹, Talaighair Venkatraman¹, Kenneth C. Roberts¹, Yiru Li¹, Matthew A. Slayton¹, Angel V. Peterchev¹, Andy Liu¹, Marty G. Woldorff¹, Simon W. Davis²; ¹Duke University, ²Indiana University

Topic Area: EXECUTIVE PROCESSES: Working memory

E41 - Neural mechanisms for syntactic ambiguity in young bilinguals

Claire Kong-Johnson¹ (cnmkj2@hawaii.edu), V. Andrew Stenger^{1,2}, Kamil Deen¹; ¹University of Hawai'i at Manoa, ²John A. Burns School of Medicine

Topic Area: LANGUAGE: Development & aging

E42 - Investigating language network development in autism using movie fMRI

Paula Andrea Toro Vargas¹ (paula.torovargas@mail.mcgill.ca), Xiaoqian Chai¹; ¹McGill University

Topic Area: LANGUAGE: Development & aging

E43 - Separable cognitive mechanisms for word learning and perceptual learning of novel speech

Samuel Weiss-Cowie¹ (sammy.weiss-cowie@mrc-cbu.cam.ac.uk), Lucy MacGregor¹, Matthew Davis¹; ¹University of Cambridge

Topic Area: LANGUAGE: Lexicon

E44 - Does neural synchronization accelerate communicative interaction?

Jule Nabrotzky¹ (nabrotzky@cbs.mpg.de), Burkhard Maess¹, Mathias Scharinger², Lars Meyer^{1,3,4}; ¹Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²Marburg University, Marburg, Germany, ³Johannes Gutenberg University, Mainz, Germany, ⁴Clinic for Phoniatrics and Pediatric Audiology University Hospital Münster, Germany

Topic Area: LANGUAGE: Other

E45 - The effect of lexical ambiguity on memory: An EEG study

Vanessa Keller¹ (vgk503@york.ac.uk), Dan Denis¹, Cameron Kyle-Davidson¹, Scott Cairney¹, Gareth Gaskell¹; ¹University of York

Topic Area: LANGUAGE: Other

E46 - Linguistic event-related potentials as predictors of implicit and explicit memory

Sophie Jano¹ (sophie-j@live.com.au), Isabell Wartenburger², Birgit Elsner¹, Milena Rabovsky¹; ¹Department of Psychology, University of Potsdam, ²Department of Linguistics, Cognitive Sciences, University of Potsdam

Topic Area: LANGUAGE: Other

E47 - What underlies differences in emotional expression in L1 and L2? Examining the lexical properties of narratives

Brian Kim¹ (bs8kim@uwaterloo.ca), Myra Fernandes¹, Katherine White¹; ¹University of Waterloo

Topic Area: LANGUAGE: Other

E48 - Dynamic Neural Reorganization Underlying Speech Disambiguation

Francis Pingfan Chien¹ (f12b49004@ntu.edu.tw), Yu Tsao², Po-Jang Hsieh³; ¹Taiwan International Graduate Program in Interdisciplinary Neuroscience, National Taiwan University and Academia Sinica, Taipei, Taiwan, ²Research Center for Information Technology Innovation, Academia Sinica, Taiwan, ³Department of Psychology, National Taiwan University, Taipei, Taiwan

Topic Area: LANGUAGE: Semantic

E50 - Deceptive Cadences: Investigation of the P600 in sentences and musical phrases within musicians and non-musicians

Hannah Reinicke¹, Grit Herzmann¹; ¹The College of Wooster

Topic Area: LANGUAGE: Syntax

E51 - The Brain Resilience Study: Structural Connectivity Network Features Relate to Cognitive, Sleep and Sex Differences in Older Adults.

Leanne Rokos^{1,2} (lrokos@sfu.ca), Anthony R McIntosh^{1,2}, Kashish Mehta^{1,3}, Alex Wiesman^{1,2}, Brianne Kent^{1,3}, Kelly Shen^{1,2}; ¹Institute for Neuroscience and Neurotechnology, Simon Fraser University, ²Faculty of Science, Simon Fraser University, ³Faculty of Arts and Social Sciences, Simon Fraser University

Topic Area: LONG-TERM MEMORY: Development & aging

E52 - The Origins of Memorability in Infancy

Marie F. Santillo¹, Cliona O'Doherty^{1,2}, Áine T. Dineen¹, Anna Truzzi^{1,3}, Anna Kravchenko¹, Graham King¹, Lorijn Zaadnoordijk¹, Enna-Louise D'Arcy¹, Tamrin Holloway¹, Jessica White¹, Chiara Caldinelli¹, Angela T. Byrne^{4,5}, Ailbhe Tarrant^{6,7}, Adrienne Foran^{6,7}, Eleanor J. Molloy^{1,4}, Rhodri Cusack¹; ¹Trinity College Dublin, ²Stanford University, ³Queen's University Belfast, ⁴The Coombe Hospital, Dublin, Ireland, ⁵Children's Health Ireland at Crumlin, Dublin, Ireland, ⁶The Rotunda Hospital, Dublin, Ireland, ⁷Children's Health Ireland at Temple Street, Dublin, Ireland

Topic Area: LONG-TERM MEMORY: Development & aging

E53 - The impacts of aging on hippocampal place cell sequences during movement and replay

Gabrielle F. Shvartsman¹ (gshvarts@uw.edu), Ian O'Leary¹, Anna K. Gillespie¹; ¹University of Washington, Seattle

Topic Area: LONG-TERM MEMORY: Development & aging

E54 - Does Theta Synchronicity of Sensory Information Enhance Associative Memory? Replicating the Theta-Induced Memory Enhancement Effect

Fatih Serin¹ (fatihsering@gmail.com), Danying Wang², Matthew Davis¹, Richard Henson^{1,3}; ¹MRC Cognition and Brain Sciences Unit, University of Cambridge, ²Institute of Cognitive Neuroscience, University College London, ³Department of Psychiatry, University of Cambridge

Topic Area: LONG-TERM MEMORY: Episodic

E55 - Association Between Anterior Hippocampal Gyrfication and Episodic Memory Performance in Neurotypical Young Adults

Nima Talaei Kamalabadi¹ (ntalaeik@uwo.ca), Jordan DeKraker², Bradley Karat¹, Ali Khan¹, Stefan Köhler¹; ¹University of Western Ontario, ²McGill University

Topic Area: LONG-TERM MEMORY: Episodic

E56 - Targeted Memory Reactivation During Sleep Disrupts the Temporal Structure of Episodic Memories

Yuqi Zhang¹, Xiaoqing Hu¹; ¹The University of Hong Kong

Topic Area: LONG-TERM MEMORY: Episodic

E57 - Linguistic Scaffolds Shape the Reconstruction of Visual Memories

Xinhao Wang^{1,2} (xinhao.wang@duke.edu), Simon Davis^{1,3}, Roberto Cabeza¹; ¹Duke University, ²Humboldt-Universität zu Berlin, ³Indiana University

Topic Area: LONG-TERM MEMORY: Episodic

E58 - A computational model of the episodic memory impairment in schizophrenia

Andrew Tornatore¹, Aslihan Imamoglu², Stephan Heckers², Sean Polyn¹; ¹Vanderbilt University, ²Vanderbilt University Medical Center

Topic Area: LONG-TERM MEMORY: Episodic

E59 - The recollection deficit in amnesia is critically linked to the confusion of temporal context of items in memory

Radek Ptak¹ (radek.ptak@unige.ch); ¹Faculty of Medicine, University of Geneva, Geneva, Switzerland, ²Division of Neurorehabilitation, University Hospitals of Geneva, Geneva, Switzerland

Topic Area: LONG-TERM MEMORY: Episodic

E60 - Testing the Causal Role of the Posterior Medial Network in Episodic Memory Specificity

Sandry M. Garcia¹, Natalia Ladyka-Wojcik, Nina Curko¹, Hannah Piccirilli¹, Brigitte Guzman³, Colette Chen⁴, Preston Thakral², Maureen Ritchey¹; ¹Boston College, ²Smith College, ³University of California, Los Angeles, ⁴Northeastern University

Topic Area: LONG-TERM MEMORY: Episodic

E61 - The Effects of Stress on Memory in Latino Populations

Angie Cordova¹, Fernanda Morales-Calva¹, Stephanie Leal^{1,2}; ¹Department of Psychological Sciences, Rice University, ²Department of Integrative Biology & Physiology, UCLA

Topic Area: LONG-TERM MEMORY: Episodic

E62 - Tempo-Evoked Arousal: Distortions of Temporal Memory and Temporal Expansion

Mikaila Tombe¹, Caroline Palmer¹, Signy Sheldor²; ¹McGill University

Topic Area: LONG-TERM MEMORY: Episodic

E63 - Hippocampal–Auditory Activation During Music Listening in Anesthetized States

Xiangbin Teng¹ (xiangbinteng@cuhk.edu.hk), Hao Zhu², Chen Yao³, Patrick Chun Man Wong^{2,5}, Xing Tian⁴; ¹Department of Psychology, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ²Brain and Mind Institute, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China, ³Department of Neurosurgery, Shenzhen Second People's Hospital (The First Affiliated Hospital of Shenzhen University), Shenzhen, Guangdong, China, ⁴Neural and Cognitive Sciences, NYU Shanghai, Shanghai, China, ⁵Department of Linguistics, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China

Topic Area: LONG-TERM MEMORY: Episodic

E64 - The impact of classic psychedelic use on sleep architecture and false memory formation

Oliwia Zaborowska¹ (o.zaborowska@gmail.com), Anna Duszyk-Bogorodzka¹, Jakub Schimmelpennig¹, Karolina Marut¹, Gabriela Pawlak²; ¹Faculty of Psychology, SWPS University in Warsaw, ²Faculty of Physics, University of Warsaw

Topic Area: LONG-TERM MEMORY: Episodic

E65 - Reactivating memory, replicating science: Insights from the ongoing ManyBeds study of sleep-dependent learning

Julia Beitner¹ (julia.beitner@zi-mannheim.de), Gordon B. Feld^{1,2}; ¹Central Institute of Mental Health, Mannheim, Germany, ²University of Heidelberg, Germany

Topic Area: LONG-TERM MEMORY: Episodic

E66 - From error to exploration: Curiosity and Prediction error interact to promote lasting learning

Jia-Hou Poh^{1,2} (jiahou.poh@gmail.com), Abigail Hsiung², Paige Sevchik^{2,3}, R. Alison Adcock²; ¹National University of Singapore, ²Duke University, ³University of Pennsylvania

Topic Area: LONG-TERM MEMORY: Episodic

E67 - Emotion as a factor of episodic content to predict vividness of memories

Alexa Lloyd¹ (apl68@drexel.edu), Alexa Tompany, PhD¹; ¹Drexel University

Topic Area: LONG-TERM MEMORY: Episodic

E68 - Retrieving conceptual details of distinct autobiographical memories enhances representational overlap within the anterior hippocampus

Sydney Lambert¹ (sydney.lambert@mail.mcgill.ca), Lauri Gurguryan², Signy Sheldon¹; ¹McGill University, ²University of California, Riverside

Topic Area: LONG-TERM MEMORY: Episodic

E69 - Under what circumstances does wakeful rest promote episodic memory consolidation?

Carmen E Westerberg¹ (cw54@txstate.edu), Gabrielle Gaubert¹, Daniel Gonzalez¹, Yordanos Kinfe¹, Favour Kowe¹; ¹Texas State University

Topic Area: LONG-TERM MEMORY: Episodic

E70 - Age-related Differences in Familiarity and Recollection-Based Memory: Cognitive Patterns and Neural Mechanisms Across the Lifespan

HAORAN GUAN¹ (haoran.guan@postgrad.manchester.ac.uk), Darya Frank, Dan Cox, Daniela Montaldi; ¹University of Manchester, ²Andrew Mayes Centre for Cognitive Neuroscience, University of Manchester, UK

Topic Area: LONG-TERM MEMORY: Episodic

E71 - Adjusting The Lens Of Encoding: How An Implicit Encoding Context Shapes the Details Recalled In Event Memory

Louise Van Dijck^{1,2}, Jamie Snytte¹, Jade Gordon³, Signy Sheldon¹; ¹McGill University, ²Ghent University, ³Cornell University

Topic Area: LONG-TERM MEMORY: Episodic

E72 - A matter of detail – material-specific structural changes after studying different kinds of learning material

Antonia Lenders¹ (antonia.lenders@psychologie.uni-freiburg.de), Deniz Kumral¹, Monika Schönauer¹; ¹University of Freiburg, Freiburg, Germany

Topic Area: LONG-TERM MEMORY: Episodic

E73 - Can memory for a narrative be unfolded after compression?

Rayna Tang¹ (rayna@wustl.edu), Ata Karagoz², Nichole Bouffard¹, Jacob Tartakovsky¹, Zachariah Reagh¹; ¹Washington University in St. Louis, ²University of Chicago

Topic Area: LONG-TERM MEMORY: Episodic

E74 - Mnemonic traits differentially predict event recall across short and long delay

Catalina Yang¹ (catalina.yang@mail.utoronto.ca), Quynh Nguyen¹, Nicole Yuen¹, Van Ngo¹, Ethina Islam¹, Morgan Barens^{1,2}, Katherine Duncan¹; ¹University of Toronto, ²Rotman Research Institute

Topic Area: LONG-TERM MEMORY: Episodic

E75 - Electrophysiological evidence for forward and backward time-based search through episodic memory

Roman M. Gutierrez¹, Jeffrey D. Johnson ; ¹University of Missouri

Topic Area: LONG-TERM MEMORY: Episodic

E76 - An electrophysiological investigation into the objective and subjective aspects of episodic memory

Pearl S. Peng¹ (ppeng@smith.edu), Preston P. Thakral¹; ¹Smith College

Topic Area: LONG-TERM MEMORY: Episodic

E78 - Cueing with key moments to facilitate recall of narratives

Aditya Upadhyayula¹ (aditya.usa8@gmail.com), Zachariah Reagh¹; ¹Washington University in St. Louis

Topic Area: LONG-TERM MEMORY: Episodic

E79 - Mass univariate analysis implicates the late parietal positivity in associative recognition success

Devon Yanitski¹ (dyanitsk@ualberta.ca), Tamari Shalamberidze¹, Yvonne Y. Chen², Jeremy B. Caplan¹; ¹University of Alberta, ²University of Nevada, Las Vegas

Topic Area: LONG-TERM MEMORY: Episodic

E80 - Preserved Memory performance despite reduced hippocampal volume in treatment-resistant depression

Claire Lauzon^{1,2} (cdlauzon@yorku.ca), Angelina Zhang², Tulip Marawi^{2,3}, Georgia Gopinath⁴, Isabella J. Sewell¹, Sean M. Nestor², Peter Giacobbe², R. Shayna Rosenbaum¹, Jennifer S. Rabin^{2,3}; ¹York University, ²Sunnybrook Research Institute, ³University of Toronto, ⁴University of Manitoba

Topic Area: LONG-TERM MEMORY: Episodic

E81 - Context reinstatement in the hippocampus supports retrieval of episodic memory details

Victoria Schelkun¹ (vrs2122@columbia.edu), David Clewett², Lila Davachi^{1,3}; ¹Columbia University, ²University of California, Los Angeles, ³Nathan Kline Institute

Topic Area: LONG-TERM MEMORY: Episodic

E82 - Mesolimbic contribution to objective and subjective memory retrieval success

Yifang Liu¹ (yifangl@uoregon.edu), Ian C. Ballard², J. Benjamin Hutchinson¹, John Clithero¹, Vishnu P. Murty¹; ¹University of Oregon, ²University of California, Riverside

Topic Area: LONG-TERM MEMORY: Episodic

E83 - Does Intentional Integration Influence the Fate of Memories When Reactivated During Sleep?

Hannah Ross¹, Emma Ruvalcaba¹, Matt Babb¹, Andrew Loehr¹, Josh Tarica¹, Kelly Bennion¹, Aidan Horner², Eitan Schechtman³, James Antony¹; ¹California Polytechnic State University, San Luis Obispo, ²University of York, ³University of California, Irvine

Topic Area: LONG-TERM MEMORY: Episodic

E84 - Distinct Neural Dynamics in Emotional Memory Encoding between Insomnia and Healthy Sleepers

Sen Mu¹ (senmu@connect.hku.hk), Shengzi Zeng^{2,3}, Danni Chen¹, Xiaoqing Hu^{1,4}; ¹The University of Hong Kong, ²Beth Israel Deaconess Medical Center, ³Harvard Medical School, ⁴HKU-Shenzhen Institute of Research and Innovation

Topic Area: LONG-TERM MEMORY: Other

E85 - The influence of event boundaries on attentional dynamics and event encoding

Karen Sasmita¹ (ksasmita@nus.edu.sg), Christopher L. Asplund¹; ¹National University of Singapore

Topic Area: LONG-TERM MEMORY: Other

E86 - Charting Spatial Memory Over Time in Developmental Amnesia

Tolu Faromika¹ (tolufaro@yorku.ca), Katherine Herdman⁴, R. Shayna Rosenbaum^{1,2,3}; ¹York University, ²Rotman Research Institute, Baycrest Academy for Research and Education, ³Centre for Integrative and Applied Neuroscience, York University, ⁴Ottawa Hospital

Topic Area: LONG-TERM MEMORY: Other

E87 - ERP Evidence that Disfluency is Resolved by Longer Prime Exposure during Recognition Memory

Lynne Abraham¹ (abraham1@tcnj.edu), Christian Noguchi¹, Vishwa Mandlewala¹, Sukriti Sawhney¹, P. Andrew Leynes¹; ¹The College of New Jersey

Topic Area: LONG-TERM MEMORY: Priming

E88 - Repetition priming is driven by the modulation of high-level, but not low-level, visual representations

Tobias Egner¹, Ricardo Morales Torres¹, Peter S. Whitehead¹; ¹Duke University

Topic Area: LONG-TERM MEMORY: Priming

E89 - Explore-Exploit Tradeoffs During Memory Search: The Predictive Role of Theta Oscillations

Channing Hambric¹ (c.hambric@bowdoin.edu), Erika Nyhus¹, Abhilasha Kumar¹; ¹Bowdoin College

Topic Area: LONG-TERM MEMORY: Semantic

E90 - Using network science to provide insights into people's understanding of activity centrality

Mackenzie Bain¹ (mbain29@uwo.ca), Martha Valmana Crocker¹, Beatrice Valmana Crocker¹, Kara E. Hannah¹, Kevin S. Brown², Ken McRae¹; ¹University of Western Ontario, ²Oregon State University

Topic Area: LONG-TERM MEMORY: Semantic

E91 - When Stability Meets Change: Neural Dissociation of Statistical Learning and Adaptive Flexibility in the Motor Domain

Erik Chihhung Chang¹ (audachang@gmail.com), Chiao-En Chan¹, Denise Hsien Wu¹; ¹National Central University, Taiwan

Topic Area: LONG-TERM MEMORY: Skill Learning

E92 - Classifying stimulus-level memory outcome using temporal versus spectrographic features

Kieran Pawluk¹ (kpawluk@ualberta.ca), Angad Chahil¹, Faisal Anquor¹, Jeremy Caplan¹; ¹University of Alberta

Topic Area: METHODS: Electrophysiology

E93 - Neural Signatures of Motion: A Deep Learning Framework for Classifying EEG Responses to Dynamic Facial Expressions

Taylor Hamilton¹ (bqd24@txstate.edu), Natalie Ceballos¹, Reiko Graham¹; ¹Department of Psychology, Texas State University

Topic Area: METHODS: Electrophysiology

E94 - Effects of Transcutaneous Auricular Vagus Nerve Stimulation on Conflict-Related Neural Processes: A Blinded, Crossover Study

Hector Sanchez Melendez¹ (hos6@duke.edu), Travis Larson¹, Kenneth C. Roberts¹, Hayden Kenny¹, Sloan Sloyster¹, Marty G. Woldorff¹, Leah Acker¹; ¹Duke University

Topic Area: METHODS: Electrophysiology

E95 - Impact of Age-Appropriate Functional Atlas on Associations Between Network Connectivity and Cognition in Older Adults

Jessica Frame¹ (jcframe@uiowa.edu), Bryan Madero¹, Chris Oehler¹, Sydney Andersen¹, Hyun Kyu Lee², Chandramallika Basak³, Michelle Voss¹; ¹University of Iowa, ²Posit Science, ³The University of Texas at Dallas

Topic Area: METHODS: Neuroimaging

E96 - MEGgles: An integrated virtual reality platform for naturalistic neuroimaging with magnetoencephalography

Dominik Bach^{1,2}, Sajjad Zabbah², Nicholas Alexander², Yousef Mohammad², Alberto Mariola², Robert Seymou², Sahitya Puvvada², Gareth Barnes²; ¹University of Bonn, Centre for Artificial Intelligence and Neuroscience, ²University College London, Functional Imaging Laboratory, Department of Imaging Neuroscience

Topic Area: METHODS: Neuroimaging

E97 - Explainable Multimodal Models for Cognitive Aging: SHAP Analyses Reveal Clinically Relevant Nonlinear Structural and Graph-Theoretical Network Features

Héctor Manuel Cárdenas Castro¹ (hectorcardenas2610@gmail.com), Jose Antonio Cantoral Ceballos¹, Ricardo Caraza^{1,3}, Luis Angel Trejo Rodriguez¹, Alejandro Castañeda Miranda²; ¹Instituto Tecnológico y de Estudios Superiores de Monterrey, ²Universidad Aeronáutica de Querétaro, ³Centro de Neurociencias Cognitivas

Topic Area: METHODS: Neuroimaging

E98 - Quantifying human neurophysiological variability across timescales

Isabel S. Wilson^{1,2}, Santiago Isaac Flores Alonso^{1,2}, Parham Fathi Naz^{1,2}, Ako Sotiroff^{1,2}, Polina Shahjahan^{1,2}, Alex I. Wiesman^{1,2}; ¹Simon Fraser University, ²Institute for Neuroscience and Neurotechnology

Topic Area: METHODS: Neuroimaging

E99 - Sleep-like slow waves during wakefulness in attention-deficit/hyperactivity disorder (ADHD)

Chunnian zeng^{1,2,3}, Michael barham¹, Caroline witton^{2,3}, Johanna zumer^{2,3}, Tim silk¹; ¹Cognitive Neuroscience Unit, School of Psychology, Deakin University, Melbourne, Australia, ²Institute of Health and Neurodevelopment, Aston University, Birmingham, UK, ³Department of Psychology, Aston University, Birmingham, UK

Topic Area: METHODS: Neuroimaging

E100 - Dictionary choice matters when selecting tools for sentiment analysis in younger versus older adult populations

Khalil Husein¹ (khusein@uwaterloo.ca), Claudia Morales Valiente², Myra Fernandes¹; ¹University of Waterloo, ²University of Alberta

Topic Area: METHODS: Other

E101 - Mapping Human Mesolimbic Circuitry for Risk and Reward: A 7T Structural Connectivity Atlas

Ranesh Mopuru¹ (tur31625@temple.edu), Blake Elliott¹, Linda Hoffman¹, Josiah Leong², Vishnu Murty³, Ingrid Olson¹; ¹Temple University, ²University of Arkansas, ³University of Oregon

Topic Area: NEUROANATOMY

E102 - Plasma Proteome Signatures as Transdiagnostic Markers of Clinical Severity in Neurodegenerative Diseases

Ethan Terman¹, Lior Sanilevich¹; ¹New York University

Topic Area: NEUROANATOMY

E103 - Alcohol's Effect on Resting-State Brain Network Dynamics Using NASCAR Tensor Decomposition

Kazuki Hachiken¹ (hachiken-kazuki-63e@g.ecc.u-tokyo.ac.jp), Ayume Yamashita¹, Ryohei Nakayama¹, Kaoru Amano¹; ¹Graduate School of Information Science and Technology, The University of Tokyo

Topic Area: OTHER

E104 - Complexity analysis of functional network development in endogenous high-density EEG of premature neonates

Sarah Mashmouhi¹ (mashmouhisa@gmail.com), Olivier David², Fabrice Wallois¹; ¹Inserm UMR1105, Groupe de Recherches sur l'Analyse Multimodale de la Fonction Cérébrale, Université de Picardie, Amiens, France, ²Inserm UMR1106, Institut de Neurosciences des Systèmes, Aix-Marseille Université, Marseille, France

Topic Area: OTHER

E105 - Navigating Knowledge Gaps: Cognitive Shifts from Books to Google and AI

Divya Bhatia¹ (divyabhatia72@gmail.com), Tara Chand², Aditya Varma¹, Raghav Verma¹, Tanisha Vijay¹; ¹O.P. Jindal Global University, India, ²Indian Institute of Technology (B.H.U.), India

Topic Area: OTHER

E106 - Preliminary investigation of hemodynamic fMRI dynamics in aging

Claire J Ciampa¹ (claireciampa@brandeis.edu), Ian C Ballard², Anne S Berry¹; ¹Brandeis University, ²University of California, Riverside

Topic Area: OTHER

E107 - Neural Encoding of Acoustic and Linguistic Speech Features Reveals Correlates of Understanding

Alexis Deighton MacIntyre¹ (alexisdeighton.macintyre@mrc-cbu.cam.ac.uk), Tobias Goehring^{1,2}, Matt Davis¹; ¹MRC Cognition and Brain Sciences Unit, University of Cambridge, ²Department of Otorhinolaryngology, Head and Neck Surgery, University of Zurich and University Hospital Zurich

Topic Area: PERCEPTION & ACTION: Audition

E108 - Neural dynamics of music listening reflect predictions embedded in deep generative networks

Arun Asthagiri¹, Psyche Loui¹; ¹Northeastern University

Topic Area: PERCEPTION & ACTION: Audition

E109 - MEG Evoked Power in Theta and Beta Frequency Band in Auditory Cortex Decodes Musical Perception and Imagery

Mi-young Chung¹ (mivyounghung@mail.mcgill.ca), Charlotte Van Barr¹, Andrea R. Halpern², Robert J. Zatorre¹; ¹McGill University, ²Bucknell University

Topic Area: PERCEPTION & ACTION: Audition

E110 - The Neural and Behavioral Correlates of Music Memorability

Jacob K Hankin¹, Grit Herzmans¹, Will Deng², Kara D Federmeier², Diane M Beck²; ¹College of Wooster, ²University of Illinois Urbana-Champaign

Topic Area: PERCEPTION & ACTION: Audition

E111 - From high-energy consumption to efficient prediction: Developmental changes in neural dynamics of syllable processing

Xiaoqi Yang¹ (mi77.new@gmail.com), Yuting Meng¹, Hua Fan¹, Ling Liu¹; ¹Beijing Language and Culture University, Beijing, China

Topic Area: PERCEPTION & ACTION: Development & aging

E112 - Active agency alters functional connectivity in a reach-to-grasp video game

Shaylyn Kress¹, Jaana Leppala², Chelsea Ekstrand¹, Jody C. Culham²; ¹University of Lethbridge, ²Western University

Topic Area: PERCEPTION & ACTION: Motor control

E113 - A dissociation between motor and declarative memory for duration

Khayla Santiago¹ (khaylasantiago2030@u.northwestern.edu); ¹Northwestern University

Topic Area: PERCEPTION & ACTION: Multisensory

E114 - The conceptualization of time in participants with high and low musical experience

Leah Downie¹ (ld922@drexel.edu), Aaron Kucyi¹, Alexa Tompary¹, Evangelia G. Chryssikou¹; ¹Drexel University

Topic Area: PERCEPTION & ACTION: Other

E115 - Same space, different plans: Sex differences in the organization of spatial cognition

Daniela Aguilar¹, Zitong Wu¹, Catalina Basualto San Martin¹, Claudia L.R. Gonzalez¹; ¹The University of Lethbridge

Topic Area: PERCEPTION & ACTION: Other

E116 - Using MEG to understand the neural underpinnings of tactile sensitivity to clothing fabrics

Rebecca Taylor¹ (taylorr41@cardiff.ac.uk), Petroc Sumner¹, Gavin Perry¹, Veikko Jousmäki², Krish D. Singh¹, Catherine R.G. Jones¹; ¹Cardiff University, ²Aalto University

Topic Area: PERCEPTION & ACTION: Other

E117 - Diffuse predictions reshape WM representations at encoding

Nursena Ataseven Özdemir^{1,2} (n.ataseven@rug.nl), Şahcan Özdemir^{2,1}, Wouter Kruijne¹, Daniel Schneider², Elkan G. Akyürek¹; ¹University of Groningen, ²Leibniz Research Centre for Working Environment and Human Factors

Topic Area: PERCEPTION & ACTION: Vision

E118 - Spatial Navigation and Representations of Spatial Information in Visual Aphantasia

Zoe Cronin¹ (zoe.cronin@uta.edu), Steven Weisberg¹; ¹University of Texas at Arlington

Topic Area: PERCEPTION & ACTION: Vision

E119 - Dynamic Faces Distinguish N170 and VPP Activity in Face Perception

Gabrielle Gaubert¹ (gabbygaubert2@gmail.com), Natalie Ceballos¹, Reiko Graham¹; ¹Department of Psychology, Texas State University

Topic Area: PERCEPTION & ACTION: Vision

E120 - Hypothesis-driven identification of neural algorithms with dynamical structure-preserving manifolds

Daniel Calbick¹ (daniel.calbick@yale.edu), Jason Kim², Hansem Sohn³, Ilker Yildirim¹; ¹Yale University, ²Cornell University, ³Sungkyunkwan University

Topic Area: PERCEPTION & ACTION: Vision

E121 - Perceptual plasticity is gated by localized training-induced changes in excitation/inhibition balance measured using scalp EEG

Aaron Cochrane¹ (aaron_cochrane@brown.edu), Yuka Sasaki¹, Takeo Watanabe¹; ¹Brown University

Topic Area: PERCEPTION & ACTION: Vision

E122 - Tracking Concealed-Information Signatures Over Time: Passive EEG Decoding of Probe vs. Irrelevant Trials

Xu Peng¹ (pengxu1308@gmail.com), Yun-Wan Chen², Yu-Hui Lo¹, Philip Tseng¹; ¹Department of Psychology, National Taiwan University, Taipei, Taiwan, ²College of Medicine, Taipei Medical University, Taipei, Taiwan

Topic Area: PERCEPTION & ACTION: Vision

E123 - Event-related potentials to outcome valence are modulated by the decision to explore or exploit

Eunchan Na¹ (eunchan@ualberta.ca), Benjamin J. Dyson¹; ¹University of Alberta

Topic Area: THINKING: Decision making

E124 - Shared beta network states are recruited for distinct cognitive processes in sensory decision-making

Pinar Toptas^{1,2,3}, Ken C Lew^{4,5}, Audrey E Kaye¹, Jacob W Proctor-Bonbright¹, Zachary M Leveroni^{1,2,3}, Brian Garcia¹, Uma Mani¹, Jaquelin Gutierrez⁶, Glingna Wang⁷, Jai Y Yu^{1,2,3}; ¹Neuroscience Institute, University of Chicago, ²Department of Psychology, University of Chicago, ³Institute for Mind and Biology, University of Chicago, ⁴Physical Sciences Division, University of Chicago, ⁵Data Science Institute, University of Chicago, ⁶Biological Sciences Division, University of Chicago, ⁷Pritzker School of Molecular Engineering

Topic Area: THINKING: Decision making

E125 - Mental Imagery Shapes Emotions in People's Decisions Related to Risk Taking

Tomasz Zaleskiewicz¹ (tzaleskiewicz@swps.edu.pl), Joanna Smieja¹, Agata Gasiorowska¹; ¹SWPS University

Topic Area: THINKING: Decision making

E126 - Adaptive and Maladaptive Behavioural Flexibility after Reward and Punishment: Evidence Across Dynamic Learning and Goal Contexts

Yajing Zhang¹ (yajing10@ualberta.ca), Benjamin James Dyson¹; ¹University of Alberta

Topic Area: THINKING: Decision making

E127 - Subcortical brain circuits reflect changing motivational demands at different time scales during effort-based decision-making

Rong Bi¹, Lilian Weber², Jan Grohn¹, Miriam Klein-Flügge¹; ¹University of Oxford, ²Osnabrück University

Topic Area: THINKING: Decision making

E128 - The unique neural circuits underlying top-down and bottom-up motivated self-control during nutritional decision making

Matthew D. Bachman¹ (matthewdbachman@gmail.com), Rémi Janet², Anita Tusche², Cendri A. Hutcherson¹; ¹University of Toronto, ²Queens University

Topic Area: THINKING: Decision making

E129 - Examining self-other intertemporal choices in individuals with ventromedial prefrontal cortex lesions

Nardeen Yalda¹ (nardeenyalda2000@gmail.com), Julia G. Halilova¹, Jenkin N.Y. Mok¹, Donna Rose Addis^{2,3}, Carl F. Craver⁴, R. Shayna Rosenbaum^{1,3}; ¹Department of Psychology, York University, ²Department of Psychology, University of Toronto, ³Baycrest Academy for Research and Education, ⁴Department of Philosophy, Washington University in St. Louis

Topic Area: THINKING: Decision making

E130 - Frontal, Parietal, and Temporal Modulation in Older Adults After Inference-Based Lego Robot Programming Training

Tzu-Yun Kung¹ (alice391893@gmail.com), Yi-Xin Fang¹, Wan-Rue Lin¹, Chih-Yu Chao¹, Ya-Ting Chang¹, Chia-Pin Yu², Hui-Fen Mao³, Chien-Te Wu^{4,5}, Joshua Oon Soo Goh^{1,6,7,8}; ¹Graduate Institute of Brain and Mind Sciences, College of Medicine, National Taiwan University, Taipei, Taiwan., ²School of Forestry and Resource Conservation, National Taiwan University, Taipei, Taiwan., ³School of Occupational Therapy, College of Medicine, National Taiwan

University, Taipei, Taiwan., ⁴Department of Occupational Therapy, College of Public Health and Health Professions, University of Florida, ⁵Center for Cognitive Aging and Memory, McKnight Brain Institute, University of Florida, ⁶Department of Psychology, National Taiwan University, Taipei, Taiwan., ⁷Neurobiology and Cognitive Science Center, National Taiwan University, Taipei, Taiwan., ⁸Center of Artificial Intelligence and Advanced Robotics, National Taiwan University, Taipei, Taiwan.

Topic Area: THINKING: Other

E131 - The effects of short-term mindfulness and distraction on rumination: an fMRI study

Natalie M. Nielsen¹ (natalie.nielsen@donders.ru.nl), Viane Favennec², Ruben van den Bosch^{1,2}, Guusje Collin¹, Tor D. Wager³, Roshan Cools¹; ¹Radboud University Medical Centre, Donders Institute for Brain, Cognition and Behaviour, ²Radboud University, Nijmegen, Netherlands, ³Dartmouth College

Topic Area: THINKING: Other

Poster Session F

Tuesday, March 10, 2026, 8:00 – 10:00 am, Fairview/Kitsilano Ballrooms

F1 - Does Acute Stress Impact ERP Measures of Selective Attention in a Hillyard Dichotic Listening Task?

Ryan Giuliano¹ (ryan.giuliano@umanitoba.ca), Mohammad Soleyman Nejad¹, Leslie Roos¹; ¹University of Manitoba

Topic Area: ATTENTION: Auditory

F2 - Attention to Speech in the Ascending Auditory Nervous System: an EEG Investigation.

Brett M. Bormann^{1,2} (bmbormann@ucdavis.edu), Daniel C. Comstock¹, Kelsey Manke^{1,3,4}, Soukhin Das^{1,5}, Hilary Brodie⁶, Doron Sagiv⁶, Lee M. Miller^{1,6,7}; ¹Center for Mind and Brain, University of California, Davis, ²Neuroscience Graduate Group, University of California, Davis, ³Institute for Intelligent Systems, University of Memphis, ⁴School of Communication Sciences & Disorders, University of Memphis, ⁵Psychology Graduate Group, University of California, Davis, ⁶Departments of Otolaryngology | Head and Neck Surgery, University of California, Davis, ⁷Neurobiology, Physiology and Behavior, University of California, Davis

Topic Area: ATTENTION: Auditory

F3 - Threat and Prediction Modulations of Early Neural Responding to Facial Inputs are not Pre-Attentive

Philip Chalk¹ (p.t.chalk@student.uq.edu.au), Derek Arnold², Alan Pegna³; ¹The University of Queensland

Topic Area: ATTENTION: Other

F4 - Investigating Neuro-oscillatory Alpha Dynamics in Autistic Children at Rest and at Play

Theo Vanneau¹ (theo.vanneau@gmail.com), Chloe Brittenham¹, Michael Quiquempoix^{2,3}, John. J. Foxe^{1,4}, Sophie Molholm^{1,4}; ¹The Cognitive Neurophysiology Laboratory, Departments of Pediatrics & Neuroscience, Albert Einstein College of Medicine, Bronx, New York 10461, USA, ²Institut de Recherche Biomédicale des Armées (IRBA), 91223 Brétigny sur Orge, France, ³URP 7330 VIFASOM, Université Paris Cité, Hôtel Dieu, Paris, France, ⁴The Frederick J. and Marion A. Schindler Cognitive Neurophysiology Laboratory, The Ernest J. Del Monte Institute for Neuroscience, Department of Neuroscience, University of Rochester School of Medicine and Dentistry, Rochester, New York 14642, USA

Topic Area: ATTENTION: Other

F5 - Task-based fMRI analysis of the Midnight Scanning Club Coherence-Semantic task

Solana Redway^{1,2}, Helen Hsiao¹, Todd S. Woodward^{1,2}; ¹Faculty of Medicine, University of British Columbia, Vancouver, Canada, ²BC Mental Health and Addictions Research Institute, Vancouver, Canada

Topic Area: ATTENTION: Other

F6 - EEG Decoding of Poor Sustained Attention Beyond Failures of Selective Attention and Task Maintenance

Matthieu Chidharom¹ (matthieuchidharom@gmail.com), Henry Jones¹, Edward Vogel¹, Monica Rosenberg¹; ¹University of Chicago

Topic Area: ATTENTION: Other

F7 - Conditional automaticity: Attention alters sound-spelling conflict effect

Niki Sinha¹ (nsinha7@uwo.ca), Marc Joanisse¹; ¹Western University

Topic Area: ATTENTION: Other

F8 - The Immediate Effects of Sports Gambling, Surprise, and Suspense on Attention and Memory

Andrew Loehr¹ (andrewthomasloehr@gmail.com), James Antony¹, Colin Schmitt¹, Amrit Pradhan¹; ¹California Polytechnic State University, San Luis Obispo

Topic Area: ATTENTION: Other

F9 - The Influence of Built Environments on People's Space Preferences and Attention Distribution Across Studying, Socializing, and Relaxing Activities

Yujie Zhao¹ (yujie39@ualberta.ca), Mae. R. Pacificar¹, Hiba Farooqui¹, Dana A. Hayward^{1,2,3}; ¹Psychology Department, University of Alberta, ²Neuroscience and Mental Health Institute, ³Women and Children's Health Research Institute

Topic Area: ATTENTION: Spatial

F10 - Neural dynamics of global and local visual processing: magnetoencephalography (MEG) decoding with Navon letters

Advitya Hajela¹ (adi050317@gmail.com), Peter Kim¹, Sang-Ah Yoo², Hayoung Cho¹, Sung Jun Joo², Sang Chul Chong³, Hee Yeon Im^{1,4}; ¹University of British Columbia, ²Pusan National University, ³Yonsei University, ⁴BC Children's Hospital Research Institute

Topic Area: ATTENTION: Spatial

F12 - A Multiple Trace Model Unifying Statistical Learning and Intertrial Priming.

Dock Duncan¹ (d.h.duncan@vu.nl), Sander Los¹, Jan Theeuwes¹; ¹Vrije Universiteit Amsterdam

Topic Area: ATTENTION: Spatial

F13 - Induced Stress Changes Affective Sensitivity and Eye Responses to Event Boundaries in Commercial Movies

Ruiyi Chen¹ (rc799@cornell.edu), Khenia Swallow¹; ¹Cornell University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F14 - Threat extinction through unrecognizable mid-level visual features

Jamie Greer¹ (jamiagreer@g.harvard.edu), Talia Konkle¹, Joseph E Dunsmoor², Annika Inampudi¹, Manar Abre¹, Pascale Fung¹, Hiral Chavre¹, Elizabeth A Phelps¹; ¹Harvard University, ²University of Texas at Austin

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F15 - Socioeconomic Status, Emotion Regulation, and Mental Health: Toward an Integrative Neurocognitive Framework

Cuiwei Lu¹ (cl4557@tc.columbia.edu), Hairuo He², Hannah Hao³; ¹Teachers College, Columbia University, New York, USA, ²Department of Psychiatry, and National Clinical Research Center for Mental Disorders, The Second Xiangya Hospital of Central South University, Changsha, China, ³Icahn School of Medicine at Mount Sinai, New York, USA

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F16 - Neural correlates of insight on psilocybin: a within-subjects, healthy volunteer study

Lorenzo Pasquini¹ (lorenzo.pasquini@ucsf.edu), Manesh Girm¹, Hannes Kettner¹, Avery Ostrand¹, Kate Allison¹, Christian Valtierra¹, Will Lucas¹, Patrick McConnell¹, Catriona Miller¹, Sydney Griffith¹, Dawn Weinstein¹, Brian Anderson¹, Andrea Rosati¹, Jennifer Mitchell¹, Robin Carhart-Harris¹; ¹University of California San Francisco

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F17 - Cultural Variation in the Cognitive Mechanisms of Self-Forgiveness

Kaylee Miceli¹, Sonia Pan¹, Charlotte Lin¹, Aditya Singh¹, Felipe De Brigard¹, Cristina Salvador¹; ¹Duke University

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F18 - Inhibitory control is modulated by emotional valence and task-relevance: An ERP Study

Vrushali Rao Gumnur¹ (gumnur@ualberta.ca), Sandra Wiebe¹; ¹University of Alberta

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F19 - Sequence-Level Emotional Context Reactivation during Sleep: Driving Positive Memory Learning Across Wakefulness and REM Stages

Tianqi Di¹ (ditianqi@hku.hk), Jiahui Li¹, Xiaoqing Hu¹; ¹The University of Hong Kong

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

F20 - What It Sounds Like: Familiarity, Musical Affinity, and ADHD in Adolescents' Perception of Musical Emotions

Adam Robaczewski^{1,2,3,4,5} (adam.robaczewski@umontreal.ca), Erika Harkins^{1,2,3,4,5}, Pénélope Pelland-Goulet^{1,2,3,4,5}, Nathalie Gosselin^{1,2,3,4,5}; ¹University of Montreal, ²MUSEC (Laboratory on Music, Emotion, and Cognition), ³BRAMS (International Laboratory for Brain, Music, and Sound research), ⁴CRBLM (Center for Research on Brain, Language, and Music), ⁵CIRCA (Center for Interdisciplinary Research on Brain and Learning)

Topic Area: EMOTION & SOCIAL: Emotional responding

F21 - Resting frontal asymmetry and behavioral activation and inhibition

Madison Pittman¹ (vfc23@txstate.edu), Anthony Kang¹, Madison Risner¹, Natalie Ceballos¹, Reiko Graha¹; ¹Texas State University

Topic Area: EMOTION & SOCIAL: Other

F22 - Cognitive modes involved during theory of mind: A Human Connectome Project fMRI study

Ava Momeni^{1,2} (ava.momeni@ubc.ca), Madeleine Evora^{1,2}, Karanvir Gill¹, Todd S. Woodward^{1,2}; ¹University of British Columbia, Canada, ²BC Mental Health and Addictions Research Institute, Canada

Topic Area: EMOTION & SOCIAL: Other

F23 - It's Time for Resting Pitch Face: How Musical Key and Tempo Influence Neutral Face Appraisals.

Eddie Broad¹ (eddie.broad@bruins.belmont.edu), Nick DeMille¹, Isabel Stewart¹, Kierstin Roy¹, Vincent Flegeance¹, Carole Scherling¹; ¹Belmont University, Nashville, TN

Topic Area: EMOTION & SOCIAL: Person perception

F24 - Rapid and persistent neural representations differentiate crowd vs. individual faces: an magnetoencephalography (MEG) study

Enda Tan¹ (enda.tan@psych.ubc.ca), Kestutis Kveraga^{2,3}, Hee Yeon Im¹; ¹University of British Columbia, ²Massachusetts General Hospital, ³Harvard Medical School

Topic Area: EMOTION & SOCIAL: Person perception

F25 - Visual perception reveals a paradoxical relationship between emotions and our sense of the persisting "self"

Jocelyn Zhang¹ (jocelynzhang0904@gmail.com), Joan Danielle K. Ongchoco; ¹The University of British Columbia

Topic Area: EMOTION & SOCIAL: Person perception

F26 - Neural reactivation of self-relevant traits during sleep predicts selective consolidation of the positive self

Ziqing YAO¹ (ziqingy@connect.hku.hk), Danni CHEN¹, Jing LIU², Tao XIA¹, Chris Xie CHEN³, Rachel Ngan Yin CHAN³, Shirley Xin LI¹, Yina MA⁴, Xiaoqing HU¹; ¹Department of Psychology, The University of Hong Kong, Hong Kong SAR, China, ²School of Psychology, South China Normal University, Guangzhou, China, ³Department of Psychiatry, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China, ⁴Faculty of Psychology, Beijing Normal University, Beijing, China

Topic Area: EMOTION & SOCIAL: Self perception

F27 - Perceived burdensomeness and attention to words signifying social ostracism

Emma Schulz¹ (wrv8@txstate.edu), Madison Risner¹, Megan Rogers¹, Natalie Ceballos¹, Reiko Graham¹; ¹Department of Psychology, Texas State University

Topic Area: EMOTION & SOCIAL: Self perception

F28 - Baseline Anxiety Shapes The Mental Health Effects of an Interoceptive Enhancement Intervention

Nathan Whitmore¹ (nathanww@media.mit.edu), Minsol Kim¹, Phoebe Chua¹, Yuyang Zhang¹, Serena Pei¹, Isabel Wellins¹, Anan Afrida¹, Pattie Maes¹; ¹MIT

Topic Area: EMOTION & SOCIAL: Self perception

F29 - Young and old adult brains experience opposite effects of acute sleep restriction on the functional connectivity network

Josh Neudorf¹ (jneudorf@athabasca.ca), Leanne Rokos², Kelly Sher², Brianne Kent², Anthony R. McIntosh²; ¹Athabasca University, ²Simon Fraser University

Topic Area: EXECUTIVE PROCESSES: Development & aging

F30 - A longitudinal investigation of a potential experience-dependent bidirectional relationship between white matter & executive function

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Topic Area: EXECUTIVE PROCESSES: Development & aging

F31 - Independent Regulation of Cognitive Stability and Flexibility in Visual Search

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Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

F32 - Intracranial EEG Correlates of Concurrent Demands on Cognitive Stability and Flexibility

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Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

F33 - Preserved Performance, Altered Timing: Age Differences in Preparatory Neural Dynamics During Cross-modal Attention Switching

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Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

F34 - Maintenance suppression and retrieval suppression share common neural mechanisms to regulate intrusive thoughts

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Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

F35 - An Investigation into the Effects of a Single Bout of Passive Versus Active Exercise on Arousal and Executive Function

Lila Gavigan¹ (lgavigan@uwo.ca), Antonio Mendes¹, Matthew Heath¹; ¹University of Western Ontario

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

F36 - Unraveling Psychiatric Heterogeneity: Integrating Genes, Circuits, and Immunity

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Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

F37 - Transdiagnostic Disruptions of Dorsolateral Prefrontal Engagement in Cognitive Reflection

Teffina Zheng¹ (teffina.zhuzheng@yale.edu), Yueyue Lydia Qu¹, Jutta Joormann¹; ¹Yale University

Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

F38 - What Gets Decoded in Frontoparietal Cortices?

Adem YAZICI¹ (yzcadm@gmail.com), Gulsum Ozge Sengil, Ausaf A. Farooqui; ¹Bilkent University

Topic Area: EXECUTIVE PROCESSES: Other

F39 - Transdiagnostic Identification of Cognitive Subtypes and White Matter Correlates

Alina Nostadt¹ (nostadt@uni-marburg.de), Rieke Roxanne Mülthar¹, Jannik Lepper¹, Svenja Seuffert¹, Lea Teutenberg¹, Florian Thomas-Odenthal¹, Paula Usemann¹, Susanne Meinert², Tiana Borgers²,

Kira Flinkenflüge², Janik Goltermann², Dominik Grotegerd², Hamidreza Jamalabadi¹, Igor Nenadic¹, Benjamin Straube¹, Nina Alexander¹, Udo Dannlowski^{2,3}, Andreas Jansen¹, Tilo Kircher¹, Frederike Stein¹; ¹Philipps-University Marburg, ²University of Münster, ³Bielefeld University

Topic Area: EXECUTIVE PROCESSES: Other

F40 - Greater daily variability in cognition and mood predicts lower mean cognitive function in young adults

Melanie A. Butt¹, Todd C. Handy¹; ¹University of British Columbia

Topic Area: EXECUTIVE PROCESSES: Other

F41 - Neurobiological mechanisms associated with reading and math processes

Amanda Martinez-Lincoln¹ (amanda.martinez-lincoln@vanderbilt.edu), Laurie Cutting¹; ¹Vanderbilt University

Topic Area: EXECUTIVE PROCESSES: Other

F42 - Visual working memory representations of naturalistic images in the early visual cortex are not sensory-like

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Topic Area: EXECUTIVE PROCESSES: Working memory

F43 - No evidence for an object working memory capacity benefit in a whole-report task

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Topic Area: EXECUTIVE PROCESSES: Working memory

F44 - The Pink Of A Blue Flamingo: Effects Of Prototypical Object-Colour Representations On Visual Working Memory

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Topic Area: EXECUTIVE PROCESSES: Working memory

F45 - Beta oscillatory—not burst—dynamics support priority coding in working memory

Jacqueline M. Fulvio¹ (jacqueline.fulvio@wisc.edu), Bradley R. Postle¹; ¹University of Wisconsin—Madison

Topic Area: EXECUTIVE PROCESSES: Working memory

F46 - Biomarkers of Strategy Use in Cognitive Ageing: Insights from Neural and Eye Movement Data

Francesca M. Nannetti¹ (f.m.nannetti@leeds.ac.uk), Richard J. Allen¹, Gerard Campbell², Louise A. Brown Nicholls², Mario Parra Rodriguez², Claudia C. von Bastian³, Nan Peng³, Melanie R. Burke¹; ¹School of Psychology, University of Leeds, Leeds, UK, ²Department of Psychological Sciences and Health, University of Strathclyde, Glasgow, UK, ³Department of Psychology, University of Sheffield, Sheffield, UK

Topic Area: EXECUTIVE PROCESSES: Working memory

F47 - Feedback to early visual cortex is required for conscious visual experience during working memory maintenance

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Topic Area: EXECUTIVE PROCESSES: Working memory

F48 - Competition during working memory enhances long-term memory

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Southern California, ⁶Neuroscience Graduate Program, University of California San Diego

Topic Area: EXECUTIVE PROCESSES: Working memory

F49 - Structural and Functional MRI Insights into Bilingualism & Cognition in Aging

Emma Richard¹ (emmarichard@cmail.carleton.ca), Imola MacPhee¹, Shanna Kousaie², John A.E. Anderson¹; ¹Carleton University, ²University of Ottawa

Topic Area: LANGUAGE: Development & aging

F50 - Vocalization Processes Across Age and Sex in Common Marmosets

Constance Dollet^{1,2} (constance.dollet@mail.mcgill.ca), Terumi Yurimoto², Jiayue Yang¹, Erika Sasaki^{*2}, Justine Cléry^{*1}; ¹McGill University, ²Central Institute for Experimental Medicine and Life Science, Tokyo, Japan

Topic Area: LANGUAGE: Development & aging

F51 - Interactive Auditory Experience Accelerates Maturation of Beta–Gamma Coupling in the Infant Brain

Beenish Mahmood¹, April A. Benasich¹; ¹Center for Molecular and Behavioral Neuroscience, Rutgers University

Topic Area: LANGUAGE: Development & aging

F52 - Oscillatory Bursts as Neural Markers of Predictive Speech Processes

Lindsey Power¹ (lindsey.power@mail.mcgill.ca), Sylvain Baillet¹; ¹McGill University

Topic Area: LANGUAGE: Lexicon

F53 - EEG and Cognitive Markers of Comorbid Dyslexia and ADHD

Hailey Suttrop¹, Marc Joanisse¹; ¹University of Western Ontario

Topic Area: LANGUAGE: Other

F54 - Modulating neural oscillations to improve functional communication in post-stroke aphasia

Amelia Szewczyk¹, Madison Mulhall², Omayma Jabara², Kate Nealon², Alexandra Gaynor¹; ¹Department of Psychology, Montclair State University, ²Department of Communication Sciences and Disorders, Montclair State University

Topic Area: LANGUAGE: Other

F55 - Neural encoding of articulatory features during naturalistic speech perception

Olivia Bizimungu¹ (olivia.bizimungu@mail.mcgill.ca), Laura Gwilliams², Sylvain Baillet^{1,3}; ¹McGill University, ²Stanford University, ³Université de Montréal

Topic Area: LANGUAGE: Other

F56 - Prediction of Handedness and Language Hemispheric Dominance Using Homotopic Connectivity of Language Areas

Cesar Avila¹ (avila@psb.uji.es), Esteban Villar-Rodriguez², Maria Baena³, Cristina Cano⁴, Maria-Antonia Parcet⁵; ¹Jaume I University, ²Department of Psychology

Topic Area: LANGUAGE: Other

F57 - Investigating Task Modulation in Reading Through Large Language Models

SIJIE LING¹, Alona Fyshe¹; ¹University of Alberta

Topic Area: LANGUAGE: Other

F59 - Effect of semantic contextual cues on listeners' semantic prediction in speech masking listening conditions: Evidence from eye-tracking measurements

Setareh Dorood¹ (sdoro102@uottawa.ca), Tania Zamuner¹, Laura Sabourin¹; ¹University of Ottawa

Topic Area: LANGUAGE: Semantic

F60 - Brain vocabulary: EEG-based semantic feature maps for verbs

Milena R. Osterloh^{1,2} (m.osterloh@fu-berlin.de), Laura A. Ciaccio^{1,3}, Johann Berger¹, Luigi Grisoni^{1,4}, Friedemann Pulvermüller^{1,2,5,6}; ¹Brain Language Laboratory, Freie Universität Berlin, Berlin, Germany, ²Einstein Center for Neurosciences Berlin, Berlin, Germany, ³Department of Brain and Behavioral Sciences, University of Pavia, Pavia, Italy, ⁴Center for Translational Neurophysiology of Speech and Communication, Fondazione Istituto Italiano di Tecnologia, Ferrara, Italy, ⁵Berlin School of Mind and Brain, Humboldt Universität zu Berlin, Berlin, Germany, ⁶Cluster of Excellence 'Matters of Activity', Humboldt Universität zu Berlin, Berlin, Germany

Topic Area: LANGUAGE: Semantic

F61 - Intergenerational Impact of Maternal Traumatic Brain Injury: Distinct Prenatal and Postnatal Contributions and Pharmacological Rescue

Anatoly Martynyuk¹ (amartynyuk@anest.ufl.edu), Zeeshan Khan, Ling-Sha Ju, Caleb Charles; ¹University of Florida

Topic Area: LONG-TERM MEMORY: Development & aging

F62 - Rule and Exception Learning in Healthy Older Adults

Cheyne Warner¹ (cheyne@uoregon.edu), Lainey Costa, Isabella Zuniga, Ulrich Mayr, Dagmar Zeithamova; ¹University of Oregon

Topic Area: LONG-TERM MEMORY: Development & aging

F63 - The Impact of Depression on Emotional Memory in Latinos and Non-Latinos

Ahi Ajayan¹, Fernanda Morales-Calva¹, Madelyn Castro¹, Yasmin Sharpe¹, Stephanie Lea²; ¹Rice University, ²University of California, Los Angeles

Topic Area: LONG-TERM MEMORY: Development & aging

F64 - Subjective Cognitive Decline Is Associated with Impaired Memory for New Associations More Than for Gist

Madeline A. Sullivan¹ (sullivanma@uchicago.edu), Carina C. Samson¹, David A. Gallo¹; ¹University of Chicago

Topic Area: LONG-TERM MEMORY: Development & aging

F65 - Are my keys under the couch, or in my car? Enactment during learning benefits retrieval of object locations in forced-choice recognition memory.

Suesan MacRae¹ (smacra2@uwo.ca), Ken MacRae², Stefan Köhler³; ¹University of Western Ontario

Topic Area: LONG-TERM MEMORY: Episodic

F66 - Visual exploration directionally modulates information flow between memory and visual brain systems

Natalia Ladyka-Wojcik¹, Zhong-Xu Liu², Jennifer D Ryan^{1,3}; ¹Rotman Research Institute, ²University of Michigan-Dearborn, ³University of Toronto

Topic Area: LONG-TERM MEMORY: Episodic

F67 - Real-world encoding enhances whole-brain functional connectivity of recognized scenes

Chelsea Ekstrand¹ (chelsea.ekstrand@uleth.ca), Jane O'Connor¹, Shaylyn Kress¹, Dave Smith¹, Keva Klamer¹, Joshua Craig¹, Sabrina Werner¹, Rylee Wevers¹, Alireza Taheritorbati¹, Niayesh Allahdad¹; ¹University of Lethbridge

Topic Area: LONG-TERM MEMORY: Episodic

F68 - The Effect of Gaze Reinstatement Precision on Memory

Yanxin Xu¹ (yanxinxu@uvic.ca), Tarek Amer², Jordana Wynn³;
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Topic Area: LONG-TERM MEMORY: Episodic

F69 - Memory Consolidation Processes of Emotionally Arousing Memories across a Stress Manipulation

Katelyn Cliver¹ (kate.cliver@drexel.edu), Elizabeth Goldfarb²,
 Elizabeth Phelps³, Lila Davachi⁴, Alexa Tompany¹; ¹Drexel
 University, ²Yale University, ³Harvard University, ⁴Columbia
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Topic Area: LONG-TERM MEMORY: Episodic

F70 - Independent and Joint Contributions of Mind-Wandering and Reactivation to Memory Consolidation

Devayani Joshi¹ (dj584@drexel.edu), Aaron Kucyi¹, Tiara
 Bounyarith¹, Lotus Shareef-Trudeau¹, Alexa Tompany¹; ¹Drexel
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Topic Area: LONG-TERM MEMORY: Episodic

F71 - Methamphetamine-use experience is associated with deficits in hippocampal-dependent spatial memory and navigation

Alisha Schaefer¹ (aschaefer13@huskers.unl.edu), Hyeon Jung
 Heselton, Hillary Schwab; ¹University of Nebraska-Lincoln

Topic Area: LONG-TERM MEMORY: Episodic

F72 - Using Unitization to Rescue Associative Memory

Catherine Carpenter¹ (cmcarpenter@ucdavis.edu), Andrew
 Yonelinas¹; ¹The University of California, Davis

Topic Area: LONG-TERM MEMORY: Episodic

F73 - Cognitive trade-offs between episodic autobiographical memory and abstract reasoning

Ryan C. Yeung¹ (ryeung@research.baycrest.org), Nicholas B.
 Diamond¹, Stephanie Simpson¹, Carina L. Fan¹, Daniel Baena², H.
 Moriah Sokolowski^{1,3}, Stuart Fogel², Brian Levine^{1,4}; ¹Rotman
 Research Institute, Baycrest Academy for Research and Education,
²University of Ottawa, ³Toronto Metropolitan University, ⁴University
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Topic Area: LONG-TERM MEMORY: Episodic

F74 - Pre-trauma alertness enhances the development of intrusive traumatic memories

Stas Kozak¹, Yair Bar-Haim^{1,2}, Nitzan Censor^{1,2}; ¹School of
 Psychological Sciences, Tel Aviv University, Tel Aviv, Israel, ²Sagol
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Topic Area: LONG-TERM MEMORY: Episodic

F75 - Rapid formation of a memory engram for complex narratives in the posterior parietal cortex

Monika Schönauer¹, Antonia Lenders¹, Katja K. Kleespies¹, Svenja
 Brodt², Madeleine M. Sumner³, Elizabeth A. McDevitt³, Christopher
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 Freiburg, ²MPI Cybernetics Tübingen, ³Princeton University,
⁴Columbia University

Topic Area: LONG-TERM MEMORY: Episodic

F76 - Investigating the differential effects of narrativization and causal structure of stories on memory

Savannah Born¹ (born@wustl.edu), Zachariah Reagh; ¹Washington
 University in St. Louis

Topic Area: LONG-TERM MEMORY: Episodic

F77 - Episodic memory at midlife: The influence of perimenopause

Millie R. Bhaskara¹ (millie.bhaskara@torontomu.ca), Sricharana
 Rajagopal¹, Julia Kearley², M. Natasha Rajah^{1,2}; ¹Toronto
 Metropolitan University, ²McGill University

Topic Area: LONG-TERM MEMORY: Episodic

F78 - Causal role of the angular gyrus in imagination-guided memory distortions

Kennedy King¹, Himanshu Chaudhary², Ayanna Thomas², Elizabeth
 Race², Alexa Tompany¹; ¹Drexel University, ²Tufts University

Topic Area: LONG-TERM MEMORY: Episodic

F79 - Accounting for experimental factors diminishes neural measures of subsequent memory

Riley DeHaan¹ (rdehaan@sas.upenn.edu), David Halpern², Michael
 Kahana¹; ¹University of Pennsylvania, ²Columbia University

Topic Area: LONG-TERM MEMORY: Episodic

F80 - Rest-related memory benefits cannot be explained by post-encoding rehearsal

Benjamin Chaloupka^{1,2} (bchaloup@uoregon.edu), Matthew Fain^{1,2},
 Emily Cowan³, Arielle Tambin^{4,5}, Vishnu Murty^{1,2}; ¹Department of
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 Psychology, Adelphi University, ⁴Department of Psychiatry, New
 York University, ⁵Nathan S. Kline Institute for Psychiatric Research

Topic Area: LONG-TERM MEMORY: Episodic

F81 - Physiological Signatures of Value-Directed Remembering: Evidence From Pupillometry and Blink Rate

Natalia Pallis-Hassani¹ (npallishassani@g.ucla.edu), Barbara Knowlton¹, Alan Castel¹, Jesse Rissman¹; ¹UCLA

Topic Area: LONG-TERM MEMORY: Episodic

F82 - EEG evidence that negative images generate increased neural recapitulation early during memory retrieval

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Topic Area: LONG-TERM MEMORY: Episodic

F83 - Are Neural Signatures of Familiarity Domain-General? Evidence from an Exploratory Meta-Analysis of Familiar Face Processing

Xiaotong (Eva) Wu^{1,2}, Veronica Vuong^{1,2}, Sophia Cadelina¹, Elvis Chow¹, Morris Moscovitch^{1,2}, Claude Alain^{1,2}; ¹University of Toronto, ²Rotman Research Institute at Baycrest

Topic Area: LONG-TERM MEMORY: Other

F84 - Accessing Meaning During Encoding Shapes Subsequent Memory Reactivation in the Brain

Xiaoxi Qi¹ (xiq26@pitt.edu), Marc Coutanche¹; ¹University of Pittsburgh

Topic Area: LONG-TERM MEMORY: Semantic

F85 - Examining the neural dynamics of semantic memory integration using noninvasive brain stimulation with concurrent EEG

Sol Seales¹ (as5585@drexel.edu), Alexa Gorman², Alexandra E. Kelly¹, Ke Ding³, Yoed N. Kenett³, Evangelia G. Chryssikou¹; ¹Drexel University, ²University of California Davis, ³Technion-Israel Institute of Technology

Topic Area: LONG-TERM MEMORY: Semantic

F86 - Altered stimulus-response learning and striatal responses in posttraumatic stress disorder

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Topic Area: LONG-TERM MEMORY: Skill Learning

F87 - Temporal interference stimulation of the hippocampus modulates fast motor memory consolidation

Xiaoxi Pan¹ (xiaoxi.pan@utah.edu), Sophia Papagni Terrill¹, Elise Perry¹, Jet Taylor¹, Nir Grossman², Cory Inman³, Bradley Ross King¹, Genevieve Albouy¹; ¹Department of Health and Kinesiology, College of Health, University of Utah, Salt Lake City, USA; ²Division of Brain Sciences, Imperial College London, London, UK; ³Department of Psychology, University of Utah, Salt Lake City, USA;

Topic Area: LONG-TERM MEMORY: Skill Learning

F88 - Allies, Rivals, or Strangers? Exploring the Relationship Between Statistical Learning and Executive Functions

Eszter Tóth-Fáber^{1,2} (toth-faber.eszter@ttk.hu), Bence C. Farkas^{3,4}, Anna Boglárka Kocsis⁵, Orsolya Pesthy^{6,1}, Bianka Brezóczi^{7,1,2}, Andrea Kóbor¹, Karolina Janacsek^{8,2}, Dezső Németh^{6,9,10}; ¹Institute of Cognitive Neuroscience and Psychology, HUN-REN Research Centre for Natural Sciences, Budapest, Hungary, ²Institute of Psychology, ELTE Eötvös Loránd University, Budapest, Hungary, ³UVSQ, Inserm, Centre de Recherche en Épidémiologie et Santé des Populations, Université Paris-Saclay, ⁴LNC2, Département d'études Cognitives, École Normale Supérieure, INSERM, PSL Research University, ⁵Brain Imaging Centre, HUN-REN Research Centre for Natural Sciences, Budapest, Hungary, ⁶Centre de Recherche en Neurosciences de Lyon CRNL U1028 UMR5292, INSERM, CNRS, Université Claude Bernard Lyon 1, Bron, France, ⁷Doctoral School of Psychology, ELTE Eötvös Loránd University, Budapest, Hungary, ⁸Centre for Thinking and Learning, Institute for Lifecourse Development, School of Human Sciences, Faculty of Education, Health and Human Sciences, University of Greenwich, London, UK, ⁹BML-NAP Research Group, ELTE Eötvös Loránd University & HUN-REN Research Centre for Natural Sciences, Budapest, Hungary, ¹⁰Department of Education and Psychology, Faculty of Social Sciences, University of Atlántico Medio, Las Palmas de Gran Canaria, Spain

Topic Area: LONG-TERM MEMORY: Skill Learning

F89 - SuperEEG: A Gaussian Process Model of Human Electroencephalographic Data Revisited and Optimized

Jose Carmona-Sanchez¹ (jose.carmona-sanchez@umconnect.umt.edu), Lucy L W Owen; ¹University of Montana

Topic Area: METHODS: Electrophysiology

F90 - EEG signal complexity after repeated mild traumatic brain injury in a mouse model of Alzheimer's disease.

Victoria Carriquiriborde^{1,2}, Emad Shams^{1,2}, Jefferey Yue^{1,2}, Cheryl Wellington³, Randy McIntosh^{1,2}, Kelly Shen¹, Brianna Kent^{1,2}; ¹Institute for Neuroscience and Neurotechnology, Simon Fraser University, ²Simon Fraser University, ³University of British Columbia

Topic Area: METHODS: Electrophysiology

F91 - Changes in EEG Complexity Following Trazodone Administration in a Mouse Model of Alzheimer's Disease

Emad Shams^{1,2}, Kelly Shen¹, Mayuko Arai³, Cody Stevens², Jefferey Yue², Randy McIntosh^{1,2}, Brianne Kent^{1,2}; ¹Institute for Neuroscience and Neurotechnology, Simon Fraser University, ²Simon Fraser University, ³Centre for Neuroscience, University of California Davis

Topic Area: METHODS: Electrophysiology

F92 - Electrophysiological network (in)stability: The impact of connectivity metric choice and sample size

Juee Naik¹, Riley DeHaan¹, Michael Kahana¹; ¹University of Pennsylvania

Topic Area: METHODS: Electrophysiology

F93 - Associations between peripheral mitochondrial energetics and cortical neurophysiological alterations in Alzheimer's disease

Sean L Kriwokon¹ (sean.kriwokon@gmail.com), Santiago I Flores-Alonso¹, Brianne A Kent¹, Tony W Wilson^{2,3}, Rachel K Spooner², Alex I Wiesman¹; ¹Simon Fraser University, ²Boys Town National Research Hospital, ³Creighton University

Topic Area: METHODS: Neuroimaging

F94 - Structural Segmentation with Freesurfer and MUSE for use in fMRI Data in Healthy Young and Older Adults

Kana Kimura¹ (kkimura@uwm.edu), Caitlin Bowman¹; ¹University of Wisconsin - Milwaukee

Topic Area: METHODS: Neuroimaging

F95 - Neurotransmitter Influence on Frequency-Defined Neurophysiological Connectivity Supports Cognitive Reserve in Aging

Santiago I. Flores-Alonso^{1,2} (sfloresa@sfu.ca), Jack Solomon^{1,2}, Simon Dobr^{2,3}, Anthony R. McIntosh^{1,2}, Alex I. Wiesman^{1,2}; ¹Department of Biomedical Physiology & Kinesiology, Simon Fraser University, Burnaby, British Columbia, Canada, ²Institute for Neuroscience and Neurotechnology, Simon Fraser University, Burnaby, Canada, ³Department of Radiation Oncology, University of Toronto, Toronto, Ontario, Canada.

Topic Area: METHODS: Neuroimaging

F96 - Validation of a Region-Specific Approach to CSF Artifact Correction in Subcortical 7T fMRI

Alexandra Fischbach¹ (fischbach.a@northeastern.edu), Hallee Shearer¹, Daniel Handwerker², Laura Lewis³, Karen Quigley¹, Jordan Theriault^{1,4}, Ajay Satpute¹, Lisa Feldman Barrett^{1,4},

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Topic Area: METHODS: Neuroimaging

F97 - Developing a Rigorous Method for Detecting Power-Law Scaling and Critical Dynamics in fMRI Brain Signals

Erhan Asad Javed^{1,2}, Alexander Weber¹; ¹University of British Columbia, Vancouver, Canada, ²BC Children's Hospital Research Institute, Vancouver, Canada

Topic Area: METHODS: Neuroimaging

F98 - Well-known and Lesser-known logos: Evaluation for Brand Logos Using Covert Eye Tracking (CovET) Combined with a Go/No-go Task

Otoha Yamanaka¹ (a20.pwhx@q.chuo-u.ac.jp), Kouki Amano¹, Ippeita Dan¹; ¹Applied Cognitive Neuroscience Lab. Chuo University

Topic Area: METHODS: Other

F99 - Evaluating virtual reality therapy for phantom limb pain: functional connectivity and pain outcomes

Catherine Scanlon¹ (cs3925@drexel.edu), Apoorva Kelkar¹, Elisabetta Ambron^{2,3}, Harrison Stoll¹, Laurel Buxbaum², Branch Coslett³, John D. Medaglia^{1,3}; ¹Drexel University, Philadelphia, PA, ²Thomas Jefferson University, Philadelphia, PA, ³University of Pennsylvania, Philadelphia, PA

Topic Area: NEUROANATOMY

F100 - EEG evidence for shared and distinct neural activity during auditory and visual imagery in musicians

Gabriela Pérez-Acosta¹ (gperez@fam.unam.mx), Oscar Yanez-Suarez², Miguel Ángel Porta-García³, José-Luis Díaz⁴; ¹Faculty of Music, Universidad Nacional Autónoma de México, ²Neuroimaging Lab Department of Electrical Engineering, Universidad Autónoma Metropolitana, México, ³Centro de Investigación e Innovación en Tecnologías de la Información y Comunicación (INFOTEC), Consejo Nacional de Humanidades, Ciencias y Tecnologías (CONAHCYT), México, ⁴Faculty of Medicine, Department of History and Philosophy of Medicine, Universidad Nacional Autónoma de México

Topic Area: OTHER

F101 - Baseline neurophysiological markers predict clinical response to HD-tDCS in schizophrenia: A randomized clinical trial

Deyang Li^{1,2} (deyang2@ualberta.ca), Meng Chen¹, Xiang-Yang Zhang¹, Dongmei Wang¹; ¹Institute of Psychology, Chinese Academy of Sciences, ²University of Alberta

Topic Area: OTHER

F102 - The IL-10 -872 Polymorphism Differentially Modulates the Relationship Between Serum IL-10 and Cognitive Performance in Methamphetamine Use Disorder

DongMei Wang^{1,2} (wangdm@psych.ac.cn), Yang Tian^{1,2}, HuiJuan Liu^{1,2}, XiangYang Zhang³; ¹Institute of Psychology, Chinese Academy of Sciences, ²University of Chinese Academy of Sciences, ³Tsinghua University

Topic Area: OTHER

F103 - Sleep spindles as indicator of preserved consciousness in Disorders of Consciousness patients

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Topic Area: OTHER

F104 - How children differ in structuring continuous experience: Insights from individualized neural state boundaries

Levi Antle¹ (leviantle01@gmail.com), Robyn Wilford², Katherine Duncan³, Amy Finn⁴; ¹University of Toronto

Topic Area: OTHER

F105 - The Influence of Event Boundaries on Working Memory Updating

Ms Sophie Su¹ (s.sophie@wustl.edu), Jeremy Cohn¹, Sandra Xie¹, Jeffrey Zacks¹; ¹Washington University In St Louis

Topic Area: OTHER

F106 - Metabolic health risk worsens the impact of residential air pollution exposure on the two-year decline in perceptual speed across the adult lifespan

Christine E. Lee¹ (hi2879@wayne.edu), Cheryl L. Dahle¹, Yaoxian Huang¹, Naftali Raz², Ana M. Daugherty¹; ¹Wayne State University, ²Stony Brook University

Topic Area: OTHER

F107 - Impaired Perceptual Discrimination Despite Intact Mismatch Negativity Following Selective Lesions to the Dentate Gyrus

Ricky Chow^{1,2} (chowrk@yorku.ca), Stevenson Baker^{1,2}, Shimin Mo^{1,3}, Claude Alain^{1,3}, R. Shayna Rosenbaum^{1,2}; ¹Rotman Research Institute, Baycrest Academy for Research & Education, ²York University, ³University of Toronto

Topic Area: PERCEPTION & ACTION: Audition

F108 - Neural measures of spectral modulation detection

Siana Lai¹ (slai1@gradcenter.cuny.edu), Susan Nittrouer², David Hilton¹, Valerie Shafer¹; ¹CUNY Graduate Center, ²University of Florida

Topic Area: PERCEPTION & ACTION: Audition

F109 - Age-Related Neural Dedifferentiation is Driven by Reduced Reliability

Tiantian Yang¹ (ttiyang@umich.edu), Molly Simmonite¹, Bingjie Liu¹, Ethan Maddox¹, Noah Reardon¹, Kayla Wyatt¹, Thad Polk¹; ¹University of Michigan

Topic Area: PERCEPTION & ACTION: Development & aging

F110 - Dual Mediation of Cognitive Function by Prefrontal Cortical Thickness and Vowel Articulation in Healthy Adult Women

Neekan Nasiri¹ (nnasiri@email.sc.edu), William Matchin²; ¹University of South Carolina

Topic Area: PERCEPTION & ACTION: Development & aging

F111 - Flexible invisible-body embodiment in childhood: Reduced sensitivity to visuomotor delay and limb scrambling

Michiteru Kitazaki¹ (mich@tut.jp), Yuta Yoshida¹, Atsushi Sato², Shoji Itakura³; ¹Toyohashi University of Technology, ²University of Toyama, ³Ritsumeikan University

Topic Area: PERCEPTION & ACTION: Development & aging

F112 - What does the Speech-to-Speech Synchronization Test actually measure?

Carlos Magallanes-Aranda¹ (cmagallanx@gmail.com), M. Florencia Assaneo¹; ¹Institute of Neurobiology, Universidad Nacional Autónoma de México (UNAM)

Topic Area: PERCEPTION & ACTION: Motor control

F113 - Differential patterns of audiovisual integration in autistic and neurotypical adults: A mismatch negativity study

Xiaoxiao Chen¹ (xchen128@syr.edu), Jarryd Osborne¹, Elia F Soto², Danielle Lynch¹, Hunter J Pyke¹, Sarah F Alamarie¹, Natalie Russo¹; ¹Syracuse University, ²Louisiana State University

Topic Area: PERCEPTION & ACTION: Multisensory

F114 - Neural integration of syntactic and visual temporal information in sentence comprehension

Ruixi Piao¹ (ruixip@umich.edu), Yike Li¹, Cody Zhewei Cao², David Brang¹; ¹University of Michigan, ²Northwestern University

Topic Area: PERCEPTION & ACTION: Multisensory

F115 - Exogenously-driven interhemispheric functional synchrony in the split-brain

Tyler Santander¹ (t.santander@psych.ucsb.edu), Selin Bekir¹, Theresa Paul², Jessica Simonson¹, Valerie Wiemer², Henri Skinner¹, Lena Hopf³, Anna Rada³, Friedrich Woermann³, Thilo Kalbhenn³, Barry Giesbrecht¹, Christian Bien³, Olaf Sporns⁴, Michael Gazzaniga¹, Lukas Volz², Michael Miller¹; ¹University of California, Santa Barbara, ²University of Cologne, ³Bielefeld University, ⁴Indiana University

Topic Area: PERCEPTION & ACTION: Other

F116 - Brain oscillations during naturalistic tutoring of science concepts using metaphors

Vicky T. Lai¹ (tzuyinlai@arizona.edu), Lindsay Krebs¹, Eric C. Fields², Laura Baiocco¹; ¹University of Arizona, ²University of North Carolina at Greensboro

Topic Area: PERCEPTION & ACTION: Other

F117 - Probabilistic reinforcement learning enhances processes supporting conscious perception of rewarding stimuli

Kristina Krasich¹ (kkrasich@elon.edu), Rebecca M. Lovasco¹, Casey E. Baldwin¹, Marty G. Woldorf²; ¹Elon University, ²Duke University

Topic Area: PERCEPTION & ACTION: Vision

F118 - Revisiting body topography in lateral occipitotemporal cortex

Brendan Ritchie¹ (j.brendan.w.ritchie@gmail.com), Lilly Keleman², MJ Carter³, Tyler Morgan⁴, Joelle Sarlls⁵, Beth Rispoli⁶, Chris Baker⁴; ¹University of Lethbridge, ²Duke University, ³Carnegie Mellon University, ⁴National Institute of Mental Health, ⁵National Institute of Neurological Disorders, ⁶Georgetown University

Topic Area: PERCEPTION & ACTION: Vision

F119 - Driving after Stroke: Left and Right Hemisphere Strokes Create Different Problems

Krista Schendel¹, Timothy Herron, Brian Curran, Maria Spinelli, Joanne Houston, Sandy Lwi, Juliana Baldo; ¹Veterans Affairs NCHCS

Topic Area: PERCEPTION & ACTION: Vision

F120 - Modeling human attentional priorities improves event boundary predictions in a computational model of event perception

Andrew Zhang¹ (andrew_j_zhang@brown.edu), Wouter Koo², Jeffrey Zacks²; ¹Brown University, ²Washington University in St. Louis

Topic Area: PERCEPTION & ACTION: Vision

F121 - Neurobehavioral Dynamics of Numerical Change: Directional and Numerical Distance Processing

Vanessa Rhee¹ (vrs2116@tc.columbia.edu), Zhiyi Chen¹, Mischa Gushiken¹, Kiren Bakhr¹, Hanyi Xu³, Nick Bisbee², Yuexin Li¹, Sadra Gerami¹, Jean Ee Tang¹, Peter Gordon¹; ¹Teachers College, Columbia University, ²Johns Hopkins University, ³Graduate School of Arts and Sciences, Columbia University

Topic Area: PERCEPTION & ACTION: Vision

F122 - Watching chaos unfold: Asymmetries in attentional effort when moving towards order versus chaos

Skadi Gerkenmeier¹ (sgerkens@student.ubc.ca), Joan Danielle K. Ongchoco¹; ¹University of British Columbia

Topic Area: PERCEPTION & ACTION: Vision

F123 - Longitudinal biometric analysis of student competency and expertise development

Chantelle McCance^{1,2} (chantelle.mccance@ucalgary.ca), Filomeno Cortese^{1,2,3}, Ford Burles¹, Kent Hecker^{1,2}; ¹University of Calgary, ²Hotchkiss Brain Institute, ³Alberta Children's Hospital Research Institute

Topic Area: THINKING: Decision making

F124 - Temporal dynamics of boredom during slot machine gambling

Raymond Wu¹ (rwu@psych.ubc.ca), Luke Clark¹; ¹The University of British Columbia

Topic Area: THINKING: Decision making

F125 - Stress impairs selective attention during complex decisions: an EEG study

Margaux Pourady¹ (margaux.pourady@orange.fr), Alexandre Pouchot^{1,4}, Stefania Ficarella^{1,2}, Andrea Desantis^{1,2,3}; ¹Onera - The French Aerospace Lab, ²Timone Neuroscience Institute, CNRS - Université Paris Cité, ³Integrative Neuroscience & Cognition Center, CNRS - Aix Marseille University, ⁴Isae-Supaero

Topic Area: THINKING: Decision making

F126 - Prefrontal Neuromodulation Restores Model-Based Control in Obsessive-Compulsive Disorder

Hongyao Gao¹ (hongyao-gao@uiowa.edu), Reza Tadayon-Nejad^{2,3}, Jeffrey Cockburn^{1,3}; ¹University of Iowa, ²UCLA Semel Institute for Neuroscience and Human Behavior, ³California Institute of Technology

Topic Area: THINKING: Decision making

**F127 - Splitting Mental Imagery: A Divided Visual Field
Adaptation of the Mental Imagery fMRI Paradigm for future Split-
Brain Application**

Mrs. Selin Bekir¹ (sbekir@ucsb.edu), Tyler Santander¹, Emma Kates-Harbeck¹, Lukas J. Volz², Michael B. Miller¹; ¹University of California, Santa Barbara, ²University of Cologne

Topic Area: THINKING: Other

**F128 - Mitigating Brain Fog Through Cognitive Training: A 3-Arm
RCT in Breast Cancer Survivors**

Erin Venza¹ (erin.venza@utdallas.edu); ¹The University of Texas at Dallas

Topic Area: THINKING: Other

**F129 - Manipulating the Heart, Revealing the Mind: Cardiac
Signal Processing Induced Self-Related Thought**

Mai Sakuragi^{1,2} (mai_sakuragi@keio.jp), Satoshi Umeda¹; ¹Keio University Department of Psychology, ²Japan Society for the Promotion of Science

Topic Area: THINKING: Other

**F130 - Neural mechanism underlying the construction of self-
generated compositional imagery**

Shitong Zhao^{1,2} (zhaost2022@ion.ac.cn), Qing Yu¹; ¹Institute of Neuroscience, Chinese Academy of Sciences, ²University of Chinese Academy of Sciences

Topic Area: THINKING: Other

**F131 - Does anterior lateral prefrontal cortex play a domain-
general role in reasoning?**

Margaret Vashel¹ (maggie_vashel@berkeley.edu), Allison Chen¹, Natalie Kwak¹, Silvia Bunge¹; ¹University of California, Berkeley

Topic Area: THINKING: Reasoning

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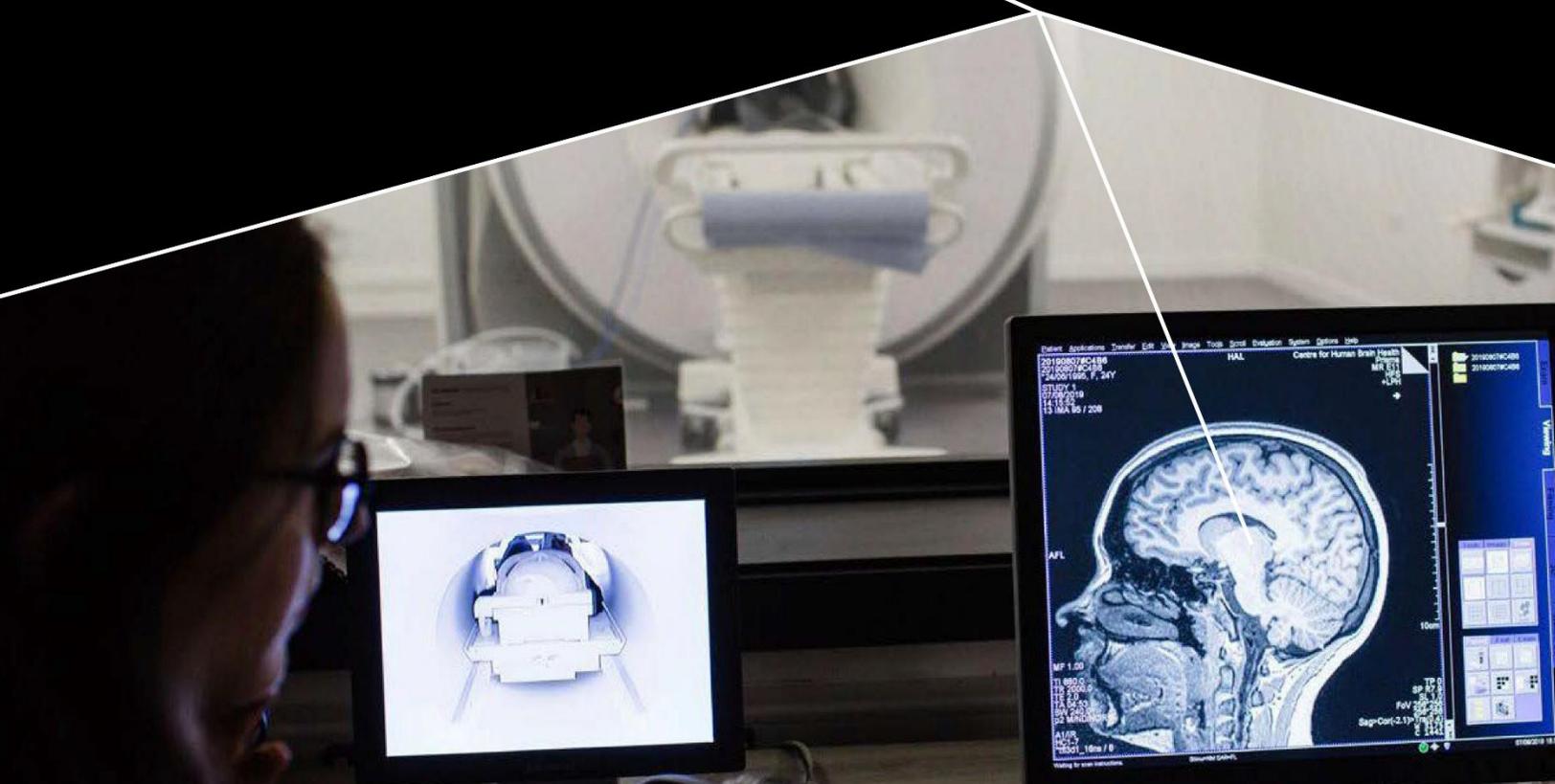


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