
CNS
2017
SAN
FRANCISCO
MARCH
25–28
COGNITIVE
NEUROSCIENCE SOCIETY
24TH ANNUAL MEETING

Cognitive Neuroscience Society

24th Annual Meeting, March 25-28, 2017
Hyatt Regency Hotel, San Francisco, California

2017 Annual Meeting Program

Contents

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Schedule Overview

Saturday, March 25, 2017

11:00 am – 4:00 pm	On-site Registration & Pre-Registration Check In, *Seacliff Foyer*
12:00 – 1:30 pm	**Data Blitz Session 1**, *Bayview Room* **Data Blitz Session 2**, *Seacliff Room*
1:30 – 2:00 pm	Coffee Service, *Seacliff & Bayview Foyer*
2:00 – 4:00 pm	**Big Ideas in Cognitive Neuroscience**, Co-sponsored by the Cognitive Neuroscience Society and the Max-Planck-Society, Chairs: Anna C. Nobre and Marc Raichle *Bayview Room*
4:00 – 6:30 pm	On-site Registration & Pre-Registration Check In, *Grand Ballroom Foyer*
4:00 – 5:00 pm	Keynote Address, **Technology Meets Neuroscience – A Vision of the Future of Brain Fitness**, Adam Gazzaley, *University of California, San Francisco,* Open to the Public, *Grand Ballroom*
4:30 – 5:00 pm	Poster Session A Set-Up, *Pacific Concourse*
4:30 – 7:00 pm	Exhibits Open, *Pacific Concourse*
5:00 – 7:00 pm	Poster Session A, *Pacific Concourse*
6:30 – 7:30 pm	Welcome Reception, *Atrium*
7:00 – 7:15 pm	Poster Session A Take-Down, *Pacific Concourse*
7:15 pm	Exhibit Hall Closed for the Day – No Entry

Sunday, March 26, 2017

7:30 – 8:00 am	Exhibit Hall Access for Exhibitors/Poster Session B Set-Up Only, *Pacific Concourse*
7:30 am – 6:30 pm	On-site Registration & Pre-Registration Check In, *Grand Ballroom Foyer*
8:00 – 8:30 am	Continental Breakfast, *Pacific Concourse*
8:00 – 10:00 am	Communications Open House, Press Room, *Golden Gate Room*
8:00 – 10:00 am	Poster Session B, *Pacific Concourse*
8:00 am – 12:00 pm	Exhibits Open, *Pacific Concourse*
10:00 am – 12:00 pm	Invited Symposium 1 **Frontal Cortex Contributions to Decision Making**, Chair: Elisabeth A. Murray, *Ballroom A*
▶ 10:00 – 10:30 am	Talk 1: From Knowledge to Action: The Role of the Primate Orbitofrontal Cortex, Betsy Murray
▶ 10:30 – 11:00 am	Talk 2: Dynamic Encoding of Choice in the Orbitofrontal Cortex, Erin Rich
▶ 11:00 – 11:30 am	Talk 3: Neural Mechanisms of Real-Time Embodied Decisions, Paul Cisek
▶ 11:30 am – 12:00 pm	Talk 4: Ventromedial Prefrontal Cortex Plays a Similar Role in Temporally-Extended Foraging-Style Decisions and Binary Choices, Joseph Kable
10:00 am – 12:00 pm	Invited Symposium 2 **Cortical Oscillations in Hearing, Speech, and Language,** Chair: David Poeppel, *Ballroom B/C*
▶ 10:00 – 10:30 am	Talk 1: Oscillatory Dynamics of Auditory Attention, Saskia Haegens
▶ 10:30 – 11:00 am	Talk 2: Timing Speech Content, Virginie van Wassenhove
▶ 11:00 – 11:30 am	Talk 3: Cortical Tracking of Hierarchical Linguistic Structures in Connected Speech, Nai Ding
▶ 11:30 am – 12:00 pm	Talk 4: Cortical Rhythms in Hearing, Speech, and Language: a Taxonomy, David Poeppel
11:30 – 11:45 am	Poster B Take-Down, *Pacific Concourse*
12:00 – 1:30 pm	Lunch Break (Exhibit Hall Closed – No Entry)
1:30 – 2:00 pm	Poster C Set-Up, Pacific Concourse
1:30 – 7:00 pm	Exhibits Open, Pacific Concourse
1:30 – 3:30 pm	Symposium 1 **Are We Ready for Real-World Neuroscience Research?,** Chairs: Pawel J. Matusz, *Ballroom A*
▶ 1:30 – 1:54 pm	Talk 1: Using Voxel-Wise Modeling of fMRI Responses to Natural Stories and Movies to Study Semantic Representations in Human Cortex, Alex Huth
▶ 1:54 – 2:18 pm	Talk 2: Learning and Connecting in the Real World: Conducting Neuroscience Research in High School Classrooms and Museums, Suzanne Dikker
▶ 2:18 – 2:42 pm	Talk 3: Social Communication Signals as Auditory Objects: Translational Insights from Neuronal-Level Research in Non-Human Primates, Catherine Perrodin

- 2:42 – 3:06 pm Talk 4: Brain and Cognitive Mechanisms Governing Object Attentional Selection in Naturalistic Environments, Pawel J. Matusz
- 3:06 – 3:30 pm Q & A

1:30 – 3:30 pm Symposium 2 **Genetics and Cognitive Neuroscience: What does the Future Hold?,** Chair: Ev Fedorenko, *Bayview Room*

- 1:30 – 1:54 pm Talk 1: (Introduction): Genetics and Cognitive Neuroscience: How we Got Here, Where we are, and What the Future Holds. Ev Fedorenko
- 1:54 – 2:18 pm Talk 2: Translating the Genome in Human Cognitive Neuroscience, Simon Fisher
- 2:18 – 2:42 pm Talk 3: The Genetics of Brain Structure and its Functional Relevance — An International Collaborative Effort, Neda Jahanshad
- 2:42 – 3:06 pm Talk 4: Linking Genes to Behavior Using Human Brain Gene Expression Data, Genevieve Konopka
- 3:06 – 3:30 pm Talk 5: Transcriptional Variation Associated with Cortical Specialization and Connectivity, Fenna Krienen

1:30 – 3:30 pm Symposium 3 **Multivariate Approaches for Neural Dynamics: It's About Time**, Chair: Alex Clarke, *Ballroom B/C*

- 1:30 – 1:54 pm Talk 1: Impulse Perturbations Reveal Dynamic Working Memory States in EEG, Michael Wolff
- 1:54 – 2:18 pm Talk 2: Working Memory Replay Prioritizes Weakly Attended Events, Anna Jafarpour
- 2:18 – 2:42 pm Talk 3: Neural Decomposition of Synergistic and Redundant Information In Interaction Between Audiovisual Speech Rhythms and Brain Oscillations, Hyojin Park
- 2:42 – 3:06 pm Talk 4: Saccadic Eye Movements are Phase-Locked to Posterior Alpha Oscillations and Modulate Neural Communication During Memory Formation – Evidence from MEG, fMRI and Intracranial Data, Tobias Staudigl
- 3:06 – 3:30 pm Talk 5: Understanding Meaning from our Senses: Representational Similarity Analysis of Source-Localised MEG Signals, Alex Clarke

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

4:00 – 5:00 pm 24th Annual George A. Miller Prize in Cognitive Neuroscience Lecture **A Cortical Cartographer's View of Brain Structure, Function, Connectivity, Development, and Evolution**, David C. Van Essen, *Grand Ballroom*

5:00 – 7:00 pm Poster Session C, *Pacific Concourse*

7:00 – 7:15 pm Poster Session C Take-Down, *Pacific Concourse*

7:15 pm Exhibit Hall Closed for the Day – No Entry

Monday, March 27, 2017

7:30 – 8:00 am Exhibit Hall Access for Exhibitors/Poster Session D Set-Up Only, *Pacific Concourse*

8:00 am – 12:00 pm Exhibits Open, *Pacific Concourse*

8:00 am – 5:30 pm On-site Registration & Pre-Registration Check In, *Grand Ballroom Foyer*

8:00 – 8:30 am Continental Breakfast, *Pacific Concourse*

8:00 – 10:00 am Communications Open House, Press Room, *Golden Gate*

8:00 – 10:00 am Poster Session D, *Pacific Concourse*

10:00 am – 12:00 pm Symposium 4 **Working Memory: Sustained Activity or Dynamics?**, Chair: Tim Buschman, *Ballroom A*

- 10:00 – 10:24 am Talk 1: Working Memory: Sustained Activity? Not So Much. Earl Miller
- 10:24 – 10:48 am Talk 2: Neural Substrates of Working Memory for Visual Motion, Tatiana Pasternak
- 10:48 – 11:12 am Talk 3: Stability of Mind in a Dynamic Brain: Working Memory from a Dynamic Coding Framework, Mark Stokes
- 11:12 – 11:36 am Talk 4: Stable Population Coding for Working Memory Coexists with Heterogeneous Neural Dynamics in Prefrontal Cortex, John Murray
- 11:36 – 12:00 pm Discussion Period and Q&A

10:00 am – 12:00 pm Symposium 5 **Cognitive Maps in the Orbitofrontal Cortex for Goal-Directed Behavior**, Chair: Thorsten Kahnt, *Bayview Room*

- 10:00 – 10:24 am Talk 1: Orbitofrontal Cortex Represents a Cognitive Map of State Space, Nicolas W. Schuck
- 10:24 – 10:48 am Talk 2: Goal-Directed Behavior and Cognitive Maps in Monkey Orbitofrontal Cortex: Evidence from Lesion and Neurophysiology Studies, Peter Rudebeck
- 10:48 – 11:12 am Talk 3: Orbitofrontal State Representations Fall Apart in Interesting Ways Without Hippocampal Output, Geoffrey Schoenbaum

- 11:12 – 11:36 am Talk 4: Computational and Representational Analysis Approaches to Associative Learning, Erie Boorman
- 11:36 – 12:00 pm Talk 5: Flexible State Representations of Specific Rewards in the Human Orbitofrontal Cortex, Thorsten Kahnt

10:00 am – 12:00 pm Symposium 6 **Top-Down Functions of Neural Oscillations for Speech and Language Processing**, Chair: Lars Meyer, *Ballroom B/C*

- 10:00 – 10:24 am Talk 1: Delta-Band Oscillations Impose Syntactic Structure upon Speech, Aligning Excitability with Linguistic Informativity, *Lars Meyer*
- 10:24 – 10:48 am Talk 2: Low-Frequency Oscillations Mediate Top-Down Activity During Speech Processing, Nicola Molinaro
- 10:48 – 11:12 am Talk 3: Language Prediction is Supported by Coupling between Frontal Gamma and Posterior Alpha Oscillations, Lin Wang
- 11:12 – 11:36 am Talk 4: Attention Governs Neural Oscillatory Responses to Speech, Malte Wöstmann
- 11:36 – 12:00 pm Talk 5: Low– and High-Level Processes Underlying Oscillatory Phase Entrainment to Speech Sounds, Benedikt Zoefel

11:30 – 11:45 am Poser Session D Take-Down, *Pacific Concourse*
12:00 – 1:30 pm Lunch Break (Exhibit Hall Closed – No Entry)
12:15 – 1:15 pm **What You Need to Know about NIH Funding: Training and Research Grant Opportunities**, Kathy Mann Koepke, NICHD/NIH, *Bayview Room*
1:30 – 2:00 pm Poster Session E Set-Up, *Pacific Concourse*
1:30 – 2:30 pm The Fred Kavli distinguished Career Contributions in Cognitive Neuroscience Lecture **Understanding the Subjective Experience of Remembering**, Marcia Johnson, *Grand Ballroom*
1:30 – 5:30 pm Exhibits Open, *Pacific Concourse*
2:30 – 4:30 pm Poster Session E, *Pacific Concourse*
3:30 – 4:00 pm Coffee Service, *Pacific Concourse*
4:30 – 5:30 pm YIA 1 **Neurodevelopmental Mechanisms Underlying Normative Shifts in Goal-Directed Behavior**, Leah Somerville, *Ballroom A*
5:00 – 5:30 pm YIA 2 **Statistical learning as a new take on memory systems**, Nicholas Turk-Browne, *Ballroom A*
5:30 – 5:45 pm Poster Session E Take-Down, *Pacific Concourse*
5:45 pm Exhibit Hall Closed for the Day – No Entry
5:30 – 7:00 pm **CNS Trainee Professional Development Panel,** *Bayview Room*
7:00 – 10:00 pm CNS Student Trainee Social Night, *Monroe Bar*

Tuesday, March 28, 2017

7:30 am – 8:00 am Exhibit Hall Access for Exhibitors/Poster Session F Set-Up Only, *Pacific Concourse*
8:00 am – 12:00 pm Exhibits Open, *Pacific Concourse*
8:00 am – 3:00 pm On-site Registration & Pre-Registration Check In, *Grand Ballroom Foyer*
8:00 – 8:30 am Continental Breakfast, *Pacific Concourse*
8:00 – 10:00 am Poster Session F, *Pacific Concourse*

10:00 am – 12:00 pm Symposium 7 **Driving the Brain to Understand Cognition**, Chair: Jim Herring, *Bayview Room*

- 10:00 – 10:24 am Talk 1: Shaping Brain Waves: An Information-Based Approach, Vincenzo Romei
- 10:24 – 10:48 am Talk 2: Engaging Cortical Oscillations with Transcranial Alternating Current Stimulation, Flavio Frohlich
- 10:48 – 11:12 am Talk 3: Driving Visual Brain Rhythms Through Dynamic Sensory Stimulation, Christian Keitel
- 11:12 – 11:36 am Talk 4: The Causal Role of Neural Entrainment in Speech Comprehension, Anne Kösem
- 11:36 – 12:00 pm Talk 5: Attentional Modulation of Externally Driven Alpha Oscillations, Jim D. Herring

10:00 am – 12:00 pm Symposium 8 **Deciding How to Decide: Understanding When and Why the Brain Allocates Computational Resources to Goal-Directed Behavior**, Chair: Ross Otto, *Ballroom A*

- 10:00 – 10:24 am Talk 1: Motivational Biases in Learning and Choice, Hanneke den Ouden
- 10:24 – 10:48 am Talk 2: Working Memory Contributes to Reinforcement Learning Computations, Anne Collins
- 10:48 – 11:12 am Talk 3: Neurocomputational Principles of Meta-Control in Reinforcement Learning, Sam Gershman
- 11:12 – 11:36 am Talk 4: Weighing the Costs and Benefits of Mental Effort, Amitai Shenhav
- 11:36 – 12:00 pm Talk 5: The Opportunity Cost of Time Modulates Cognitive Effort Expenditure, Ross Otto

10:00 am – 12:00 pm Symposium 9 **Memory Neuromodulation: How do Different States of Learning Influence Episodic Memory?**, Chair: Vishnu Murty, *Ballroom B/C*

- 10:00 – 10:24 am Talk 1: The Lingering Influence of Novelty Shapes Fundamental Memory Processes. Katherine Duncan
- 10:24 – 10:48 am Talk 2: Motivation Facilitates Memory at Multiple Timescales in Service of Adaptive Behavior. Vishnu Murty
- 10:48 – 11:12 am Talk 3: States of Reward and Curiosity Prioritize Learning and Post-Learning Dynamics, Matthias Gruber
- 11:12 – 11:36 am Talk 4: Exploration Modulates Hippocampal-Cortical Contributions to Episodic Learning, Joel Voss
- 11:36 – 12:00 pm Talk 5: A Potential Role for Norepinephrine Hot Spots in Long-Term Memory for Negative Stimuli. Mara Mather

11:45 am – 12:00 pm Poster Session F Take-Down, *Pacific Concourse*

12:00 pm Exhibit Hall Closed for the Day – No Entry

12:00 – 1:30 pm Lunch Break

1:30 – 3:30 pm Invited Symposium 3 **The Lapsing Brain: How Attentional Fluctuations Impact Cognition**, Chair: Edward Vogel, *Ballroom A*

- 1:30 – 2:00 pm Talk 1: Attentional Lapses Drive Individual Differences in Working Memory Capacity, Kirsten C. S. Adam
- 2:00 – 2:30 pm Talk 2: Hippocampal Representations of Attentional State Predict the Formation of Episodic Memory, Mariam Aly
- 2:30 – 3:00 pm Talk 3: Clarifying the Roles of Task-Positive and Task-Negative Networks in Attentional Fluctuations, Michael Esterman
- 3:00 – 3:30 pm Talk 4: Mind Wandering as Spontaneous Thought: A Dynamic Framework, Kalina Christoff

1:30 – 3:30 pm Invited Symposium 4 **Brain Network Specialization Through Adolescence Supporting Stabilization of Cognitive and Affective Brain Systems**, Chair: Beatriz Luna, *Ballroom B/C*

- 1:30 – 2:00 pm Talk 1: Changes in the Integration of Brain Processes Supporting the Transition from Adolescent to Adult Level Cognitive Control, Beatriz Luna
- 2:00 – 2:30 pm Talk 2: At Risk of Being Risky: The Relationship Between “Brain Age” Under Emotional States and Risk Preference, Damien Fair
- 2:30 – 3:00 pm Talk 3: Decision, Reward, and Social Processing in Adolescent Brain Development, Jason Chein
- 3:00 – 3:30 pm Talk 4: Multiple learning systems in the adolescent brain: The influence of motivated learning on episodic memory and cognitive control. Juliet Y. Davidow
- 3:30 – 3:40 pm Q & A

Keynote

Adam Gazzaley, MD, Ph.D.

University of California, San Francisco

Keynote Address, Open to the Public

Saturday, March 25, 2017, 4:00 - 5:00 pm, Grand Ballroom

Technology meets Neuroscience – A Vision of the Future of Brain Fitness

A fundamental challenge of modern society is the development of effective approaches to enhance brain function and cognition in both the healthy and impaired. For the healthy, this should be a core mission of our educational system and for the cognitively impaired this is the primary goal of our medical system. Unfortunately, neither of these systems have effectively met this challenge. I will describe a novel approach out of our lab that uses custom-designed video games to achieve meaningful and sustainable cognitive enhancement via personalized closed-loop systems (Nature 2013; Neuron 4014). I will also share with you the next stage of our research program, which integrates our video games with the latest technological innovations in software (e.g., brain computer interface algorithms, GPU computing, cloud-based analytics) and hardware (e.g., virtual reality, mobile EEG, motion capture, physiological recording devices (watches), transcranial brain stimulation) to further enhance our brain's information processing systems with the ultimate aim of improving quality of life.

George A Miller Prize

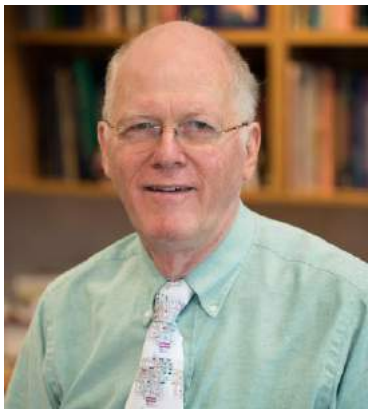
Congratulations to David C. Van Essen for being awarded this honor!

David C. Van Essen will accept this prestigious award and deliver his lecture on Sunday, March 26, 2017, 4:00 – 5:00 pm, in the Grand Ballroom.

A Cortical Cartographer's View of Brain Structure, Function, Connectivity, Development, and Evolution

David C. Van Essen

Alumni Endowed Professor, Department of Neuroscience, Washington University in St. Louis



The cerebral cortex is the dominant structure of the mammalian brain, and it plays critical but diverse roles in cognition, perception, emotion, and motor control. This lecture will review recent progress in elucidating the structure, function, connectivity, development, and evolution of cerebral cortex in humans and nonhuman primates. Underlying methodological themes will include the power of surface-based analysis and visualization and the importance of user-friendly data sharing for accelerating progress in exploring these topics. Consideration of cortical development will include questions of why the cortex is a sheet whose convolutions vary across species and across individuals. Advances in elucidating functional organization include a recent multimodal human cortical parcellation, based on data from the Human Connectome Project (HCP), that reveals 180 distinct areas in each hemisphere. The ability to accurately parcellate the cortex in individual subjects will enable systematic analyses of individual variability in relation to many neurobiologically informative features as well as hundreds of behavioral measures that are part of the freely shared HCP data. Comparisons with nonhuman primates, including chimpanzees as well as macaque monkeys, provide intriguing evolutionary insights regarding the dramatic expansion of neocortical regions associated with higher cognition in the human lineage.

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 have 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

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 Fred Kavli Distinguished Career Contributions Award

Congratulations to Marcia K. Johnson for being awarded this honor!

Marcia K. Johnson will accept this prestigious award and deliver her lecture on Monday, March 27, 2017, 1:30 – 2:30 pm, in the Grand Ballroom.

Understanding the Subjective Experience of Remembering

Marcia K. Johnson

Yale University

Memories are attributions that we make about mental experiences based on their subjective qualities, our prior knowledge and beliefs, our motives and goals, and the social context. Cognitive behavioral studies using both objective and subjective measures provide much information about the encoding, revival and monitoring processes that yield both true and false memories. Neuroimaging and patient studies further enrich our understanding of the relation between memory and reality. This talk will highlight some key theoretical ideas, empirical findings, and challenging persisting questions about the subjective experience of remembering.

About the Distinguished Career Contributions Award

The Distinguished Career Contributions Award (DCC) was established in 2012 and it has been sponsored by the Fred Kavli Foundation since 2016. 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 Fred Kavli 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 Fred Kavli Distinguished Career Contributions lecture.

Previous Winners of the Distinguished Career Contributions Award

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

THE KAVLI FOUNDATION

Young Investigator Award

Congratulations to the 2017 Young Investigator Award Winners

Leah Somerville, Ph.D., Harvard University
Nicholas Turk-Brown, Ph.D., Princeton University

YIA special lectures take place on Monday, March 27, 2017, 4:30 – 5:30 pm, in the Grand Ballroom A at the Hyatt Regency San Francisco.

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.

Neurodevelopmental mechanisms underlying normative shifts in goal-directed behavior

Monday, March 27, 2017, 4:30 –5:00 pm, Grand Ballroom A

Leah Somerville, Ph.D

Harvard University

My lab's research aims to reveal how neurodevelop-mentally-mediated shifts in circuit-level brain function contribute to changes in motivated, emotional, and social behavior during adolescence. My talk will feature new work that reveals how the adolescent brain is uniquely "tuned" to particular suites of motivated cues, which impacts adolescents' inhibitory control and social decision making. Ultimately, the aims of this work are threefold: to bolster fundamental understanding of human neurodevelopment in the second decade of life, to inform relationships between circuit-level brain function and human behavioral outcomes more generally, and to gain insight into mechanisms of health risks that emerge during adolescence.

Statistical learning as a new take on memory systems

Monday, March 27, 2017, 5:00 –5:30 pm, Grand Ballroom A

Nicholas Turk-Brown, Ph.D.

Princeton University

Memory is often divided into distinct types, based on whether conscious or not, episodic or semantic, sensory or motor, etc. These useful distinctions have been supported by abundant behavioral and neural dissociations. A natural consequence has been the intuitive impression of a one-to-one mapping between brain systems and memory types. Aside from theoretical concerns about this, there have also now been several empirical demonstrations of where these boundaries break down. As one example, I will briefly describe a series of neuroimaging, neuropsychological, and computational studies that implicate the hippocampus in statistical learning, a function more traditionally ascribed to cortex. These studies highlight my lab's integrative approach to cognitive neuroscience, embracing the distributed and interactive nature of cognitive processes and their implementation in the brain.

Special Events

Title	Date	Time	Location
What You Need to Know about NIH Funding: Training and Research Grant Opportunities	**Monday, March 27**	**12:15 – 1:15 pm**	**Bayview**
CNS Trainee Professional Development Panel	**Monday, March 27**	**5:30 - 7:00 pm**	**Bayview**
CNS Trainee Association Student Social Night	**Monday, March 27**	**7:00 - 10:00 pm**	**Monroe Bar**

What You Need to Know about NIH Funding: Training and Research Grant Opportunities

Monday, March 27, 12:15 - 1:15 pm, Bayview

NIH Program Directors will present tips and news you need to find your best research fit and be successful in getting a training, career, or research grant at NIH; plus a brief overview of grant application, review, and funding processes. NEW NEED TO KNOW: human subjects research and clinical trials!

Speaker: Kathy Mann Koepke, NICHD/NIH

CNS Trainee Professional Development Panel

Monday, March 27, 5:30 – 7:00 pm, Bayview Room

CNSTA Professional Development Panel Organizers: Amy Belfi (NYU) and Tony Cunningham (University of Notre Dame)

Speakers: David Poeppel from NYU, Elizabeth Kensinger from Boston College, Kia Nobre from University of Oxford and Sharon L. Thompson-Schill from University of Pennsylvania.

Join the CNS Trainee Association (CNSTA) for the second annual Trainee Professional Development Panel! Hear from some of the foremost experts in the field of cognitive neuroscience as they detail their career trajectories, discuss factors that influenced their development, and reveal what they wish they had known as Trainees. Part of the session time will be reserved for an open Q & A. Appropriate for trainees of all levels!

CNS Trainee Association Student Social Night

Monday, March 27, 7:00 – 10:00 pm, at Monroe located at *473 Broadway, San Francisco, CA 94133*

This event is open to all students and post docs of the Cognitive Neuroscience Society.

CNSTA Social Organizers: *Sarah Kark (Boston College), Amy Belfi (NYU) and Tony Cunningham (University of Notre Dame)*

Come and join us for the annual CNS Trainee Association (CNSTA) Student Social Night, Monday, March 27th, after the CNS Trainee Professional Development Panel. We will meet at 7:00 PM in the conference hotel reception area (look for signs), and walk out to a nearby bar/restaurant around 7:15. There will be no cover charge and one free drink and appetizers will be provided for the first 150 Trainees (cash bar).

More information will be posted on the CNS Trainee Association Facebook page (https://www.facebook.com/CNSTrainees/). We look forward to meeting you!

HOW TO GET THERE:

From the Hyatt:

- Go West on Sacramento St (away from the waterfront)
- Turn Right on Battery St
- Turn Left onto Broadway
- Destination will be on your left at 473 Broadway, San Francisco, CA 94133

Big Ideas in Cognitive Neuroscience

Big Ideas in Cognitive Neuroscience

Saturday, March 25, 2017, 2:00 - 4:00pm, Bayview Room

Co-sponsored by the Cognitive Neuroscience Institute (CNI) and the Max-Planck-Society

Organizers: David Poeppel (Max-Planck-Institute & NYU) and Mike Gazzaniga (UC Santa Barbara)
Chairs: Anna C. Nobre (Oxford University) and Marc Raichle (Washington University St. Louis)

There has been remarkable progress in the last years in the neurosciences, often driven by compelling technical developments in recording techniques, innovative analytic approaches, and new computational frameworks. But what are the big ideas that go along with the big techniques and the big data? In this symposium, we discuss some foundational themes and critical challenges that deal with the neurosciences more broadly, but especially the human neurosciences. Recent discussions in the neurosciences have been relentlessly reductionist. The guiding principle of this symposium is that there is no privileged level of analysis that can yield special explanatory insight into the mind/brain on its own, so ideas and techniques across levels will be necessary. There are many domains of inquiry that merit examination and debate, but to initiate a first CNS discussion, just three themes will be addressed in this symposium: memory, language, and motor control/action. Six speakers, in three pairs, will consider some major challenges and cutting-edge advances, from molecular mechanisms to decoding approaches to network computations. The presentations and debate aim to provide a tentative outline of what might be a productive and ambitious agenda for our fields.

Memory

Speakers: Charles R. Gallistel, *Rutgers University* and Tomás Ryan, *Trinity College Dublin & MIT*

Language

Speakers: Angela Friederici, *Max-Planck-Institute* and Jean-Rémi King, *NYU.*

Action/Motor

Speakers: John Krakauer, *Johns Hopkins University* and Danielle Bassett, *University of Pennsylvania*.

Data Blitz

Session #	Date	Time	Location	Chair
Data Blitz Session 1	Saturday, March 25	Noon – 1:30 pm	Bayview	Marian Berryhill
Data Blitz Session 2	Saturday, March 25	Noon – 1:30 pm	Seacliff	Evangelia Chrysikou

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 25, Noon - 1:30 pm, Bayview

Chair: Marian Berryhill, University of Nevada

Speakers: Yuri Dabaghian, Ryan Giuliano, Anna McCarrey, Alessandro Tavano, Anna Magdalena Barth, Elizabeth L. Johnson, Kevin Jones, Zhang Jingting, Heather D. Lucas, Milena Rabovsky, Anna Khazenzon, Matthew Sazma, Layla Unger, Joe Bathelt, Pedro Pinheiro-Chagas

TALK 1: INTERNAL CONSISTENCY OF SPATIAL INFORMATION IN A COGNITIVE MAP

Yuri Dabaghian[1]; [1]Baylor College of Medicine, Houston, TX 77019 USA

TALK 2: CARDIAC MEASURES OF AUTONOMIC AROUSAL ARE ASSOCIATED WITH ERP MEASURES OF SELECTIVE ATTENTION IN CHILDREN AND ADULTS

Ryan Giuliano[1], Christina Karns[1], Theodore Bell[1], Leslie Roos[1], Seth Petersen[1], Elizabeth Skowron[1], Helen Neville[1], Eric Pakulak[1]; [1]University of Oregon

TALK 3: INCREASED NEURAL RESPONSE TO WINS OVER LOSSES WITH OLDER ADULTS: EXAMINING THE POSITIVITY BIAS IN AGING

Anna McCarrey[1,2], Joshua Goh[2,3], Vijay Venkatraman[4], Claudia Wolf[2], Gabriela Gomez[2], Susan Resnick[2]; [1]Idaho State University, [2]National Institute on Aging, [2]National Taiwan University College of Medicine, [2]University of Melbourne

TALK 4: ATTENTION SHARPENS PREDICTION ERROR, PREDICTION DETERMINES BEHAVIOR

Alessandro Tavano[1], David Poeppel[1,2]; [1]Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, [2]New York University

TALK 5: RETROACTIVE ATTENTION CAN PROTECT MULTIPLE WORKING MEMORY CONTENTS FROM PERCEPTUAL INTERFERENCE. EVIDENCE BY EVENT-RELATED EEG PARAMETERS IN A RETRO-CUING PARADIGM

Anna Magdalena Barth[1], Edmund Wascher[2], Daniel Schneider[3]; [1]Leibniz Research Centre for Working Environment and Human Factors #1, 2, 3

TALK 6: INTERACTING LONG-RANGE NETWORKS GOVERN CONTROL OVER WORKING MEMORY

Elizabeth L. Johnson[1], Callum D. Dewar[1,2], Anne-Kristin Solbakk[3], Tor Endestad[3], Torstein R. Meling[3], Robert T. Knight[1]; [1]University of California, Berkeley, [2]University of Illinois, [2]University of Oslo

TALK 7: PREFRONTAL DOPAMINE METABOLISM PREDICTS NEUROSTIMULATION-LINKED WORKING MEMORY TRAINING GAINS

Kevin Jones[1,2], Jaclyn Stephens[1,3], Marian Berryhill[1]; [1]University of Nevada, Reno, [2]Georgetown University Medical Center, [2]Kennedy Krieger Institute

TALK 8: AGE AND MODULATION OF BOLD RESPONSE TO TASK DIFFICULTY: THE PROTECTIVE EFFECTS OF CRYSTALLIZED KNOWLEDGE

Zhang Jingting[1], Zhuang Song[1], Patricia A. Reuter-Lorenz[2], Denise C. Park[1]; [1]University of Texas at Dallas, [2]University of Michigan

TALK 9: THE HIPPOCAMPUS PROMOTES EFFECTIVE SACCADIC INFORMATION GATHERING IN HUMANS

Heather D. Lucas[1], Melissa C. Duff[2], Neal J. Cohen[1]; [1]University of Illinois Urbana-Champaign, [2]Vanderbilt University

TALK 10: NEURAL RESPONSES DECREASE WHILE PERFORMANCE INCREASES WITH PRACTICE: A NEURAL NETWORK MODEL

Milena Rabovsky[1], Steven S. Hansen[2], James L. McClelland[2]; [1]Freie Universitaet Berlin, Germany, [2]Stanford University

TALK 11: IMPACT OF PREPARATORY ATTENTION ON SUBSEQUENT MEMORY: INDIVIDUAL DIFFERENCES IN CORTICAL OSCILLATIONS

Anna Khazenzon[1], Shao Fang Wang[1], Stephanie Zhang[1], Alex Gonzalez[1], Stephanie Gagnon[1], Monica Thieu[1], Melina Uncapher[2],

Anthony Wagner[1]; [1]Stanford University, [2]University of California, San Francisco

TALK 12: STRESS EFFECTS ON MEMORY ARE CONTEXT DEPENDENT

Matthew Sazma[1], Andrew McCullough[1], Andy Yonelinas[1]; [1]UC Davis

TALK 13: THE ROLE OF THE PREFRONTAL CORTEX IN INDUCTIVE REASONING: AN FNIRS STUDY

Layla Unger[1], Jaeah Kim[1], Theodore J. Huppert[2], Julia Badger[3], Anna V. Fisher[1]; [1]Carnegie Mellon University, [2]University of Pittsburgh, [2]University of Oxford

TALK 14: THE ROLE OF THE STRUCTURAL CONNECTOME IN LITERACY AND NUMERACY DEVELOPMENT IN CHILDREN

Joe Bathelt[1], Susan Gathercole[1], Sally Butterfield[1], Duncan Astle[1]; [1]MRC Cognition & Brain Sciences Unit

TALK 15: ELECTROCORTICOGRAPHY REVEALS THE NEURAL MECHANISMS OF THE ARITHMETIC PROBLEM-SIZE EFFECT

Pedro Pinheiro-Chagas[1], Amy L. Daitch[2], Josef Parvizi[2], Stanislas Dehaene[1]; [1]Collège de France, Paris, [2]Stanford University

Data Blitz Session 2

Saturday, March 25, Noon - 1:30 pm, Seacliff

Chair: Evangelia Chrysikou, University of Kansas

Speakers: Harry Farmer, Suzanne Dikker, Teodora Stoica, Arseny SOKOLOV, Andrea E. Martin, Manli Zhang, Francesca Carota, Jona Sassenhagen, Radhika Gosavi, Golijeh Golarai, Surabhi Bhutani, Andrew Quinn, Marina Bedny, Elisabeth Wenger, Brenda Rapp

TALK 1: INVESTIGATING THE NEURAL BASIS OF SHARED PREFERENCES AND AFFILIATION

Harry Farmer[1], Antonia Hamilton[1]; [1]University College London

TALK 2: TAKING HYPERSCANNING OUT OF THE LAB: EVIDENCE FROM EEG RECORDINGS ON 1400 DYADS DURING FACE-TO-FACE INTERACTION

Suzanne Dikker[1,2], Georgios Michalareas[3], Matthias Oostrik, Hasibe Melda Kahraman[4,2], Imke Kruitwagen[1], Shaista Dhanesar[5], Marijn Struiksma[1], David Poeppel[2,3]; [1]Utrecht University, [2]New York University, [2]Max Planck Institute for Empirical Aesthetics, [2]Hunter College, [2]Washington University in St. Louis

TALK 3: COMMON NEURAL SUBSTRATES OF DOWN-REGULATING NEGATIVE EMOTION AND SOCIAL THREAT

Teodora Stoica[1], Lindsay Knight[1], Leonard Faul[1], Farah Naaz[1], Brendan Depue; [1]University of Louisville

TALK 4: A MECHANISM FOR THE CORTICAL COMPUTATION OF HIERARCHICAL LINGUISTIC STRUCTURE

Andrea E. Martin[1,2], Leonidas A. A. Doumas[1]; [1]University of Edinburgh, [2]Max Planck Institute for Psycholinguistics

TALK 5: LANGUAGE-MODULATED PERCEPTUAL COMPENSATION: FUNCTIONAL CONNECTIVITY ANALYSIS OF L1 AND L2 READING IMPAIRMENTS IN CHINESE-ENGLISH BILINGUAL CHILDREN

Manli Zhang[1], Xiaoxia Feng[2], Yue Gao[2], Xiujie Yang[1], Weiyi Xie[1], Feng Ai[1], Hehui Li[2], Xingnan Zhao[1], Chi Zhang[1], Li Liu[2], Guosheng Ding[2], Xiangzhi Meng[1]; [1]Peking University, China, [2]Beijing Normal University, China

TALK 6: REPRESENTATIONAL SIMILARITY IN THE BRAIN AND COMPUTATIONAL LANGUAGE PROCESSING: NEW CLUES ABOUT THE NEURAL ENCODING OF WORD MEANING.

Francesca Carota[1,2,3,4], Hamed Nili[2,5], Nikolaus Kriegeskorte[2,3], Friedemann Pulvermüller[1,2,4]; [1]Humboldt Universit ät zu Berlin, Germany, [2]MRC Cognition and Brain Sciences Unit, Cambridge, UK, [2]University of Cambridge, Downing Street, Cambridge, CB2 3EB United Kingdom, [2]Freie Universität, Berlin, Germany, [2]University of Oxford, Oxford, UK

TALK 7: MULTILAYER NEURAL NETWORK MODELING OF SPEECH ENVELOPE PREDICTION ERRORS

Jona Sassenhagen[1], Benjamin Gagl[1], Christian J. Fiebach[1]; [1]University of Frankfurt

TALK 8: A COLORFUL ADVANTAGE IN ICONIC MEMORY

Radhika Gosavi[1], Edward Hubbard[1]; [1]University of Wisconsin-Madison

TALK 9: FACE AND PLACE SELECTIVITY DEVELOP IN TANDEM WITH THE VISUAL FIELD REPRESENTATIONS ALONG THE VTC IN CHILDREN

Golijeh Golarai[1], Alina Liberman[1], Kalanit Grill-Spector[1]; [1]Stanford University

TALK 10: CENTRAL OLFACTORY MECHANISMS UNDERLYING SLEEP-DEPENDENT CHANGES IN FOOD PROCESSING

Surabhi Bhutani[1], Jay A Gottfried[1], Thorsten Kahnt[1]; [1]Northwestern University Feinberg School of Medicine

TALK 11: FMRI-GUIDED THETA BURST STIMULATION TO THE SUPERIOR TEMPORAL CORTEX IMPAIRS SENTENCE PROCESSING.

Marina Bedny[1], Judy Kim[1], Gabriela Cantarero[2,3], Pablo Celnik[2]; [1]Johns Hopkins University, [2]Johns Hopkins School of Medicine, [2]Walter Reed Army Institute of Research

TALK 12: PROBING PLASTICITY OF AUDITORY CORTEX IN ADULTHOOD: STRUCTURAL BRAIN CHANGES FOLLOWING PITCH DISCRIMINATION TRAINING

Elisabeth Wenger[1], André Werner[1], Simone Kühn[1,2], Ulman Lindenberger[1]; [1]Max Planck Institute for Human Development, Berlin, Germany, [2]University Clinic Hamburg-Eppendorf, Hamburg, Germany

TALK 13: TEACHING COGNITIVE NEUROSCIENCE: TRANSFORMATION FROM LARGE LECTURE CLASS TO SMALL ACTIVE LEARNING GROUPS

Brenda Rapp[1], Soojin Park[1], Jeremy Purcell[1], Michael Reese[1]; [1]Johns Hopkins University

General Information

Abstracts

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

ATM

An ATM is located on the Atrium level of the hotel for your convenience.

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.

Baggage Check

The Bell Desk - Assistance with luggage, packages and other carry-on's, is located with the Concierge, next to the front desk.

Business Center

The Business Center is located on the Bay Level adjacent to the Drum Street windows. The following services are available: Copy Services, Facsimile Services, On-Site Computers, Internet Access, Typing Services, and Shipping Services (UPS and FedEx). After staffed hours, the business center can be accessed with your room key to access computers with internet and printing capabilities

Catering

Catering will be available during the conference and is included in the registration fee. Please refer to the table below for the catering times.

Saturday, March 25

Coffee Break, 1:30 – 2:00 pm, *Bayview & Seacliff Foyer*
Welcome Reception, 6:30 – 7:30 pm, *Atrium*

Sunday, March 26

Continental Breakfast, 8:00 – 8:30 am, *Exhibit Hall*
Coffee Break, 3:30 – 4:00 pm, *Ballroom Foyer*

Monday, March 27

Continental Breakfast, 8:00 – 8:30 am, *Exhibit Hall*
Coffee Break, 3:30 – 4:00 pm, *Exhibit Hall*

Tuesday, March 28

Continental Breakfast, 8:00 – 8:30 am, *Exhibit Hall*

Certificate of Attendance

To receive a Certificate of Attendance please visit the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel at the end of meeting. If you require any changes, we will be happy to email/mail a copy after the meeting. See also Receipts.

Chair People

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

Communications Open House

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.

Sunday March 26, 8:00 am - 10:00 am, *Golden Gate Room*
Monday March 27, 8:00 am - 10:00 am, *Golden Gate Room*

Contact Us

To contact us onsite, visit the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel or send an email to meeting@cnsmeeting.org We will respond to your email at our soonest opportunity.

Disclaimer

The Program Committee reserves the right to change the meeting program at any time without notice. Please note this program is correct at time of print.

Drink Ticket

Each Attendee will receive one drink ticket; they can be redeemed for alcoholic or non-alcoholic beverages at the Welcome Reception on Saturday. Lost drink tickets will not be replaced.

Exhibit Hall

The conference exhibit is located in Pacific Concourse Exhibit Hall of the San Francisco Hyatt Regency Hotel. Located in this room are the posters, exhibit booths, and catering. The Exhibit Hall is open to all attendees at the following times:

Saturday, March 25	4:30 pm – 7:00 pm
Sunday, March 26	8:00 am – 12:00 pm 1:30 pm – 7:00 pm
Monday, March 27	8:00 am – 12:00 pm 1:30 pm – 5:30 pm
Tuesday, March 28	8:00 am – 12:00 pm

Facebook

Find us on Facebook search for "*Cognitive Neuroscience Society*" and like us!

Hotel

The San Francisco Hyatt Regency Hotel is our exclusive Hotel for the CNS 2017 Annual Meeting and where all CNS 2017 meeting events will be held. Hyatt Regency San Francisco, 5 Embarcadero Center, San Francisco CA 94111

Hotel Restaurants

Eclipse Restaurant & Lounge. Whether you are in the mood for quick refreshment or a full meal, the culinary offerings at Eclipse will satiate you with an unforgettable interpretation of global dining.

Internet Access

CNS attendees will receive complimentary wireless internet in their guest room. We are pleased to offer free basic wireless internet in all meeting rooms. Ideal for web browsing, social networking, app usage, and checking emails only. **NOT FOR DOWNLOADING OR STREAMING.** Doing so will cause the system to slow down for everyone. Please be courteous.

Look for SSID: CNS 2017 **PASSWORD:** Cogneuro

LinkedIn

Join our LinkedIn Group: Cognitive Neuroscience Society (CNS).

Lost & Found

The meeting Lost and Found is located at the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel.

Member Services

The member services desk is located at the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel. The member services desk will be open at the following times:

Saturday, March 25	11:00 am – 5:00 pm
Sunday, March 26	7:30 am – 4:30 pm
Monday, March 27	8:00 am – 5:00 pm
Tuesday, March 28	8:00 am – 12:30 pm

Message Center

Messages for meeting registrants can be left and retrieved at the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel. A bulletin board will be available for announcements and job postings.

Mobile Phones

Attendees are asked to silence their mobile phones when in sessions.

Name Badges

The San Francisco Hyatt Regency Hotel and Convention Center is open to public access. For security purposes, attendees, speakers and exhibitors are asked to wear their name badges to all sessions and social functions.

Entrance into sessions is restricted to registered attendees only. Entrance to the Exhibition will be limited to badge holders only. If you misplace your name badge, please go to the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel for a replacement.

Parking

The San Francisco Hyatt Regency Hotel offers secured and covered Valet parking. Parking rates are currently $62 + tax per day ($72.00 inclusive of tax) with in and out privileges for guests and non-guests. (Please note this information was correct at time of print.)

Phone Charging Station

There will be a small phone charging station located at the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel.

Photo Disclaimer

Registration and attendance at, or participation in, the Cognitive Neuroscience Society meetings and other activities constitute an agreement by the registrant/attendee to CNS's use and distribution (both now and in the future) of the registrant's or attendee's image in photographs of such events and activities.

Poster Sessions

Poster sessions are scheduled on Saturday, March 25, Sunday, March 26, Monday, March 27, and Tuesday, March 28. The presenting author must be present during the assigned session and other authors may

be present to answer questions. The poster sessions are in the Pacific Concourse Exhibit Hall of the San Francisco Hyatt Regency Hotel. Badges are required at all times. Do not leave personal items in the poster room.

Printed Program Booklet

One copy of the printed program booklet is available to each attendee who requested one. If you would like a second copy please check in at the Registration Counter on the Ballroom floor of the San Francisco Hyatt Regency Hotel on the last day of the event. Every effort has been made to produce an accurate program. If you are presenting at the conference, please confirm your presentation times as listed in this program. Attendees will also have the option to view the program by downloading it from our website after the meeting has concluded.

Receipts

You received two receipts via email, one at the time of purchase and a second 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 Atrium, from 6:30-7:30 pm on Saturday, March 25.

Registration

The Registration Counter is located on the Ballroom floor of the San Francisco Hyatt Regency Hotel. The Registration Counter will be open at the following times:

Saturday, March 25	11:00 am – 6:30 pm
Sunday, March 26	7:30 am – 6:30 pm
Monday, March 27	8:00 am – 5:30 pm
Tuesday, March 28	8:00 am – 3:00 pm

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.

Student Lounge

CNS will be providing a student lounge in the Seacliff Room with comfortable seating for relaxing and visiting with your colleagues. Meeting internet available in the room, See *Internet Access.*

Transportation

Taxis - There is a taxi stand at the front of the Hotel. A Taxi to or from SFO is about 20-30 minutes and is approximately $50-55.
BART (Bay Area Rapid Transit) -Please visit www.bart.gov for fares and schedules. Station is located within steps of the hotel's front entrance. Approximate one-way fare from San Francisco International Airport $8.65 each way.
Lorrie's Shuttle - Offers service to the Hyatt Regency San Francisco. Shuttles depart every 20 minutes. Board shuttles just outside of the luggage carousels on the lower level of SFO. Fare is $17 from the airport to the hotel.

**Fares subject to change without notice.*

Twitter

Follow CNS Annual Meeting (@CNSmtg). Our Hashtag this year is #CNS2017

Website

http://www.cogneurosociety.org

SAVE THE DATE

CNS 2018 Annual Meeting Will be held in Boston, MA on March 24-27, 2018

Exhibits

Exhibitors

Visit our exhibitors in Pacific Concourse

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Brain Products GmbH
Brain Vision, LLC
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Cedrus Corporation
Compumedics-Neuroscan
Cortech Solutions, Inc.
Electrical Geodesics, Inc.
gTec Medical Engineering GmbH
MIT Press
Neurobehavioral Systems, Inc.
NIRx Medical Technologies, LLC
Psychology Software Tools
Rogue Research, Inc.
Routledge, Taylor & Francis
Soterix Medical
SR Research Ltd
TCG/NITRC
Wearable Sensing, LLC

Exhibit Hours

The conference exhibits are located in Pacific Concourse of the Hyatt Regency San Francisco Hotel. Located in this room are the posters, exhibit booths, and catering. The Exhibit Hall is open to all attendees at the following times:

Saturday, March 25	4:30 pm – 7:00 pm
Sunday, March 26	8:00 am – 12:00 pm 1:30 pm – 7:00 pm
Monday, March 27	8:00 am – 12:00 pm 1:30 pm – 5:30 pm
Tuesday, March 28	8:00 pm – 12:00 pm

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

GSA/PFA Awards

Congratulations to the 2017 winners of the Graduate Student Awards and the Post-Doctoral Fellow Awards.

Graduate Student Award Winners

Jason Samaha, University of Wisconsin-Madison
Pablo Morales, University of Oregon
Erik Jahner, University of California Riverside
Xingyu Ding, New York University
Jie Zheng, University of California, Irvine
Thomas Donoghue, University of California, San Diego
Erika Künstler, Jena University Hospital
Brittany Lee, San Diego State University
Maria Mikail, CAMH
Elena Molokotos, Suffolk University

Post-Doctoral Fellow Award Winners

Kamin Kim, University of Texas Health Science Center at Houston
Kamalini Ranasinghe, University of California, San Francisco
Steven Weisberg, University of Pennsylvania
Karuna Subramaniam, University of California, San Francisco
Anne Martin, Princeton University
Arjen Stolk, University of California, Berkeley
Franziska Hartung, University of Pennsylvania
Eelke Spaak, University of Oxford
Yuan Tao, Johns Hopkins University
Sufang Li, NIDA

Invited-Symposium Sessions

#	Title	Date	Time	Location
1	Frontal cortex contributions to decision making	Sunday, March 26	10:00 am - Noon	Ballroom A
2	Cortical oscillations in hearing, speech, and language	Sunday, March 26	10:00 am - Noon	Ballroom B/C
3	The lapsing brain: how attentional fluctuations impact cognition	Tuesday, March 28	1:30 - 3:30 pm	Ballroom A
4	Brain Network Specialization Through Adolescence Supporting Stabilization of Cognitive and Affective Brain Systems	Tuesday, March 28	1:30 - 3:30 pm	Ballroom B/C

Invited Symposium Session 1

FRONTAL CORTEX CONTRIBUTIONS TO DECISION MAKING

Sunday, March 26, 10:00 am - Noon, Ballroom A

Chair: Elisabeth A (Betsy) Murray, National Institute of Mental Health

Speakers: Betsy Murray, Erin Rich, Paul Cisek, Joseph Kable

There is broad interest in the neural mechanisms underlying reward-based decision making. The four speakers will provide an update on different aspects of decision making in macaques and humans. Murray and Rich will unravel the neural substrates and neural mechanisms underlying object choices in macaque monkeys. Murray will discuss the causal contributions of different frontal cortex areas to object choices, focusing on the complementary roles for orbital and ventral prefrontal regions. Rich will discuss a novel approach to decode value representations from orbitofrontal cortex during individual choices with high temporal resolution. Cisek will present the novel hypothesis that decisions about actions unfold as a biased competition, and then will test that idea using neurophysiological approaches in macaques. Based on findings from both functional imaging and effects of brain damage, Kable will discuss the separable contributions of ventromedial prefrontal cortex and anterior cingulate cortex to decision making in humans.

TALK 1: FROM KNOWLEDGE TO ACTION: THE ROLE OF THE PRIMATE ORBITOFRONTAL CORTEX

Betsy Murray[1]; [1]National Institute of Mental Health

The orbitofrontal cortex (OFC), traditionally defined as Walker's areas 11, 13 and 14, has long been thought to play a critical role in behavioral flexibility, including behavioral inhibition and the regulation of emotion. Recent evidence has overturned these ideas by showing that inadvertent damage to fiber pathways account for the reported deficits. The use of a more selective lesion method in macaque monkeys has shown that OFC has a more specific and different function: representing and updating the value of specific expected outcomes, based on current biological states. These updated valuations, in turn, guide choice behavior. Recent studies have identified functional subdivisions within OFC and helped to differentiate it from nearby areas. In one study we found that the posterior part of OFC, area 13, is necessary for its value updating function, while the anterior part, area 11, translates this knowledge into adaptive actions. In a second study we contrasted the contributions of OFC and the neighboring ventrolateral prefrontal cortex (VLPFC; Walker's area 12) to value updating. We found that OFC and VLPFC play complementary roles in value updating and—by extension—decision making. The former depends on dynamic internal states; the latter depends on dynamic external contingencies. Given that granular OFC and VLPFC emerged during the evolution of primates, a comparative analysis suggests that these capacities built on OFC functions inherited from early mammals.

TALK 2: DYNAMIC ENCODING OF CHOICE IN THE ORBITOFRONTAL CORTEX

Erin Rich[1,2]; [1]University of California Berkeley, [2]University of California San Francisco

When making a subjective decision, it is believed that the brain computes a value for each option and compares these values to arrive at a choice. Evidence suggests that the orbitofrontal cortex (OFC) is critically involved in this process, however the neural mechanisms involved remain largely obscure. One reason is that preferences are frequently driven by knowledge and states internal to the organism, and far removed from externally observable sensory inputs or motor outputs. Furthermore, subjective decisions are not stereotyped. They may evolve differently even if the same decision is made multiple times, so that averaging neural responses over repeated trials can obscure critical detail. With this in mind, we used a novel approach to decode value representations from OFC during individual choices with high temporal resolution. Ensembles of OFC neurons and field potentials were recorded while non-human primate subjects chose between images that predicted rewards of different value. We used a classification algorithm to decode patterns of activity associated with each image, and found that OFC alternated between states representing the value of two choice options. The decoded patterns varied trial-by-trial, but the strength and frequency of the recovered states predicted whether a subject would decide quickly or vacillate between the two alternatives. Multiple neural features contributed to these representations, and individual neurons were found to shift their firing rates as the network evaluated each option. Overall, dynamic

representations of value in OFC are likely a fundamental feature of large-scale brain networks that underlie value-based decision-making.

TALK 3: NEURAL MECHANISMS OF REAL-TIME EMBODIED DECISIONS

Paul Cisek[1]; [1]University of Montreal

Psychological and neurophysiological studies of decision-making have focused primarily on scenarios in which subjects are faced with discrete options that are stable in time, permitting a serial process of representing the relevant information, careful deliberation about the choice, followed by action planning and execution. However, the brain evolved to guide interactions with a dynamic and constantly changing world, in which the choices themselves as well as their relative costs and benefits are defined by the momentary geometry of the immediate environment and are continuously changing during ongoing activity. Such "embodied decisions" still dominate our lives, whether we're playing a sport or walking through a crowd, and they pose challenges that are very different than the demands of economic choice. To deal with these challenges, animals require a neural architecture in which the sensorimotor specification of potential actions, their valuation, selection, and even execution can all take place in parallel. I will describe a general hypothesis for how the brain deals with the challenges of such dynamic and embodied behavior, and present a series of neurophysiological recording experiments in rhesus monkeys aimed at testing the predictions of this hypothesis. These experiments suggest that decisions about actions unfold as a biased competition taking place within a map of potential actions and that the resolution of this competition, in the sensorimotor system, is what determines the volitional commitment to an action choice.

TALK 4: VENTROMEDIAL PREFRONTAL CORTEX PLAYS A SIMILAR ROLE IN TEMPORALLY-EXTENDED FORAGING-STYLE DECISIONS AND BINARY CHOICES

Joseph Kable[1]; [1]University of Pennsylvania

Many decisions involve choosing whether to continue pursuing a current goal or abandon this course of action in favor of an alternative one. Foraging is a classic example of such sequential, temporally-extended decision making. There has been much debate about whether the neural mechanisms of temporally-extended decisions, such as foraging, are fundamentally similar to those of choices from a fixed menu of options. To address this question, we performed a series of studies using a willingness-to-wait paradigm, in which people continually reassess whether they want to keep waiting for a temporally uncertain delayed reward. We find that waiting behavior in this task is well described by formal models of optimal foraging. Using fMRI, we find that neural activity in the ventromedial prefrontal cortex tracks the value of the awaited reward as it dynamically changes through time, akin to the static value signal previously observed in this region during discrete choices from a fixed menu. Damage to the ventromedial prefrontal cortex in humans also impairs the calibration of waiting, in the same way that damage to this region impairs the consistency of binary choices. In contrast to the results in ventromedial prefrontal cortex, we find that anterior cingulate cortex and anterior insula exhibit increased activity right before decisions to abandon the current option, and interpretation of this as a signal to shift strategy is bolstered by the finding that lesions here enhance waiting. These results argue for a continuity in the role of frontal cortex across different forms of decision-making.

Q&A PERIOD

The speakers will take questions from the audience.

Invited Symposium Session 2

CORTICAL OSCILLATIONS IN HEARING, SPEECH, AND LANGUAGE

Sunday, March 26, 10:00 am - Noon, Ballroom B/C

Chair: David Poeppel, Max-Planck-Institute, NYU

Speakers: Saskia Haegens, Virginie van Wassenhove, Nai Ding, David Poeppel

Neural activity of an oscillatory nature is observed in a range of studies investigating perception and cognition. There is legitimate debate about the role of oscillations, but on balance there is emerging consensus that cortical oscillations play a critical role in shaping the temporal structure of perceptual experience. One area of research in which new theories and approaches are being explored concerns their potential causal role for hearing speech, and language processing. From selecting information in auditory streams to recognizing the elements of speech to constructing abstract linguistic representations, oscillations across timescales (from low-frequency delta to activity in the high-gamma band) have been implicated in functionally specific ways. The symposium addresses major new phenomena and their potential explanations by drawing on psychophysics and neurophysiology (MEG, ECoG, EEG). Linking hypotheses are developed between basic computational properties underlying hearing, speech, and language and how rhythmic brain activity might form the implementational basis underlying these operations.

TALK 1: OSCILLATORY DYNAMICS OF AUDITORY ATTENTION

Saskia Haegens[1]; [1]Columbia University

In daily life our brains receive a continuous stream of sensory input. Effective processing in a complex natural environment requires attention: selection of relevant input and suppression of irrelevant information. Here I will talk about the oscillatory dynamics thought to be instrumental in directing attention, specifically, (1) the alpha rhythm, and (2) neuronal entrainment to slow frequency rhythms. The alpha rhythm has been proposed as a mechanism of functional inhibition. In a series of spatial attention studies we showed that decreased alpha facilitates processing whereas increased alpha functions to suppress

distracting input. I will here discuss the evidence for this mechanism in the auditory system. In addition, I will present a series of psychophysics experiments on auditory temporal attention, showing rhythmic entrainment as a mechanism of focusing attention on relevant input. Subjects performed an auditory discrimination task, in which they received a temporal visual cue, which was either informative (rhythmic condition) or not informative about the specific timing of the target (random condition). We showed that when a target is presented in-phase with the cued rhythm, performance improves as compared to both the random-mode (no precise temporal information) and the out-of-phase (unexpected) condition. In an accompanying MEG study we looked into the neural correlate of this effect, and found increased delta coherence, in the rhythmic condition, which was sustained after the cue, confirming the entrainment prediction.

TALK 2: TIMING SPEECH CONTENT

Virginie van Wassenhove[1]; [1]CEA/NeuroSpin, France

Neuronal oscillations have been implicated in various cognitive functions including time and speech processing. Non-stationarities in the phase and in the power of entrained brain responses are not only critical to index the endogenous control of information processing but also to capture an individual's subjective perception of time or speech content. For instance, using a temporal recalibration paradigm in which participants adapted to audiovisual asynchronies while being recorded with magnetoencephalography (MEG) revealed that changes in the phase of the auditory entrained responses could predict an individual's conscious event timing. In the speech domain, neuronal oscillations have been hypothesized to segment the acoustic stream into computational units (e.g. syllables or words). To test whether parsing was driven by bottom-up acoustic cues or modulated by top-down representational availability, participants listened to speech streams that would yield two possible percepts. Two markers of neural-speech tracking were found under endogenous control: small modulations in low-frequency oscillations and variable latencies of high-frequency neural activity (sp. beta and gamma bands). While changes in low-frequency neural oscillations were compatible with the encoding of pre-lexical segmentation cues, high-frequency activity informed on an individual's conscious speech percept. Altogether, these results are consistent with the notion of neural oscillations as cortical framing of information processing in time.

TALK 3: CORTICAL TRACKING OF HIERARCHICAL LINGUISTIC STRUCTURES IN CONNECTED SPEECH

Nai Ding[1]; [1]Zhejiang University, China

Language is hierarchically organized into syllables, words, phrases, and sentences. For spoken language, online building of these hierarchical linguistic structures is a fundamental yet challenging task. Although the boundaries between syllables generally have clear acoustic signatures, determining the boundaries between words and phrases critically relies on the listener's linguistic knowledge. During speech listening, it has been well characterized that auditory cortical activity is entrained to the syllabic rhythm of speech. However, how larger linguistic structures, such as words and phrases, are represented in the brain remains elusive and is investigated in this study. We designed speech materials in which the hierarchical linguistic structure of speech is dissociated from low level acoustic features, and measured cortical activity using magnetoencephalography (MEG) from listeners listening to such materials. It is demonstrated that cortical activity is concurrently entrained to the rhythms of syllables, phrases, and sentences, unconfounded by the tracking of acoustic properties of speech. Furthermore, entrainment to larger linguistic structures such as phrases and sentences is demonstrated to be associated with the syntactic structure of speech rather than the predictability of each incoming word. In summary, cortical circuits can generate slow rhythms matching the time scales of larger linguistic structures, even when such rhythms are not present in the speech input, which provides a plausible mechanism for online building of large linguistic structures.

TALK 4: CORTICAL RHYTHMS IN HEARING, SPEECH, AND LANGUAGE: A TAXONOMY

David Poeppel[1,2]; [1]Max-Planck-Institute, [2]NYU

Oscillations have been observed in a wide range of phenomena in cognition, in general, and language processing, in particular. The rumors about oscillations range from 'they are causally crucial' to 'they are at most the exhaust fumes of cortical computation.' Can the wilderness of oscillation-based phenomena be tamed? On the view that brain rhythms are not merely epiphenomenal but play some role, an attempt at a taxonomic model is made. I argue that oscillations across rates can be argued to sample, predict, and attend to the world. Most broadly speaking, the pairing of theta and gamma underlies sampling, the pairing of delta and beta underlies predicting, and alpha splits the low and high rhythm regimes and underlies attending and inhibiting the inputs that confront our perceptual and cognitive systems.

Q&A PERIOD

The speakers will take questions from the audience.

Invited Symposium Session 3

THE LAPSING BRAIN: HOW ATTENTIONAL FLUCTUATIONS IMPACT COGNITION

Tuesday, March 28, 1:30 - 3:30 pm, Ballroom A

Chair: Edward Vogel, University of Chicago

Speakers: Kirsten C. S. Adam, Mariam Aly, Michael Esterman, Kalina Christoff

Attention is well known to play a pivotal role in controlling the operation of many cognitive mechanisms such as perception, memory,

reasoning and problem solving. However, recent advances in behavioral and neuroscientific methods have revealed that an individual's attentional state is not stable, but instead fluctuates substantially over time. During any given task setting, an individual's attentional state can range from being completely task-focused (e.g., in the zone) to completely disengaged (e.g., mind-wandering). This symposium will showcase recent work revealing how fluctuations in the brain's ongoing attentional state impact cognitive functioning and task performance. Edward Vogel will describe how fluctuations of attentional control may determine individual differences in working memory capacity. Mariam Aly will discuss her work examining how variance in attentional state determines the quality of episodic memory representations that are encoded in the hippocampus. Michael Esterman will talk about his work characterizing the brain networks related to attentional fluctuations and how they connect to changes in ongoing task performance. Finally, Kalina Christoff will discuss her work on the neural bases of mind-wandering in which she argues that mind-wandering plays a critical role in allowing for spontaneous thought.

TALK 1: ATTENTIONAL LAPSES DRIVE INDIVIDUAL DIFFERENCES IN WORKING MEMORY CAPACITY

Kirsten C. S. Adam[1], Edward K. Vogel[1]; [1]University of Chicago

Working memory (WM) is restricted and varies considerably across individuals. These individual differences in WM are strongly predictive of many high level functions such as reasoning and intelligence. In previous work, we and others have found that low capacity individuals are poorer at exerting attentional control than high capacity individuals. However, the aggregate nature of most attention and memory measures leaves a basic question untested. Do low capacity individuals have a consistently reduced attentional capacity or is their poorer performance a mixture of "normal" capacity trials with trials in which they were completely disengaged from the task? Using both behavioral and EEG approaches we examined trial by trial fluctuations in WM success. While we found that low capacity individuals had roughly double the frequency of complete attentional lapses, this factor alone was insufficient to account for the extent of the differences between subjects. Instead, our results suggest that these individual differences are primarily driven by periodic fluctuations in the successful implementation of attentional control over working memory storage. We argue that these fluctuations in attentional control may reveal a common thread linking WM to performance on other cognitive and scholastic aptitude measures.

TALK 2: HIPPOCAMPAL REPRESENTATIONS OF ATTENTIONAL STATE PREDICT THE FORMATION OF EPISODIC MEMORY

Mariam Aly[1], Nicholas B. Turk-Browne[1]; [1]Princeton University

Attention modulates what we see and what we remember. Despite this connection in behavior, little is known about the mechanisms that link attention to memory formation in the brain. Using high-resolution fMRI, we investigated the hypothesis that attentional states are represented in the hippocampus, and that the quality of these representations during encoding influences whether attended information is later remembered. In Phase 1 of the experiment, participants performed an attention task in which, on every trial, they viewed an image of a room with a painting and then searched through a stream of images for a painting from the same artist (art state) or a room with the same layout (room state). All trials of each attentional state were used to identify an average pattern of activity within each hippocampal subfield that corresponded to the representation of that state. Phase 2 used an incidental encoding design with trial-unique images (rooms with art); participants attended to the art or to the rooms in different blocks. Memory for the attended aspect of each image (art or room) was tested in Phase 3. We predicted that participants would be more likely to remember attended information if, during encoding, their hippocampus was more strongly in an attentional state that prioritized that information. Indeed, trial-by-trial encoding activity patterns in hippocampal subfields CA2/3/DG were more highly correlated with the task-relevant attentional state representation when items were subsequently remembered vs. forgotten. These results offer insight into the mechanisms by which attention transforms percepts into memories.

TALK 3: CLARIFYING THE ROLES OF TASK-POSITIVE AND TASK-NEGATIVE NETWORKS IN ATTENTIONAL FLUCTUATIONS

Michael Esterman[1,2], Aaron Kucyi[3], Victoria Poole[1,4,5], Joseph DeGutis[1,5], Eve Valera[6,7]; [1]Veterans Administration, Boston MA, [2]Boston University School of Medicine, [3]Stanford University, [4]Institute for Aging Research, Hebrew SeniorLife, [5]Harvard Medical School, [6]Harvard Medical School, Psychiatry, [7]Massachusetts General Hospital

Sustaining attention is challenging and in reality our attention fluctuates. Though these fluctuations have been linked to spontaneous activity in the brain's default mode network (DMN) as well as task-positive attention networks (TPNs), several inconsistencies exist regarding the nature of these relationships. In the DMN, activity has been associated with self-reported mind-wandering, and such mind-wandering is often associated with error-prone, variable behavior. However, increased DMN activity has also been reliably associated with stable, rather than variable behavior (i.e., being 'in the zone'). To address this seeming contradiction, subjects performed a sustained attention task during fMRI, simultaneously measuring self-reported mind-wandering, task variability, and brain activity. We found that even though mind-wandering co-occurred with increased task variability, highest DMN signal levels were observed during mind-wandering and stable behavior simultaneously. In a second experiment, we addressed a parallel contradiction in TPNs, namely that TPN activity is associated with motivated attention, which is typically itself

associated with accurate, stable behavior. However, increased TPN activity has also been reliably associated with variable, rather than stable behavior (i.e., being 'out of the zone'). Using a similar continuous performance task and performance-based rewards, we find that while motivation co-occurred with decreased variability, highest TPN activity was observed with motivation and variable behavior simultaneously. Our results challenge commonly accepted viewpoints that spontaneous DMN/TPN activity primarily reflects mind-wandering and motivated attention, respectively, by showing that it also reflects attentional state fluctuations that cannot be captured by self-report or extrinsic experimental manipulations.

TALK 4: MIND WANDERING AS SPONTANEOUS THOUGHT: A DYNAMIC FRAMEWORK

Kalina Christoff[1]; [1]University of British Columbia

Mind-wandering has recently come to occupy a central position in cognitive psychology and neuroscience. Most theories and research so far have examined it in terms task-unrelated or stimulus-independent mental contents that occur at particular moments of time. A defining feature of mind-wandering, however, are its dynamics: how thought moves over time. In this talk, I will introduce a dynamic framework for understanding mind-wandering and its neural basis. I propose that mind-wandering is best understood as a member of a larger family of spontaneous thought processes – a family that also includes creative thought and dreaming. I will distinguish between two types of constraints on thought – deliberate and automatic – that can reduce thought's spontaneous movement. Within this framework, fluctuations between spontaneous, automatic, and deliberate modes of thinking correspond to changing interactions among large-scale brain networks. Finally, the framework situates spontaneous thought within a broader conceptual space that allows its comparison to goal-directed thought, as well as to clinical disorders that make thought excessively constrained – such as in rumination and anxiety, or excessively variable – such as in ADHD.

Q&A PERIOD

The speakers will take questions from the audience.

Invited Symposium Session 4

BRAIN NETWORK SPECIALIZATION THROUGH ADOLESCENCE SUPPORTING STABILIZATION OF COGNITIVE AND AFFECTIVE BRAIN SYSTEMS

Tuesday, March 28, 1:30 - 3:30 pm, Ballroom B/C

Chair: Beatriz Luna, University of Pittsburgh

Speakers: Beatriz Luna, Damien Fair, Jason Chein and Juliet Y. Davidow

Adolescence is increasingly being recognized as a unique and significant stage of development supporting the establishment of cognitive control and its integration with emotional and social processing systems. Emerging evidence indicates that this transition is underlied by unique processes of network specialization specific to supporting the transition to established adult modes of brain organization. This symposium will discuss work characterizing changes in functional brain organization during the pubertal period that support specialization of cognitive and affective processes. Bea Luna will present fMRI and MEG data on developmental changes in the instantiation of cognitive brain states and cognitive network stability. Her results will show stabilization of task related systems with increased complexity in resting state connectivity. Damien Fair will present data examining the influence of emotional context on intrinsic brain connectivity across the adolescent, young adult, and adult periods. He will show how a specific phenotype (i.e. brain patterns that revert to a "younger" age in emotional contexts) relates to risk perception and risk preference. Jason Chein will follow describing research exploring how the structural and functional maturation of brain networks engaged in social information processing, reward valuation, and cognitive control impact adolescent decision making and reward learning, and affect adolescents' relative susceptibility to the context in which decision and reward processing occurs. Finally, Juliet Davidow will present studies on the consequences of heightened adolescent reward reactivity on motivated learning and episodic memory as striatal and hippocampal systems are differentially engaged affecting cognitive control.

TALK 1: CHANGES IN THE INTEGRATION OF BRAIN PROCESSES SUPPORTING THE TRANSITION FROM ADOLESCENT TO ADULT LEVEL COGNITIVE CONTROL

Beatriz Luna[1]; [1]University of Pittsburgh Medical Center

Cognitive processes and their underlying brain systems are on line early in development showing incremental integration into adolescence. Subsequently, from adolescence to adulthood there is a period of refinement leading to adult levels of stabilization in the engagement of mature cognitive processes supporting improvements in the rate and precision of executive responses. I will present fMRI and MEG data on developmental changes in the instantiation of cognitive brain states and cognitive network stability during cognitive control and during rest. Results indicate that during working memory (WM) performance there are increasingly more distinct brain patterns of activity available with development. The engagement of relevant cognitive brain tasks however show developmental decreases in the variability of the magnitude of their engagement that are associated with decreases in performance variability. In addition, we find developmental enhancements in the temporal organization and engagement of frontal network contributions during cognitive control. In contrast, during rest, results indicate developmental decoupling of regions in cognitive brain networks particularly at low frequency oscillations. Together these results suggest that through adolescence

there is evidence for refinement of cognitive brain systems supporting increasing complexity of brain integration supporting stability and flexibility of cognitive brain systems.

TALK 2: AT RISK OF BEING RISKY: THE RELATIONSHIP BETWEEN "BRAIN AGE" UNDER EMOTIONAL STATES AND RISK PREFERENCE

Damien Fair[1]; [1]Oregon Health & Science University School of Medicine

Abstract: Developmental differences regarding decision-making are often reported in the absence of emotional stimuli and without context, failing to explain why some individuals are more likely to have a greater inclination toward risk. In this work we will discuss the influence of emotional context on underlying functional brain connectivity across age and its impact on risk preference. Using functional imaging data in a neutral brain-state we first identify the "brain age" of a given individual then validate it with an independent measure of cortical thickness. We then show, on average, that "brain age" across the group during the teen years has the propensity to look younger in emotional contexts. Further, we show this phenotype (i.e. a younger brain age in emotional contexts) relates to a group mean difference in risk perception – a pattern exemplified greatest in young-adults (ages 18-21). These results are suggestive of a specified functional brain phenotype that relates to being at "risk to be risky."

TALK 3: DECISION, REWARD, AND SOCIAL PROCESSING IN ADOLESCENT BRAIN DEVELOPMENT

Jason Chein[1]; [1]Temple University

Maturational changes in brain networks that support decision, reward, and social processing yield a developmental period, adolescence, during which the ability to self-regulate behavior nears fully mature levels but sensitivity to specific contextual factors is heightened. One salient influence on adolescent behavior is social context, with adolescents exhibiting especially increased sensitivity to the social conditions under which their decisions and behavior are carried out. While increased sensitivity to social context during adolescence can have potentially deleterious manifestations (e.g., increased risk taking), it can also have adaptive benefits (e.g., enhanced reward learning). Through studies combining structural and functional neuroimaging with laboratory assessments of risk-taking, cognitive control, and reward sensitivity/learning, we have explored the specific ways in which brain development enhances sensitivity to social inputs during adolescence. In this work, we find that sensitivity to social information is linked to network-level changes in the structural morphology of the "social brain", that social context has its strongest impact on the outputs of reward-related processing centers (e.g., striatal and orbitofrontal regions), and that social context modulates the dynamics of brain network interactions during decision processing, with the anterior insula playing an especially important role in driving these dynamics. Our findings highlight the direct links between social context and reward-related processes, but early evidence also suggests that when conditions deplete the availability of cognitive control resources they can exacerbate the impacts of social context, while conditions that enhance the recruitment of control resources can minimize social impacts on adolescent behavior.

TALK 4: MULTIPLE LEARNING SYSTEMS IN THE ADOLESCENT BRAIN: THE INFLUENCE OF MOTIVATED LEARNING ON EPISODIC MEMORY AND COGNITIVE CONTROL.

Juliet Y. Davidow[1]; [1]Harvard University

Adolescents are known for being distinctly sensitive to motivational cues, a characteristic that has been linked to heightened activity in the brain's reward systems. Rewards are critical for adaptively guiding behavior but can differentially bias neural systems in ways that are either beneficial or interruptive for other cognitive processes. In one study, we show a beneficial role of motivational sensitivity. In a probabilistic reinforcement learning task, adolescents showed better motivated learning and a stronger link between learning and episodic memory. This enhancement in learning was related to heightened prediction error-related BOLD activity in the hippocampus and to stronger functional connectivity between the hippocampus and the striatum at the time of reinforcement. In another study, we show impairment from motivational sensitivity. In a two-part task, a reward association is conditioned to a neutral stimulus, then later used in a classic cognitive control task. Adolescents showed greater impairment for the cue with an associated reward history. This intrusion of the previous reward association over the ability to inhibit a response was related to activity in the striatum and the anterior cingulate cortex. Together, this work highlights the potential to leverage the sensitivity of adolescent motivational systems in ways that are advantageous, but cautions that there are goal-directed behaviors that are susceptible to intrusion from this bias.

Q&A PERIOD

The speakers will take questions from the audience.

Symposium Sessions

#	Title	Date	Time	Location
1	Are we ready for real-world neuroscience research?	Sunday, March 26	1:30 - 3:30 pm	Ballroom A
2	Genetics and cognitive neuroscience: What does the future hold?	Sunday, March 26	1:30 - 3:30 pm	Bayview
3	Multivariate approaches for neural dynamics: It's about time	Sunday, March 26	1:30 - 3:30 pm	Ballroom B/C
4	Working memory: sustained activity or dynamics?	Monday, March 27	10:00 am - Noon	Ballroom A
5	Cognitive maps in the orbitofrontal cortex for goal-directed behavior	Monday, March 27	10:00 am - Noon	Bayview
6	Top-Down Functions of Neural Oscillations for Speech and Language Processing	Monday, March 27	10:00 am - Noon	Ballroom B/C
7	Driving the brain to understand cognition	Tuesday, March 28	10:00 am - Noon	Bayview
8	Deciding how to decide: understanding when and why the brain allocates computational resources to goal-directed behavior	Tuesday, March 28	10:00 am - Noon	Ballroom A
9	Memory Neuromodulation: How do different states of learning influence episodic memory?	Tuesday, March 28	10:00 am - Noon	Ballroom B/C

Symposium Session 1

ARE WE READY FOR REAL-WORLD NEUROSCIENCE RESEARCH?

Sunday, March 26, 1:30 - 3:30 pm, Ballroom A

Chair: Pawel J. Matusz, University Hospital Centre (CHUV) - University of Lausanne, Switzerland

Speakers: Alex Huth, Suzanne Dikker, Catherine Perrodin, Pawel J. Matusz

Real-world environments are typically dynamic, complex, multisensory in nature, and necessitate the support of top-down mechanisms for us to be able to "see". Fundamental principles of perception and brain organisation have been established by research utilising well-controlled, but simplified, paradigms with basic stimuli. Drawing on theoretical advances and those in computational power, brain mapping, and signal-processing techniques, research has been increasingly departing from traditional paradigms to understand the brain-cognitive mechanisms governing perception in environments containing one, or, more recently, multiple real-world environmental attributes. Have we reached a point where we can confidently abandon laboratory-based experiments? What are the exceptional insights provided by research conducted in naturalistic environments? Fundamental assumptions about perception or brain hierarchy have been questioned - by studies adapting traditional paradigms to vary task-relevance and (multi)sensory nature of stimulation. Have contributions of these laboratory-based approaches effectively rendered them obsolete? Alex Huth will discuss how studies using audio-stories and movies advance our understanding of brain representations of semantic knowledge. Suzanne Dikker will present the novel insights provided by studying brain-to- brain synchrony during classroom-based learning. Catherine Perrodin will illustrate how human object recognition is better understood via necessarily lab-based research on communication signals in non-human primates. Lastly, Pawel Matusz will highlight how the classical visual-attention paradigms can be adapted to vary also the (multi)sensory nature of stimulation and selective-attention skills of observers, in order to achieve a unique understanding of the brain and cognitive mechanisms of naturalistic object perception in real-world scenarios.

TALK 1: USING VOXEL-WISE MODELING OF FMRI RESPONSES TO NATURAL STORIES AND MOVIES TO STUDY SEMANTIC REPRESENTATIONS IN HUMAN CORTEX

Alex Huth[1]; [1]University of California, Berkeley

For decades neuroimaging has been used to investigate the organization of the human brain. Even so, little is known about how exactly the brain supports naturalistic perception. One issue is the point hypothesis testing approach that has dominated neuroimaging. This approach can have high statistical power for testing specific hypotheses, but cannot accurately estimate effect sizes, leaving open whether many "significant" findings are meaningful. Furthermore, it is difficult to synthesize results from this approach into a coherent view of cortical organization. We offer an alternative: voxelwise modeling (VM) using natural stimuli. Here, subjects are presented with complex natural stimuli while brain responses are recorded. Hypotheses about how these stimuli are represented are instantiated as feature spaces that are extracted from the stimuli. Then encoding models, which predict responses based on linear combinations of features, are estimated separately for each voxel. Critically, these models are validated by predicting responses in held-out datasets that were not used for model estimation. This makes it possible to directly estimate the effect size of each model. Models are then examined to assess what types of information are represented in each voxel. We show that

this exploratory approach can construct complex and comprehensive maps of cortical representations in two modalities: vision and language. Already these results replicate findings from previous hypothesis-driven studies (e.g. faces vs. objects, abstract vs. concrete words) and also put these findings in context. This work demonstrates how important naturalistic stimuli and data-driven approaches, like voxelwise modelling, are for understanding real-world perception.

TALK 2: LEARNING AND CONNECTING IN THE REAL WORLD: CONDUCTING NEUROSCIENCE RESEARCH IN HIGH SCHOOL CLASSROOMS AND MUSEUMS

Suzanne Dikker[1,2]; [1]New York University, [2]Utrecht University, the Netherlands

Laboratory research has produced tremendous insight into how the human brain supports learning and retention. Still, laboratory-generated findings do not always straightforwardly generalize to real-world learning environments, such as schools. In an effort to bridge the neuroscience laboratory and naturalistic learning settings, we collaborated with New York City high schools to collect EEG data from students as they engaged in natural classroom interactions. In one school, brain-to-brain coherence analyses (Total Interdependence; Wen et al., Neuroimage 2012) showed that the EEG signal was more synchronized among students if they liked each other better, if they were more socially aware, and when they enjoyed a class activity better. For example, student engagement and brain-to-brain synchrony were both higher while students watched videos on the class topic than when the teacher lectured. In a second school, students showed higher retention scores for class content presented in videos than for content delivered during lectures. These findings provide evidence pertaining to the neural basis of classroom social dynamics and student engagement, two factors that have been found critical for student learning (Reyes et al. J. Educ. Psychol. 2012). The role of engagement in brain-to-brain synchrony is further supported by EEG data collected from 700 museum visitors engaging in face-to-face interaction: those people who reported more focus after than before participating, also exhibited an increase in brain-to-brain synchrony throughout the recording session. Taken together, our approach allows us to generate rich datasets collected under ecologically natural circumstances to complement laboratory-based research on engagement and learning.

TALK 3: SOCIAL COMMUNICATION SIGNALS AS AUDITORY OBJECTS: TRANSLATIONAL INSIGHTS FROM NEURONAL-LEVEL RESEARCH IN NON-HUMAN PRIMATES

Catherine Perrodin[1]; [1]University College London

We, humans, like many other social animals, primarily communicate with each other by exchanging vocal sound patterns. The brains of humans and rhesus macaques were found to contain analogous temporal-lobe “voice” areas that preferentially respond to auditory communication signals. Yet the neuronal substrates underlying primates’ expertise in accurately extracting and encoding information from auditory communication signals had remained elusive. Understanding this requires direct neuronal measurements at relevant stations along the auditory cortical pathway, while socially-relevant communication signals are presented to an awake behaving listener. Here I discuss my recent work investigating the neuronal-level representation of auditory (voice) and multisensory (voice-face) communication signals along the anterior temporal lobe, using extracellular recordings in nonhuman primates. This revealed, for instance, that the apparently overlapping fMRI sensitivity to call type (“what?”) vs caller identity (“who?”) in the anterior temporal lobe is carried by segregated neuronal populations. We also found considerable modulation of auditory spiking responses by simultaneously presented visual faces within the voice area. I then evaluate how these and other results in nonhuman animals correspond to relevant findings in humans and inform our current understanding of voice-face processing. I end with suggesting avenues for future comparative research.Due to the functional analogy between human and monkey voice areas, rhesus monkeys represent an excellent animal model system for studying the neuronal computations supporting the processing of social communication signals, at a level of resolution that cannot be obtained in healthy humans. Such neuronal-level comparative animal work, even in the context of naturalistic information processing, is however only attainable in tightly controlled lab environments, and requires walking the fine line between artificial, impoverished experimental settings and potentially confounded naturalistic situations. Thus, translating these cross-species insights back to humans requires better bridging across humans and animal models, involving combining identical and complementary methods while moving further towards ethologically-relevant experiments.

TALK 4: BRAIN AND COGNITIVE MECHANISMS GOVERNING OBJECT ATTENTIONAL SELECTION IN NATURALISTIC ENVIRONMENTS

Pawel J. Matusz[1]; [1]University Hospital Centre (CHUV) - University of Lausanne, Switzerland

In real-world environments, objects are the currency of information processing and object recognition necessitates their attentional selection from among other objects. However, the brain and cognitive mechanisms governing processing of task-relevant and task-irrelevant objects remain poorly understood. First, I will demonstrate that, in multisensory environments, selective and perceptual processing of objects is controlled by integrated auditory-visual top-down object representations (“attentional templates”) that operate via both “gain control” and task-dependent brain network recruitment. Many successive ”steps” comprising both perceptual and selective object processing have been characterized with ERP recordings during carefully manipulated, simplified unisensory tasks. Attentional

selection of objects is traditionally quantified via "the N2pc component": spatially-selective enhancements of neural processing of objects within ventral cortices ~150-200ms post-stimulus. In the spatial-cueing paradigm (Folk et al. 1992) adapted to multisensory contexts, we found N2pc to spatially-uninformative visual cues to be attenuated (and behavioural attention-capture effects weaker) during audio-visual vs. visual search. We then reconsidered our data within an electrical neuroimaging framework. Modulations in the average strength of brain response - but not in average N2pc amplitude - to the visual cues across the usual, 170-270ms time-window predicted the strength of suppression of their behavioural capture effects in audio-visual search. In the subsequent time-window, however, visual cues activated distinct brain sources depending on whether they matched fully vs. partly the multisensory object template. Second, I will demonstrate the importance of developed top-down control for distraction in multisensory environments. Despite the increasing popularity of brain mapping methods in developmental research, large-size behavioural studies involving adaptations of well-understood adult visual-attention paradigms can provide vital insights into the role of cognitive development in object processing. In our response-competition task (Lavie & Cox 1997) adapted to child-friendly, multisensory contexts, 6-year-olds were paradoxically "shielded" from distraction by peripheral target-matching audiovisual coloured shapes when search became difficult. In adults and 10-year-olds, both easy and difficult search supported strong multisensory distraction. Our ERP results reveal novel insights into the supramodal, rather than sensory-specific nature of, and the role of flexible mechanisms, other than just "gain control" in, top-down control of attentional object selection in naturalistic,multisensory environments. In turn, our developmentally-inspired work demonstrates the importance of age-dependent trajectories leading to robust adult attentional selection of multisensory objects. Collectively, these findings highlight the unique insights into the brain-cognitive mechanisms governing object processing in naturalistic environments that are afforded by adapting rigorous visual-attention paradigms to multisensory, demand- and capability-varying conditions.

Q&A PERIOD

The speakers will discuss the importance of real-world vs lab-based experiments in advancing theoretical models of the brain and cognitive mechanisms governing object processing in naturalistic environments, and take questions from the audience.

Symposium Session 2

GENETICS AND COGNITIVE NEUROSCIENCE: WHAT DOES THE FUTURE HOLD?

Sunday, March 26, 1:30 - 3:30 pm, Bayview

Chair: Ev Fedorenko, HMS, MGH

Speakers: Ev Fedorenko, Simon Fisher, Neda Jahanshad, Genevieve Konopka, Fenna Krienen

Over the past thirty years, the field of cognitive neuroscience has blossomed, painting a rich and detailed picture of the brain's functional architecture. Given the long-established heritability of diverse aspects of cognitive and affective function and malfunction (e.g., in developmental cognitive disorders and psychiatric illness), questions naturally arise about the relationship between the brain's functional organization and the genetic architecture of neural development and function. This symposium brings together four leaders in the emerging field of imaging genetics to talk about i) what these questions are, ii) the progress that has been made so far in addressing them, and iii) the challenges that arise. The talks will cover a broad range of topics and discuss findings from a wide range of methodologies, from genome-wide association scans of thousands of people to search for common DNA variants linked to brain anatomy and function (Jahanshad and Fisher), to examining patterns of gene expression across the cortex and their relationship to large-scale functional networks (Konopka and Krienen) and the potential modulation of these relationships by cognitive states (Konopka), to looking for correlations between variation in the structure and function of speech and language brain regions and genetic variability (Fisher), to examining differences among primate species in patterns of gene expression at the single cell level (Krienen). The overarching goal is to review the state of the art in this area and to outline the key current and future directions.

TALK 1: (INTRODUCTION): GENETICS AND COGNITIVE NEUROSCIENCE: HOW WE GOT HERE, WHERE WE ARE, AND WHAT THE FUTURE HOLDS.

Ev Fedorenko[1]; [1]HMS, MGH

I will talk about the genesis of the field of imaging genetics, highlighting some of the milestones whose confluence led to its emergence. I will then survey the questions that drive research in this area, and the methods that are currently available to tackle these questions. Finally, I will discuss the challenges we are facing, and ways to potentially overcome them to make faster progress. I will conclude by introducing the four main speakers, who will tell us about some of the exciting findings that are starting to illuminate the relationship between our neural and genetic make-up.

TALK 2: TRANSLATING THE GENOME IN HUMAN COGNITIVE NEUROSCIENCE

Simon Fisher[1]; [1]MPI Nijmegen

Recent years have seen dramatic advances in the molecular technologies used to study the genetic architecture underlying brain development and function. My talk will illustrate the promise and pitfalls for scientists studying human cognition in a postgenomic world. I will discuss three complementary examples from the language sciences.

First, low-cost genotyping makes it possible to carry out systematic genome-wide association scans of many thousands of people, allowing us to search for common DNA variants that may influence speech, language and reading skills, not just in disorders but also in the general population. Yet, we still face difficulties in reliably characterizing relevant phenotypes in the cohorts being studied. Second, the advent of whole-genome sequencing gives exciting opportunities to discover rare disruptive mutations in developmental speech/language disorders. However, pinpointing truly causative mutations from next-generation sequencing data turns out to be challenging. Testing the impact of mutations on gene/protein function (for instance, using cellular models) will be key for the future of this field. Third, researchers have begun looking for correlations between variations in structure/function of language-related brain circuits (indexed by neuroimaging) and variability at the genetic level (indexed by genotyping). It has become clear that, even when studying the human brain more directly, most DNA variants have small effect sizes. Thus, careful study design, constraining the search space and considering statistical power, is essential for ensuring that neuroimaging genetic investigations of language deliver robust results. Ultimately, if emerging tools and methods are used wisely, there is enormous potential for successfully bridging gaps between genes, neurons, circuits and human cognition.

TALK 3: THE GENETICS OF BRAIN STRUCTURE AND ITS FUNCTIONAL RELEVANCE — AN INTERNATIONAL COLLABORATIVE EFFORT

Neda Jahanshad[1]; [1]USC

In collaborative efforts involving over 300 scientists from around the world, the Enhancing Neuro Imaging and Genetics through Meta-Analysis Consortium, ENIGMA, has led the discovery of common genetic variants that shape the structure of the living brain as seen through MRI. Genome-wide association studies of regional brain volumes in up to 33,000 individuals have identified dozens of genetic loci that significantly impact brain structural variations. ENIGMA has extended its efforts to discover the genetic influence over variability in cortical structure and its white matter connections, identifying many more genetic loci that influence brain structure. However, the neuro-behavior and functional outcome of these specific findings may not be fully understood. Congruent works from other consortia are discovering the genetics of neuropsychiatric disorders and behaviors, and the genetic overlap with brain variability may now be studied, allowing us to identify what neuroanatomical structures, pathways and networks are compromised with genetic susceptibility for the condition. Here, we will outline methods of identifying genetic overlap between diseases, cognition, and brain structure and present the latest findings from the ENIGMA Consortium that map out networks of brain structural variation genetically correlated with behavior and cognitive traits. ENIGMA is an open consortium and welcomes all researchers with brain imaging data to join in on efforts to unlock the genetic factors that shape our brain's structure and function, and identify the neurological mechanisms relating to human behavior, cognition and neuropsychiatric disease.

TALK 4: LINKING GENES TO BEHAVIOR USING HUMAN BRAIN GENE EXPRESSION DATA

Genevieve Konopka[1]; [1]UT Southwestern Medical Center

Genetic studies have identified specific genomic loci associated either with cognition in general or with cognitive disorders such as autism or schizophrenia. However, the functional consequences of these genetic variants remain mostly to be determined. In particular, the normal expression and function of these identified genes in the human brain and whether these patterns are altered in cognitive diseases is an ongoing field of inquiry. We have shown that post-mortem human brain gene expression can be harnessed to provide insight into active human brain states. There is direct correspondence between human brain gene expression and resting-state brain activity as assessed by fMRI. Unanswered questions remain though such as whether these correlations change when subjects are actively carrying out specific cognitive tasks or whether these correlations change in individuals who have cognitive disorders. I will present data to address both of these questions. We have carried out comparisons of human brain gene expression with intracranial EEG data from individuals while they are carrying out a memory task. We find that the genes correlated with memory encoding are different than those correlated with human brain activity in the resting state. We have also investigated whether there are genes that have differential correlation with human brain activity in the resting state in patients with autism, strengthening the importance of altered functional connectivity in autism pathophysiology as a consequence of disrupted gene expression networks. These data provide functional confirmation of the genetic basis of cognition and cognitive disorders.

TALK 5: TRANSCRIPTIONAL VARIATION ASSOCIATED WITH CORTICAL SPECIALIZATION AND CONNECTIVITY

Fenna Krienen[1]; [1]HMS

The human brain is patterned with large, distributed networks that connect distant regions together. The expansion of the neocortex has also led to the emergence of regions with specialized functions, particularly in association cortex, that are important for cognition. Differences in functional specialization and connectivity may arise from differences in the underlying molecular architecture in regions that support long-range connectivity networks. Our work using the Allen Institute's human brain transcriptional atlas indicates that genes enriched in supragranular layers of the human cerebral cortex (relative to mouse) distinguish major cortical subtypes (sensory/motor, paralimbic, associational). The pattern of transcriptional expression of these genes is associated with large-scale brain network organization measured by functional connectivity MRI (fcMRI). These results raise

questions of whether this transcriptional phenotype is unique to humans or conserved across other primates. I will discuss our recent efforts to characterize what is unique and what is shared between primate species in patterns of gene expression at the single cell level. These data can help us build a system for understanding cortical specializations across association and primary sensory cortices in primate evolution.

Symposium Session 3

MULTIVARIATE APPROACHES FOR NEURAL DYNAMICS: IT'S ABOUT TIME

Sunday, March 26, 1:30 - 3:30 pm, Ballroom B/C

Chair: Alex Clarke, University of Cambridge

Speakers: Michael Wolff, Anna Jafarpour, Hyojin Park, Tobias Staudigl, Alex Clarke

This symposium showcases emerging multivariate techniques to study the rapid and dynamic processes underlying human cognition. It is undoubted that cognition is achieved in a highly dynamic and interactive brain, yet current research does not fully take into account such dynamics. While techniques like multivariate pattern analysis (MVPA) have become a cornerstone of fMRI research, enabling us to better understand representations and neural coding, fMRI is inherently limited due to its lack of sensitivity to time and dynamics. MEG and EEG provide a prime opportunity to study how neural representations change over time, with multivariate techniques playing an increasingly prominent role. In this symposium we highlight how multivariate analyses of time-sensitive data can reveal novel insights into the dynamics of cognitive processes. This will be shown across a broad range of domains including vision, language and memory, illuminating how these techniques can drive cognitive theories forward.

TALK 1: IMPULSE PERTURBATIONS REVEAL DYNAMIC WORKING MEMORY STATES IN EEG

Michael Wolff[1], Janina Jochim[2], Timothy Buschman[3], Elkan Akyurek[1], Mark Stokes[2]; [1]University of Groningen, [2]University of Oxford, [3]Princeton University

It has been suggested that working memory (WM) can be maintained in a silent neural network that is not reliant on continuous WM specific neural activity. In order to measure such activity silent networks, we recently developed an approach that is analogous to echolocation, where a neutral "impulse" stimulus can reveal otherwise hidden neural states in electroencephalography (EEG). Here we report the impulse-specificity of the revealed neural pattern to attended and unattended WM content at different time-points during a visual WM task. Human participants performed a two-item WM task while EEG was recorded. Two randomly orientated visual gratings were presented in the beginning of each trial, and a retro-cue indicated which item would later be tested, rendering the uncued item task-irrelevant. Two neutral impulse stimuli were presented at fixed time-points in the subsequent delay, before participants reported the cued item using free-recall. The neural responses elicited by the impulse contained activity patterns specific to the cued but not the uncued item. Such WM-specific impulse response functions are also predictive of behavioural performance. This provides clear evidence that the impulse response in WM tasks is specific to WM content, not just stimulation history in general. Furthermore, cross-temporal decoding across the two distinct impulse patterns showed little cross-generalization, suggesting that the underlying WM network changes dynamically over time.

TALK 2: WORKING MEMORY REPLAY PRIORITIZES WEAKLY ATTENDED EVENTS

Anna Jafarpour[1], Will Penny[2], Gareth Barnes[2], Robert T. Knight[1], Emrah Duzel[2,3]; [1]University of California, Berkeley, [2]University College London, [3]Otto-von-Guericke University Magdeburg

The dominant view of working memory posits that maintaining a series of events requires sequential mnemonic replay. We addressed this using magnetoencephalography (MEG) wherein participants encoded sequences of three stimuli depicting a face, a chair or a fruit, and maintained them in working memory for 5 seconds. Decoding of brain activity revealed that only one of the three stimuli dominated maintenance independent of its sequence position or category; and memory for the selectively replayed stimulus was enhanced. The selectively replayed stimulus had the weakest initial encoding indexed by weaker visual attention signals. These findings challenge the sequential replay theory of working memory and indicate that prioritized replay of weakly encoded events maximizes the fidelity of sequence recall.

TALK 3: NEURAL DECOMPOSITION OF SYNERGISTIC AND REDUNDANT INFORMATION IN INTERACTION BETWEEN AUDIOVISUAL SPEECH RHYTHMS AND BRAIN OSCILLATIONS

Hyojin Park[1], Robin A. A. Ince[1], Joachim Gross[1]; [1]University of Glasgow

During audiovisual speech processing, auditory and visual information interact and are integrated leading to a unified percept of speech. Previously, we have shown that low-frequency brain oscillations separately track auditory and visual speech signals to facilitate speech comprehension. However, it is still unclear to what extent auditory and visual information is represented in brain areas, either individually or jointly. Here, we applied a recently developed tool from Information Theory to decompose multivariate mutual information between auditory, visual and brain signals. This method allows quantification of the unique information the brain signals carry for each modality (auditory, visual). Furthermore, we can now address the question if activity in a certain brain area carries a synergistic or redundant representations of both sensory signals. We used low-frequency theta

phase of auditory and visual speech signals and brain signals at each voxel measured by MEG. In an adverse audiovisual speech condition, where attention to visual speech is critical for speech comprehension, we found redundant information in auditory/temporal regions, including posterior superior temporal gyrus, and synergistic information in left motor and inferior temporal cortex. Importantly, this predicted speech comprehension. By means of these novel information theoretic tools, we show for the first time, evidence for neural decomposition of information of entrained audiovisual speech rhythms interacting with brain oscillations for facilitating speech comprehension. Our finding demonstrates how the brain processes audiovisual inputs efficiently - taking advantage of common information as well as making greater information from multisensory inputs that enable remarkable ability in human communication.

TALK 4: SACCADIC EYE MOVEMENTS ARE PHASE-LOCKED TO POSTERIOR ALPHA OSCILLATIONS AND MODULATE NEURAL COMMUNICATION DURING MEMORY FORMATION – EVIDENCE FROM MEG, FMRI AND INTRACRANIAL DATA

Tobias Staudigl[1], Isabella C. Wagner[1], Elisabeth Hartl[2], Soheyl Noachtar[2], Christian F. Doeller[1,3], Ole Jensen[1,4]; [1]Radboud University Nijmegen, [2]University of Munich, [3]Kavli Institute for Systems Neuroscience, [4]University of Birmingham

The sampling of visual information is assumed to be discrete rather than continuous (VanRullen & Koch, 2003), possibly clocked by alpha oscillations at 7-12 Hz (VanRullen et al., 2011). This relatively slow sampling period at 80-140 ms seems at odds with the remarkably fast processing speed of the visual system. This conundrum could partly be resolved if saccades are locked to the phase of ongoing visual oscillations, as investigated in this study. We simultaneously recorded MEG and eye-tracking data from 36 healthy participants during a free viewing encoding task of natural pictures, followed by a memory test. MEG encoding data were aligned to saccade onsets. Significantly higher phase-locking in the alpha band (12 Hz) prior to saccades was found for subsequently remembered vs. forgotten pictures. The source of this effect was localized to the parieto-occipital cortex. Intracranial data recorded directly from occipital and parietal cortex of epilepsy patients provided converging results. Additionally, fMRI data was collected to investigate saccade-related hippocampal activation and connectivity with the parieto-occipital cortex during memory formation. The study provides evidence that saccades and brain oscillations are coordinated. This coordination determines what the brain encodes. The results suggest that saccades are timed to the dynamic state of the brain, such that retinal inputs are temporally aligned to the 'optimal' phase of the alpha rhythm. Concurrent connectivity analyses of intracranial, MEG and fMRI data will provide insights into the communication between the visual system and the hippocampus during memory formation, and how this communication is modulated by saccades.

TALK 5: UNDERSTANDING MEANING FROM OUR SENSES: REPRESENTATIONAL SIMILARITY ANALYSIS OF SOURCE-LOCALISED MEG SIGNALS

Alex Clarke[1], Ece Kocagoncu[1], Barry Devereux[1], Lorraine K. Tyler[1]; [1]University of Cambridge

Meaning is extracted from sensory inputs through dynamic transformations of information. Representational Similarity Analysis (RSA) for source-localised MEG signals has the promise to uncover representational transformations over time. RSA determines the information represented in distributed activity patterns. The core principle of RSA is similar stimuli, for example objects with a similar shape, produce similar activity patterns in a region that represents this information. By analysing the similarity of neural activity, and how this relates to the similarity of stimulus properties, we can uncover what information is coded in neural signals. Here we show the utility of RSA for source-localised MEG signals. Drawing on two examples, we show how RSA for MEG can reveal the representational transformations during object recognition and speech comprehension. First, we show how alpha oscillatory spatio-temporal patterns in early visual cortex represent low-level visual properties of objects, while object category information is subsequently represented in IT cortex. Further, we show that oscillatory phase signals carry more information than power. Second, using single spoken words and searchlight analysis of MEG source localised signals, we show how lexical and semantic competition engage posterior middle temporal and inferior frontal regions during early spoken input - when word identity remains ambiguous. As the speech input unfolds and the word becomes uniquely identifiable, semantic effects emerge in the middle temporal and angular gyrus. These studies highlight how RSA for MEG source-localised data can reveal dynamic representational transformations as we understand meaning from our senses.

Symposium Session 4

WORKING MEMORY: SUSTAINED ACTIVITY OR DYNAMICS?

Monday, March 27, 10:00 am - Noon, Ballroom A

Chair: Tim Buschman, Princeton University

Speakers: Earl Miller, Tatiana Pasternak, Mark Stokes, John Murray

Working memory is a fundamental component of cognition; providing the workspace on which we hold and manipulate thoughts. Traditionally, the contents of working memory have been thought to be represented in the sustained firing activity of neurons. Indeed, this viewpoint is supported by a rich history of neurophysiological results and theoretical models. However, recent work has begun to challenge this viewpoint, arguing that mnemonic representations are instead dynamic, changing over time. In this symposium, we propose to bring together four experts on the neural representation of working memory in order to contrast the sustained and dynamic models of working

memory. First, Earl Miller will present evidence that working memory representations are highly dynamic, bubbling up in small bursts of activity. Second, Tania Pasternak will show working memory is the result of continuous interactions between prefrontal and sensory cortices. Third, Mark Stokes will provide evidence for 'silent' working memory representations that rely on short-term synaptic changes instead of changes in neural activity. Finally, John Murray will show a stable representation can be decoded from a population of neurons, even if individual neurons are themselves highly dynamic. Together, these speakers will provide four unique viewpoints on the nature of working memory representations, enabling a lively debate on what is the neural code of working memory.

TALK 1: WORKING MEMORY: SUSTAINED ACTIVITY? NOT SO MUCH.

Earl Miller[1]; [1]Massachusetts Institute of Technology

Working memory is thought to result from sustained neuron spiking. However, computational models suggest complex dynamics with discrete oscillatory bursts. We analyzed local field potential (LFP) and spiking from the prefrontal cortex (PFC) of monkeys performing a working memory task. There were brief bursts of narrow-band gamma oscillations (45-100 Hz), varied in time and frequency, accompanying encoding and re-activation of sensory information. They appeared at a minority of recording sites associated with spiking reflecting the to-be-remembered items. Beta oscillations (20-35 Hz) also occurred in brief, variable bursts but reflected a default state interrupted by encoding and decoding. Only activity of neurons reflecting encoding/decoding correlated with changes in gamma burst rate. Thus, gamma bursts could gate access to, and prevent sensory interference with, working memory. This supports the hypothesis that working memory is manifested by discrete oscillatory dynamics and spiking, not sustained activity.

TALK 2: NEURAL SUBSTRATES OF WORKING MEMORY FOR VISUAL MOTION

Tatiana Pasternak[1]; [1]University of Rochester

To perform a ubiquitous task of comparing sensory stimuli across time and/or space, subjects must identify these stimuli, retain them in memory and retrieve them at the time of comparison. Thus, the circuitry underlying such tasks must involve cortical regions sub-serving sensory processing, maintenance, attention and decision-making. In our work we have been examining the circuitry sub-serving working memory for visual motion, with the focus on two reciprocally interconnected regions, the lateral prefrontal cortex (LPFC) and the motion processing area MT. We have characterized the activity in both areas during motion comparison tasks, identifying signals in the LPFC likely to represent bottom-up motion information supplied by MT neurons and signals in area MT likely to represent the top-down influences from LPFC. I will discuss the evidence that the content of task-related activity in MT and LPFC is a product of continuous interactions between neurons in the two areas during which they process and exchange signals generated during all stages of memory-guided sensory comparisons.

TALK 3: STABILITY OF MIND IN A DYNAMIC BRAIN: WORKING MEMORY FROM A DYNAMIC CODING FRAMEWORK

Mark Stokes[1]; [1]Oxford University

The cognitive neuroscience of working memory faces a major challenge: brain activity is highly dynamic. At first glance these dynamics seem at odds with the very nature of working memory. How can we keep a stable thought in mind while brain activity is constantly changing? Indeed, some of the most influential models in neuroscience are built on the first-level intuition that stability of mind depends on stable brain activity. Standard models often assume that working memory is maintained by static patterns of neural activity, as if frozen in time to preserve a still-frame representation of the past. Here we take a different approach. Within the framework of dynamic coding, we propose that working memory is best understood as a temporary shift in how we process new information, rather than a representation of the past preserved in persistent activity. We explore potential neural mechanisms for dynamic coding, including short-term synaptic connectivity, and consider novel methods for exploring such 'activity-silent' neural states of working memory.

TALK 4: STABLE POPULATION CODING FOR WORKING MEMORY COEXISTS WITH HETEROGENEOUS NEURAL DYNAMICS IN PREFRONTAL CORTEX

John Murray[1]; [1]Yale University

In primate cortex, electrophysiological studies find stimulus-selective persistent activity in single neurons as neural correlates of working memory. However, recent studies have highlighted cellular heterogeneity and strong temporal variations in delay activity, at single-neuron and population levels. It remains unclear how neuronal populations maintain memory of stimuli despite complex and heterogeneous temporal dynamics. To address this question, we applied population-level analyses to hundreds of recorded single-neurons from lateral prefrontal cortex of monkeys performing two seminal tasks that demand parametric working memory: oculomotor delayed response, and vibrotactile delayed discrimination. We found that despite complex and heterogeneous temporal dynamics in single-neuron activity, prefrontal cortex activity is endowed with a population-level coding of the mnemonic stimulus that is stable and robust throughout working memory maintenance, enabling robust and generalizable decoding compared to time-optimized subspaces. To explore potential mechanisms, we applied these same population-level analyses to theoretical neural circuit models of working memory activity. Three previously proposed models failed to capture the key population-level features observed empirically. We propose network

connectivity properties, implemented in a linear network model, which can underlie these features. This work uncover stable population-level working memory representations in prefrontal cortex, despite strong temporal neural dynamics, thereby providing new insights into neural circuit mechanisms supporting working memory.

Q&A PERIOD

Speakers will engage in a discussion on the nature of working memory representations. In particular, we will directly compare the traditional sustained activity model with more recent dynamic encoding models. Discussion will be led by symposium organizer (Tim Buschman) but questions and participation from the audience will also be encouraged.

Symposium Session 5

COGNITIVE MAPS IN THE ORBITOFRONTAL CORTEX FOR GOAL-DIRECTED BEHAVIOR

Monday, March 27, 10:00 am - Noon, Bayview

Chair: Thorsten Kahnt, Northwestern University

Speakers: Nicolas W. Schuck, Peter Rudebeck, Geoffrey Schoenbaum, Erie Boorman, Thorsten Kahnt

In contrast to habitual action, goal-directed behavior is sensitive to the current value of stimuli, actions, and outcomes, all of which depend on the state of the organism and the environment. Decades of research have shown that the orbitofrontal cortex (OFC) is important for goal-directed behavior; what has remained unclear is which representations and computations are processed within this region that make it so critical for these behaviors. A recent proposal is that the OFC contains "cognitive maps" of the task space, which represent the current state of the environment that is relevant for the decision at hand. Such maps could be used to perform simulations and make inferences about the value of unexperienced states and outcomes. One central prediction of this hypothesis is that OFC activity must represent far more than expected value, but all relevant features of the current decision problem, such as outcome identity, context contingencies, and other unobservable variables that are necessary for optimal behavior. Speakers in this symposium will discuss recent results from experiments across species (rodents, monkeys, and humans) and methods (lesions, electrophysiology, optogenetics, and pattern-based fMRI) that test different aspects of this hypothesis. Together, the findings presented in these talks provide evidence that the OFC supports goal-directed behavior through a cognitive map of the state space, which may complement spatial maps previously identified in the hippocampus.

TALK 1: ORBITOFRONTAL CORTEX REPRESENTS A COGNITIVE MAP OF STATE SPACE

Nicolas W. Schuck[1]; [1]Princeton University

Much research has suggested a role of OFC in learning as well as decision-making, but what precisely that role is remains unclear. We recently hypothesized that the OFC contains a "cognitive map" of task space in which the current state of the task is represented. This representation is especially critical for decision-making and learning when states are unobservable from sensory input. To test this idea, we apply pattern- classification techniques to neuroimaging data from humans performing a decision-making task with 16 states. We show that (a) unobservable task states can be decoded from activity in OFC, (b) decoding accuracy is related to task performance and the occurrence of individual behavioral errors and that (c) similarity between the neural representations of consecutive states correlates with behavior. Moreover, I will present recent results that offer insights into how OFC's state representation changes with task practice. Overall, our results support the idea that OFC represents a cognitive map of task space.

TALK 2: GOAL-DIRECTED BEHAVIOR AND COGNITIVE MAPS IN MONKEY ORBITOFRONTAL CORTEX: EVIDENCE FROM LESION AND NEUROPHYSIOLOGY STUDIES

Peter Rudebeck[1]; [1]Mount Sinai

Orbitofrontal cortex (OFC) is thought to play a central role in goal-directed behaviors. A development of this idea is that OFC is involved in representing maps of task space. This latter idea has had a profound effect on thinking about the functions of OFC, but there is still uncertainty about which parts of OFC are critical for goal-directed behavior and the neural mechanisms of task space. Here I will describe two experiments in monkeys that have: 1) helped to define the specific parts of OFC that are involved in goal-directed behavior, and 2) provide some evidence of encoding of task space in OFC. The first experiment showed that the OFC, specifically Walker's areas 11 and 13, and not other parts of OFC are critical for goal-directed behavior as assessed by the reinforcer devaluation task. The second experiment, compared how neurons in OFC encoded stimulus-reward values when the map of task space was stable through over learning versus then when subjects had to construct task space through learning which stimuli were associated with the greatest reward value. Fewer neurons in OFC encoded stimulus-reward values when stimulus-reward values had to be constructed as opposed to when they were well learned. One potential explanation for these differences in encoding is that during learning, the task space represented in OFC (i.e. stimulus attributes) is pruned until only those that lead to the greatest amount of reward are encoded across the neurons in OFC. These data help to constrain theoretical accounts of OFC function.

TALK 3: ORBITOFRONTAL STATE REPRESENTATIONS FALL APART IN INTERESTING WAYS WITHOUT HIPPOCAMPAL OUTPUT

Geoffrey Schoenbaum[1]; [1]NIH/NIDA IRP

The OFC has been posited as a "cognitive map" of task state, encoding relationships between the cues in the world that determine when different behaviors are relevant. The hippocampus has also been identified as a cognitive map, largely due to its prominent spatial tuning. The emerging similarity in the proposed roles of these two areas is intriguing, particularly because there is relatively little work relating the two areas, despite a strong anatomical relationship. Thus the hippocampus might support OFC state representations by signaling spatial information or hippocampal input might convey higher-order relationships between combinations of disparate features of the world. To distinguish between these possibilities, we optogenetically inactivated neurons in the ventral subiculum, while recording single unit activity in the OFC of rats performing an odor-guided decision task that required rats to represent spatial information while also integrating it with information about the identity and value of expected outcomes. We found that rats were slower to adjust to changes in action–outcome contingencies when hippocampal output was suppressed. In addition, ventral subiculum inactivation caused a strong reduction in spatial encoding related to the action the rats executed on each trial. However, suppressing hippocampal output also abolished integration of the other features of the expected outcome. Thus without hippocampus, single units and ensembles in OFC were able to represent either the identity or the value of the expected outcome, but they did not represent the location nor were they able to effectively integrate identity and value on individual trials.

TALK 4: COMPUTATIONAL AND REPRESENTATIONAL ANALYSIS APPROACHES TO ASSOCIATIVE LEARNING

Erie Boorman[1]; [1]UC Davis

Behavioral neuroscience has made dramatic strides through the combination of formal models of behavior with neural signals. One key example is the prediction error – a central component of many learning algorithms. Prediction errors may refer to value estimates, outcome identities, or social attributes, among other variables. I will present a series of studies that highlight how formal models can be used as a bridge between neural activity, and learning behavior, in this variety of forms. I will then show how 'representational' analysis techniques – namely cross-stimulus suppression and multivariate pattern analysis – can be used to probe the impact of prediction errors on neural representations locally or in distant brain regions. The coupling of computational models of behavior with such 'representational analysis' approaches holds promise for probing the trial-by-trial dynamics of other learning and representation questions.

TALK 5: FLEXIBLE STATE REPRESENTATIONS OF SPECIFIC REWARDS IN THE HUMAN ORBITOFRONTAL CORTEX

Thorsten Kahnt[1]; [1]Northwestern University

Goal-directed behavior is sensitive to the current value of specific rewards. This requires independent and outcome-specific representations of reward that can be updated "on the fly" based on changes in the internal or external environment. The orbitofrontal cortex (OFC) has been proposed to host such state representations in the form of cognitive maps. In principle, specific updates could be implemented either by changing representations of specific rewards directly in OFC, or by changing the assignment of value to these rewards, either within OFC, or in downstream regions such as ventromedial prefrontal cortex (vmPFC). To shed light on how representations of specific rewards are updated in the human OFC, we utilized sensory-specific devaluation of appetizing food odors in combination with a decision-making task and pattern-based neuroimaging. We find that after selective satiety, reward identity representations in lateral OFC were diminished for the sated food odor, but retained for the non-sated counterpart. In addition, identity general decision signals in the vmPFC were similarly maintained for the non-sated, but not for the sated reward identity. We find that functional connectivity between the OFC and the vmPFC was modulated by satiety such that connectivity was stronger for non-sated compared to sated odors after the meal. Moreover, these connectivity changes were correlated with individual differences in satiety-related choice behavior. These findings demonstrate how state representations of specific rewards in the OFC are flexibly updated by devaluation and linked to identity-general decision values in the vmPFC to guide goal-directed behavior.

Symposium Session 6

TOP-DOWN FUNCTIONS OF NEURAL OSCILLATIONS FOR SPEECH AND LANGUAGE PROCESSING

Monday, March 27, 10:00 am - Noon, Ballroom B/C

Chair: Lars Meyer, Department of Neuropsychology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Speakers: Lars Meyer, Nicola Molinaro, Lin Wang, Malte Wöstmann, Benedikt Zoefel

Research on the neural oscillations underlying speech perception has an enormous momentum, but the oscillatory interaction of top-down cognitive mechanisms (e.g., attention) and linguistic knowledge (e.g., syntax, semantics) with bottom-up auditory processing is poorly understood. The progressive work of our speakers shows how oscillations interact top-down with the readout of speech rhythms through linguistic prediction formation, adjustment of information extraction abilities, and selective attention. Lars Meyer will argue that low-frequency oscillations do not only serve to impose abstract syntactic structure upon the speech stream, but also to align sensory

attention with linguistic informativity. Nicola Molinaro will highlight the causal role of low-frequency oscillations in driving the interaction between cortices that track speech and cortices that modulate speech tracking. Lin Wang will highlight the role of pre-stimulus oscillatory power in the generation and evaluation of contextual predictions for upcoming linguistic input. Malte Wöstmann will show how selective attention in multi-stream situations modulates the oscillatory read-out of speech acoustics. Benedikt Zoefel will illustrate that speech entrainment can persist in the absence of pronounced acoustic rhythms, indicating that the auditory system is able to extract and adjust to high-level features that are present in the speech signal and intimately linked with comprehension. Our timely symposium advertises the powerful mechanism of neural oscillations at the interface of speech perception, domain-general cognition, and language comprehension. The symposium will benefit auditory neuroscientists, neurolinguists, and CNS members from neighboring domains to further explore the roles of neural oscillations in the dynamic interplay between bottom-up and top-down processes.

TALK 1: DELTA-BAND OSCILLATIONS IMPOSE SYNTACTIC STRUCTURE UPON SPEECH, ALIGNING EXCITABILITY WITH LINGUISTIC INFORMATIVITY

Lars Meyer[1]; [1]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Speech perception is often conceptualized as a bottom-up process that relies on the tracking of acoustic rhythms by phase-synchronized neural oscillations. Recent work indicated that such tracking isn't restricted to acoustic rhythms, but does also occur in response to the abstract syntactic structure that speech symbolizes. Based on two electroencephalography studies, I will here argue that synchronicity between delta-band neural oscillations and syntactic structure does not reflect a mere tracking, but an imposition based on individual linguistic preferences—top-down aligning sensory attention with high-level linguistic informativity. First, I will show that via delta-band oscillatory phase, internal syntactic preferences can top-down drive sentence interpretations that contradict bottom-up acoustic cues—decreasing speech entrainment of delta-band oscillations. Second, I will show that once in synchronicity with the internally generated syntactic structure, the phase progression of the delta-band oscillation sets sensory attention (as indexed by the amplitude of canonical event-related brain potentials to linguistic violations) into an optimal alignment with linguistic complexity (as quantified by information-theoretic metrics). Delta-band neural oscillations thus appear to subserve powerful top-down mechanisms that harmonize the speech percept with internal requirements of information extraction—likely compensating for the ambiguity and sparse rhythmicity of speech acoustics.

TALK 2: LOW-FREQUENCY OSCILLATIONS MEDIATE TOP-DOWN ACTIVITY DURING SPEECH PROCESSING

Nicola Molinaro[1]; [1]Basque Center on Cognition, Brain, and Language, San Sebastian, Spain

Speech processing involves neural oscillatory activity within a fronto-temporo-parietal network that track quasi-rhythmic speech modulations in different frequency bands (prosodic - delta band -, syllabic - theta - and phonemic information - gamma). Different mechanisms (de-multiplexing and segmentation steps) have been proposed to deal with the mapping of these spectral components into abstract phonological representations. Less is known about the top-down mechanisms that play a crucial role in natural speech. Speech processing models associate neural computations in temporal regions to perceptual speech sampling processes, while operations in frontal-parietal regions are linked to higher-order processes (such as attention). Still, there is no comprehensive view of the neural dynamics that allow perceptual and top-down processes to interact while extracting meaning from speech. In a set of studies (in which we also manipulated the informativity of simultaneous visual cues for speech perception), we analyzed MEG data from normal hearers while they were listening to continuous speech. First, we determined how different brain areas within the fronto-temporo-parietal network deal with the de-multiplexing (Coherence analysis) and the segmentation (Phase Amplitude Coupling analysis) pre-processing steps. Then, we showed (Transfer Entropy analysis) how low-frequency (delta and theta band) neural oscillations mediate the interaction between temporal brain regions (where gamma activity reflect speech sampling) and fronto-parietal areas (which gather contextually relevant information to modulate sampling activity). Our findings provide compelling evidence that low-frequency oscillatory brain dynamics, during continuous speech, mediate the complex interactions between the different nodes of the speech processing network.

TALK 3: LANGUAGE PREDICTION IS SUPPORTED BY COUPLING BETWEEN FRONTAL GAMMA AND POSTERIOR ALPHA OSCILLATIONS

Lin Wang[1]; [1]Tufts University, Medford, USA

Readers and listeners actively predict upcoming words during language processing. These predictions might serve to support the unification of incoming words into sentence context and thus rely on interactions between areas in the language network. In the current magnetoencephalography (MEG) study, participants read sentences that varied in contextual constraints so that the predictability of the sentence-final words was either high or low. Prior to the sentence-final words, we observed stronger alpha power suppression for the highly compared to lowly constraining sentences in left inferior frontal cortex, left posterior temporal region, and visual word form area (VWFA). Importantly, the temporal and VWFA alpha power correlated negatively with left frontal gamma power for the highly constraining

sentences, in both the prediction and integration periods of the sentence-final words. We suggest that this negative correlation reflects the initiation of an anticipatory unification process in the language network. Our study extends previous research on the function of alpha oscillations by demonstrating that decreased alpha power reflects the engagement of higher-level language areas and that language processing might be implemented by the coupling between the alpha and gamma activities.

TALK 4: ATTENTION GOVERNS NEURAL OSCILLATORY RESPONSES TO SPEECH

Malte Wöstmann[1]; [1]University of Lübeck, Lübeck, Germany

Speech comprehension requires listeners to dynamically regulate auditory attention. Listeners must follow (i.e., "track" sensorily) the target speech signal but also disengage (i.e., "functionally inhibit") brain areas processing distracting information. The phase of slow neural oscillations (~1–5 Hz) faithfully tracks speech signals, while the power of alpha oscillations (~8–12 Hz) reflects inhibition of irrelevant distraction. I will present two human magneto-/electroencephalography (M/EEG) studies that demonstrate how selective attention governs neural alpha oscillations to selectively block the read-out of sensorily-tracked distractor speech. First, when attending to one of two spatially separated speech streams (n = 19), listeners' sensory entrainment (1–5 Hz phase-locking) and alpha power lateralisation in the MEG were in sync with ongoing speech, but with a ~140° phase lag of alpha power. Notably, the extent to which listeners rhythmically modulated auditory and parietal alpha power predicted their ability to successfully attend. Second, when ignoring an acoustically degraded speech distractor (n = 23), listeners' neural alpha oscillatory power was not driven by bottom-up speech acoustics per se but by the focus of top-down attention: Alpha power decreases when better acoustics facilitates comprehension of attended speech, but here, alpha power instead increased as better acoustics of the to-be-ignored speech aggravated distraction. In sum, these data demonstrate how auditory attention utilises two complementary neural oscillatory mechanisms of low-frequency, phase-locked speech tracking versus alpha power-mediated, non-phase-locked attentional filtering.

TALK 5: LOW– AND HIGH-LEVEL PROCESSES UNDERLYING OSCILLATORY PHASE ENTRAINMENT TO SPEECH SOUNDS

Benedikt Zoefel[1]; [1]MRC Cognition and Brain Sciences Unit, Cambridge, UK

Neural oscillations adjust their phase to rhythmic stimulation, a phenomenon called phase entrainment. This mechanism seems to be of particular importance for the processing of speech: Assumed to underlie speech comprehension, phase entrainment is omnipresent in current theories of speech processing. Nevertheless, speech is a complex stimulus and both low- and high-level processes might contribute to phase entrainment as it is commonly reported in the literature. Our aim was to disentangle these processes and provide a detailed characterization of the neural mechanisms underlying phase entrainment to speech. For this purpose, we constructed speech/noise stimuli without systematic fluctuations in sound amplitude or spectral content (here termed "low-level" features), while keeping both fluctuations in high-level features (including phonetic information) and intelligibility. In human psychophysical and electroencephalographic (EEG) data as well as primate intracranial recordings, we were able to show that phase entrainment can be observed in response to speech sounds in which systematic fluctuations in low-level features have been removed. This "high-level" entrainment shows specific characteristics and seems to reflect a particularly efficient mechanism of speech processing which is conserved across species. Finally, the relation between phase entrainment and speech comprehension remains debated. Based on the data presented here and elsewhere, we discuss possible reasons (and solutions) for this controversy and propose how brain stimulation techniques can help to clarify the role of oscillatory phase entrainment for the comprehension of speech sounds.

Symposium Session 7

DRIVING THE BRAIN TO UNDERSTAND COGNITION

Tuesday, March 28, 10:00 am - Noon, Bayview

Chair: Jim Herring, Donders Institute - Centre for Cognitive Neuroimaging

Speakers: Vincenzo Romei, Flavio Frohlich, Christian Keitel, Anne Kösem, Jim D. Herring

Neuronal oscillations have long been studied for their role in coordinating neuronal activity supporting cognitive processing. Particular frequency bands have been associated with specific functions such as the alpha band in top-down allocation of computational resources, theta band oscillations in memory and speech, and gamma-band oscillations in bottom-up stimulus processing. To study the causal role of these oscillations in cognition recent attempts have been made to drive the brain using various techniques including sensory stimulation and non-invasive brain stimulation techniques such as transcranial alternating current stimulation and transcranial magnetic stimulation. With these techniques it is in principle possible to externally 'entrain' endogenous oscillations and study the effects on brain and behavior. An important role has been shown for both amplitude and phase of oscillations in different bands. This symposium will present pioneering research studying the role of neuronal oscillations in cognition using state-of-the-art techniques to drive the endogenous rhythms of the brain. The symposium aims to increase insight on the functional role of neuronal oscillations in cognition and hopes to showcase developments aimed at elucidating the causal role of oscillations.

TALK 1: SHAPING BRAIN WAVES: AN INFORMATION-BASED APPROACH

Vincenzo Romei[1]; [1]University of Essex (UK)

Noninvasive Transcranial Brain Stimulation (NTBS) techniques have prompted a paradigm shift in the study of brain oscillatory functions in human behaviour from a correlational to a causative approach. Mimicking endogenous brain oscillations through tACS or rhythmic TMS has allowed shaping both the amplitude and phase components of the targeted oscillation, when the frequency of stimulation matches the endogenous oscillatory frequency, ultimately impacting behaviour. Here I will show how information-based approaches of NTBS to the study of brain oscillations can further our understanding of their functional relevance by systematically manipulating a third component kept constant in previous research: i.e. the endogenous frequency itself. Interindividual variability within a frequency band can account for interindividual variability in perceptual and cognitive processes. For example the length of the occipital alpha cycle (range: 8-12Hz) predicts the size of the temporal binding window determining the flash-beep illusion: the slower the alpha cycle, the bigger the temporal binding window. As another example, the length of the parietal theta cycle (range: 4-7Hz) predicts the amount of items successfully held in spatial working memory: the slower the theta cycle, the better the working memory capacity. By externally imposing slightly slower or faster frequencies than the endogenous frequency I will show that we can shape behaviour in expected directions. Finally, I will show that information-based approaches of NTBS testing functional connectivity between interconnected areas can be implemented to manipulate long-range, inter-areal oscillatory activity and causally assess their function, through the use of a novel cortico-cortical-paired associative stimulation protocol.

TALK 2: ENGAGING CORTICAL OSCILLATIONS WITH TRANSCRANIAL ALTERNATING CURRENT STIMULATION

Flavio Frohlich[1]; [1]University of North Carolina at Chapel Hill

Cortical oscillations, rhythmic activity patterns in cortex, have recently emerged as a promising target for non-invasive brain stimulation. In particular, transcranial alternating current stimulation (tACS) applies a weak, sine-wave electric current to the scalp to modulate endogenous cortical oscillations. Early studies point to successful target engagement in terms of modulation of activity patterns and associated cognitive functions. Yet, the field has reached a crossroad since the number of electrophysiological studies has continued to be vastly outnumbered by behavioral studies that do not directly demonstrate target engagement. Several additional issues have emerged: state-dependence of stimulation effects, lack of placebo-controlled double-blind studies, and finally continued uncertainty about the mechanisms of action. Here, we will give an update on our efforts to elucidate the mechanisms of action and applications of tACS by combining computer simulations, animal studies, and human studies, including clinical trials. Our computational stimulations provide support for the presence of entrainment and resonance as the main mechanism of tACS and demonstrate the pronounced state-dependence of the response profile, linking the state of the thalamocortical system to the response to tACS. We then demonstrate how alpha oscillations are modulated by tACS in the ferret, an intermediate model species, which exhibits pronounced alpha rhythms in the dark in absence of visual input. Finally, we will give an update on target engagement of thalamo-cortical oscillations in human participants, with particular focus on our recently developed feedback tACS for the modulation of sleep spindles and on our ongoing clinical trials of tACS for mood disorders.

TALK 3: DRIVING VISUAL BRAIN RHYTHMS THROUGH DYNAMIC SENSORY STIMULATION

Christian Keitel[1]; [1]University of Glasgow

From the earliest days of recording Human brain activity, researchers have been fascinated by the possibility of driving brain rhythms externally by means of dynamic visual stimulation. This approach has since inspired diverse lines of research into the neural mechanisms underlying visual perception and its modulation by cognitive functions, such as attention. Here, I will go through a selection of studies following a trajectory from using simplistic, periodic rhythmic flickering lights up to complex, quasi-periodic more naturalistic stimuli that our visual system typically encounters. This compilation will highlight commonalities between the different types of stimulation in probing cortical processing of dynamic visual input. Further, it will serve to demonstrate what we can gain by exploring the dynamic range of visual stimuli beyond strictly periodic cases. Ultimately, these findings will be discussed in the light of the idea that stimulus-driven brain rhythms involve entrainment of endogenous brain rhythms.

TALK 4: THE CAUSAL ROLE OF NEURAL ENTRAINMENT IN SPEECH COMPREHENSION

Anne Kösem[1,2]; [1]Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, [2]Radboud University, Nijmegen, The Netherlands

Low-frequency neural entrainment to speech is hypothesized to have a causal role in the parsing of the speech signal into relevant linguistic constituents. In this MEG experiment, we aimed at manipulating the entrainment of oscillations in auditory cortex to test its direct consequences on speech perception. We departed from the hypothesis that neural entrainment reflects temporal predictions: the brain would internalize the rhythms of preceding signals to process the ongoing sensory input. Hence, ongoing neural oscillatory activity could be manipulated by changing the dynamics of past sensory stimulation. Using speech sentences that suddenly increased or decreased in rate, we thus investigated if neural entrainment to past speech lasts after the speech rate changes, and if persisting neural entrainment influences speech perception. The beginning of the sentence was

either presented at a fast or a slow speech rate, while the last three words (target window) were displayed at an intermediate rate across trials. Participants were asked to report the perception of the last word of the sentence, which contained an ambiguous vowel. The results show that neural entrainment lasted after rhythmic stimulation: during the target window, we observed oscillatory activity that corresponded in frequency to the preceding speech rate. The persisting neural entrainment correlated with speech perceptual biases: participants who showed stronger persisting neural entrainment were more influenced by the past speech rate in their perception of the last word. These findings provide empirical support for oscillatory models of speech processing, suggesting that neural oscillations actively modulate speech comprehension.

TALK 5: ATTENTIONAL MODULATION OF EXTERNALLY DRIVEN ALPHA OSCILLATIONS

Jim D. Herring[1]; [1]Donders Institute, Nijmegen, The Netherlands

Alpha oscillations have been proposed to be involved in the allocation of neuro-computational resources. While these oscillations are typically generated endogenously, they can also by elicited by external stimulation in which the brain responds with 'ringing' at ~10 Hz. Examples are TMS-locked responses (Rosanova et al., 2009) and 'perceptual echoes' (VanRullen et al. 2012). It is unclear whether these are resulting from evoking endogenous oscillations or whether they result from evoked responses (ERFs/ERPs). We hypothesize that if the oscillatory responses decrease with attention they reflect endogenous alpha oscillations, whereas if they increase with attention they reflect evoked responses. In a combined TMS-EEG study we show that a single pulse of TMS elicits an alpha-like response. Importantly, this response is modulated by top-down visual attention similarly to endogenous alpha oscillations: the magnitude of the response increases with a decrease in visual attention. Furthermore, the attentional effect is proportional to the subject's ability to modulate their endogenous alpha activity with attention. In a second MEG study, we induced so-called 10 Hz 'perceptual echoes' in visual cortex by applying broadband visual stimulation. The perceptual echoes can be thought of as impulse response functions of the brain to changing visual input. Our key finding was that perceptual echoes increased with low visual attention. Both studies suggest that endogenous and externally driven alpha oscillations are functionally similar mechanism and thus likely to share the same mechanism. As such, alpha oscillations are likely to play a key role for the temporal coordination of neuronal firing not only during rest but also during processing of external stimuli.

Symposium Session 8

DECIDING HOW TO DECIDE: UNDERSTANDING WHEN AND WHY THE BRAIN ALLOCATES COMPUTATIONAL RESOURCES TO GOAL-DIRECTED BEHAVIOR

Tuesday, March 28, 10:00 am - Noon, Ballroom A

Chair: Ross Otto, McGill University

Speakers: Hanneke den Ouden, Anne Collins, Sam Gershman, Amitai Shenhav, Ross Otto

Everyday experiences are defined by decisions, from deciding what to eat for lunch to making career choices, but not all of our decisions come about the same way: some decisions are made with effort and are slow, while other decisions are easier and made quickly. While the question when and why an individual decides to expend—or withhold—cognitive effort in the service goal-directed behavior has been the topic of considerable interest to cognitive neuroscientists, a spate of computationally-informed approaches are beginning to yield critical leverage in understanding how the human brain solves this problem. This symposium will spotlight the work of five emerging researchers taking complementary approaches to understanding this question. Anne Collins will explore how the interplay between effortful working-memory based systems and more primitive reinforcement-learning systems unfolds in the brain. Sam Gershman will use a neurocomputational model to show how the brain selects between reinforcement learning processes on the basis of prediction error signalling. Hanneke den Ouden will explore how heuristic responding may be driven by biased instrumental learning. Amitai Shenhav will present a unified theory of anterior cingulate function based on cost-benefit principles of cognitive effort. Finally, Ross Otto will reveal how the cost of time, formalized by reinforcement learning, directs our exertion of cognitively effortful processes. Together, these talks present cutting-edge perspectives on how the brain allocates processing resources in the service of maximizing rewards, across diverse behavioural repertoires.

TALK 1: MOTIVATIONAL BIASES IN LEARNING AND CHOICE

Hanneke den Ouden[1], Jennifer Swart[1]; [1]Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands

Pavlovian conditioning is the most primitive and computationally parsimonious form of learning. Pavlovian responses may help reduce computational load by shaping our actions in an evolutionarily hardwired manner. Instrumental learning systems, in contrast, allow organisms to adaptively learn which actions are good in specific environments. Pavlovian and instrumental systems are often presented as a dichotomy, respectively driving cue-based motivational biases versus adaptive 'rational' choice. For example, a number of recent studies on motivational biases of action (e.g. appetitive activation / aversive inhibition) have interpreted these responses in terms of Pavlovian response biases. An alternative possibility is that adaptive systems have evolved to take into account prior likelihoods

of certain response-outcome associations, and learn these preferentially to minimize computational expenses. Thus, motivational biases of behavioural activation may additionally arise from biased instrumental learning. Such a learning bias would provide a cognitively efficient mechanism for rapid learning of likely action-outcome associations whilst protecting against learning spurious associations. We will present work that (i) probes whether these biases in instrumental learning subserve the well-established reward/punishment biases of motivated action or inaction, and (ii) probe the pharmaco-computational mechanisms that subserve these biases, using a combination of EEG, psychopharmacology and computational modelling of behaviour.

TALK 2: WORKING MEMORY CONTRIBUTES TO REINFORCEMENT LEARNING COMPUTATIONS

Anne Collins[1]; [1]University of California, Berkeley

When learning to make choices in different situations, humans can use multiple strategies in parallel, including working memory and reinforcement learning. Working memory allows very fast learning, but is cognitively effortful as well as limited in how much information can be retained, and for how long. Reinforcement learning has broader scope, but is more incremental and slower. Here, we investigate whether these two processes are independent in their computations and simply compete for choice, or if they interact at a deeper level. In multiple independent games, participants learned to select actions for varying numbers of new stimuli. When learning a low number of associations, performance was near optimal, indicating efficient use of working memory. With increasing number of associations to learn, performance gradually decayed to a more incremental learning profile, as expected from a greater contribution of slower reinforcement learning mechanisms when working memory contribution became less reliable and more costly. We will show evidence from fMRI, EEG and behavioral studies that the working memory process influences reinforcement learning computations. Specifically, we find that the update of estimated values with reward prediction errors was surprisingly weakened in the easier conditions where performance was best. We will use computational modeling to show that this is compatible with a competitive or cooperative interaction between working memory and reinforcement learning, but not with a competing independent processes theory. Preliminary evidence supports a cooperative hypothesis, whereby working memory contributes expectations to the computation of the reward prediction error.

TALK 3: NEUROCOMPUTATIONAL PRINCIPLES OF META-CONTROL IN REINFORCEMENT LEARNING

Sam Gershman[1], Wouter Kool[1], Fiery Cushman[1]; [1]Harvard University

trade-offs. Model-based approaches construct a "cognitive map" that can be used to simulate future events. This approach is flexible (predictions change instantaneously whenever the cognitive map changes) but computationally expensive (many simulations are required to compute a value). By contrast, model-free approaches directly store cached value estimates in a look-up table, making valuation fast but inflexible (cached values will not change without additional experience in the task). I describe a computational approach to arbitration between the two approaches: a hypothetical meta-controller uses a policy gradient algorithm to allocate based on reward prediction errors. Behavioral and neural data support this architecture, suggesting a pivotal role for dopaminergic prediction error signaling in meta-control. In particular, we find that the meta-control model can predict, on a trial-by-trial basis, which system controls behavior, and these trial-by-trial changes are reflected in the striatal prediction error signal measured using fMRI. When the model-based system is in control of behavior, the prediction error signal is based on a model-based value signal, consistent with our model predictions.

TALK 4: WEIGHING THE COSTS AND BENEFITS OF MENTAL EFFORT

Amitai Shenhav[1], Sebastian Musslick[2], Matthew Botvinick[3], Jonathan Cohen[2]; [1]Brown University, [2]Princeton University, [3]Google DeepMind

Cognitive control is known to be effortful, yet little is known about how we determine how that effort gets allocated. I will describe recent theoretical and empirical work aimed at understanding this process through the lens of value-based decision-making, focusing on our proposal that individuals choose how much and what kind of control to allocate according to the predicted benefits (e.g., reward likelihood) and the costs associated with increased effort exertion. These combine to determine what we refer to as the Expected Value of Control (EVC). The EVC framework accounts for interactions between incentives, cognitive performance, and task choice observed in behavioral performance. It also offers a more comprehensive account of dorsal anterior cingulate function, and a common explanation for its purported roles in the motivation, decision-making, and cognitive control literatures. In particular, the theory suggests that dACC integrates information relevant to the costs and benefits of control allocation (including signals of reward and cognitive demand), and signals to downstream regions the allocation that maximizes EVC, enabling this control to be exerted. The framework also makes contact with approaches from computer science for deciding how to decide between computationally demanding strategies (referred to as rational metareasoning). This work provides a path towards understanding why we may not always choose to make the effort demanded by our academic, work, or social environment, and how variability in these circuits will lead to maladaptive allocation of cognitive control in particular clinical populations.

TALK 5: THE OPPORTUNITY COST OF TIME MODULATES COGNITIVE EFFORT EXPENDITURE

Ross Otto[1], Nathaniel Daw[2]; [1]McGill University, [2]Princeton University

A spate of recent work demonstrates that humans seek to avoid the expenditure of cognitive effort, much like physical effort or economic resources. Less is clear, however, about the circumstances dictating how and when people decide to expend cognitive effort. Here we adopt a popular theory of opportunity costs and response vigor and to elucidate this question. This account, grounded in Reinforcement Learning, formalizes a trade-off between two costs: the harder work assumed necessary to emit faster actions and the opportunity cost inherent in acting more slowly (i.e., the delay that results to the next reward and subsequent rewards). Recent work reveals that the opportunity cost of time—operationalized as the average reward rate per unit time, theorized to be signaled by tonic dopamine levels, modulates the speed with which a person responds in a simple discrimination tasks. We extend this framework to cognitive effort in a diverse range of cognitive tasks, for which 1) the amount of cognitive effort demanded from the task varies from trial to trial and 2) the expenditure of cognitive effort holds measureable consequences in terms of accuracy and response time. In the domains of cognitive control, perceptual decision-making, and task-switching, we found that subjects tuned their response speeds in accordance with the experienced average reward rate: when the opportunity cost of time was high, subjects responded more quickly. That is, expenditure of cognitive effort appeared to be modulated by the opportunity cost of time. Further, and consistent with our account, the strength of this modulation covaried with individual differences in efficacy of cognitive control, operationalized as response slowing on incongruent trials. Taken together, our results provide a cost-benefit informed examination of the circumstances dictating how and when people expend cognitive effort.

Symposium Session 9

MEMORY NEUROMODULATION: HOW DO DIFFERENT STATES OF LEARNING INFLUENCE EPISODIC MEMORY?

Tuesday, March 28, 10:00 am - Noon, Ballroom B/C

Chair: Vishnu Murty, University of Pittsburgh

Speakers: Katherine Duncan, Vishnu Murty, Matthias Gruber, Joel Voss, Mara Mather

Memories are not veridical; rather an individual's goals, desires, and affect can influence how they store representations of their environment in long-term memory. To fully understand the selectivity of memory, it is critical to understand how these different internal states of learning modulate episodic memory. A large body of animal research has detailed a variety of neuromodulatory processes influencing hippocampal neurophysiology, providing a theoretical framework to understand how these states of learning could influence human memory. This symposium features emerging research characterizing how a variety of different states of learning—including novelty, motivation, curiosity, exploration, and arousal—influence how the brain encodes and stabilizes episodic memories. First, Katherine Duncan will present her work characterizing the lingering effect of novelty on biasing mnemonic processes of pattern completion/separation in a manner consistent with cholinergic modulation. Second, Vishnu Murty will present his work demonstrating how motivation, and associated engagement of mesolimbic systems, enhances episodic memory at multiple timescales to support adaptive behavior. Third, Mathias Gruber will present his work investigating how both intrinsic and extrinsic states of motivation enhance episodic memory by facilitating interactions between the dopaminergic midbrain and hippocampus both during and after encoding. Fourth, Joel Voss will present his research showing how states of exploration change individuals learning strategies as well as the structure of memory. Finally, Mara Mather will present recent research detailing how arousal biases memory towards salient information, particularly negative information, in a manner consistent with noradrenergic modulation.

TALK 1: THE LINGERING INFLUENCE OF NOVELTY SHAPES FUNDAMENTAL MEMORY PROCESSES.

Katherine Duncan[1]; [1]University of Toronto

Detecting novelty triggers a cascade of neuromodulatory action, which can persistently influence neurons for seconds or even minutes. Given the numerous demonstrations of novelty's influence at a physiological level, we know surprisingly little about the lingering consequences that novelty detection has on the human mnemonic operations supported by these physiological processes. Cholinergic modulation of the hippocampus is particularly suited for shaping human memory. In addition to influencing synaptic plasticity, cholinergic modulation may regulate hippocampal network properties; novelty-induced high levels of acetylcholine could push the hippocampus toward pattern separation, preparing it to form new distinctive memories, whereas familiarity-induced low levels could pull the hippocampus towards pattern completion, preparing it to retrieve associations. Importantly, cholinergic modulation persists for seconds, suggesting that recent novelty or familiarity can shape subsequent mnemonic processing. Here, I present a series of behavioural experiments testing different predictions generated by this cholinergic framework. In Experiment 1, we demonstrate that recent exposure to novelty as compared to familiarity improves people's ability to detect subtle changes, a hallmark of pattern separation (Duncan et al., 2012). In Experiment 2, we demonstrate that recent familiarity as compared to novelty improves people's ability to recall associations, a hallmark of pattern completion (Patil & Duncan, under review). In both studies, the influence of novelty and familiarity decayed over seconds, in line with cholinergic modulation. In Experiment 3, we show that these robust mnemonic biases influence how people use memory to make decisions (Duncan & Shohamy, in press).

TALK 2: MOTIVATION FACILITATES MEMORY AT MULTIPLE TIMESCALES IN SERVICE OF ADAPTIVE BEHAVIOR.

Vishnu Murty[1]; [1]University of Pittsburgh

As we navigate through the world, we are inundated with immense amounts of information—too much information to veridically encode into long-term memory. Rather than attempt to encode all of this information, memory is selective. Information that is most relevant to achieving future goals is prioritized in long-term memory. In my talk, I will present a series of behavioral and neuroimaging studies that characterize how motivation facilitates memory encoding for goal-relevant information. I will show how motivational states support memory not only for items directly associated with reward but also for neutral items presented in rewarding contexts. Also, I will present emerging behavioral data showing that reward can retroactively enhance memory for information that is later learned to be reward relevant. Finally, I will present 2 fMRI studies unpacking potential mechanisms supporting these memory enhancements including facilitation of hippocampal-dependent processes during encoding, and hippocampal-cortical interactions during periods of post-encoding rest. Together, these studies support a model in which individuals tailor their memories of the environment depending on their goal states, which provides a foundation of information to support future adaptive behavior in similar environments.

TALK 3: STATES OF REWARD AND CURIOSITY PRIORITIZE LEARNING AND POST-LEARNING DYNAMICS

Matthias Gruber[1]; [1]Cardiff University

An adaptive memory system prioritizes salient over less salient information. Several studies have shown how rewards influence learning of specific stimuli, but little is known about how motivational states affect learning and retention. In my talk, I will review not only how states of extrinsic motivation (via monetary incentives) but also how states of intrinsic motivation (via curiosity) affect learning. I will present evidence from a series of fMRI and EEG studies that demonstrate how states of high motivation (via curiosity or reward) prioritize learning and memory consolidation for motivationally relevant but also incidental information. Our results show that the substantia nigra/ventral tegmental area complex and the hippocampus play a critical role in prioritizing retention of memories learned during states of high motivation both during encoding and during post-learning rest. The findings highlight the crucial role of how motivational states modulate learning and consolidation mechanisms.

TALK 4: EXPLORATION MODULATES HIPPOCAMPAL-CORTICAL CONTRIBUTIONS TO EPISODIC LEARNING

Joel Voss[1]; [1]Northwestern University

Exploratory behaviors during learning determine what is studied and when. Exploration should therefore: (1) determine the structured content of resultant memory representations, and (2) allow learning to be optimized based on goals and strategies expressed during exploration. I will describe a collection of experiments that uses well-controlled manipulations of exploration to demonstrate both of these principles and to identify neurocognitive mechanisms for exploration's influence on learning and memory. In these experiments, information that was sampled via active exploration provided structure to memory, such that the content of multi-part episodic memories was organized around the actively explored information. Furthermore, subjects exhibited identifiable visual-sampling strategies that enhanced later memory, demonstrating the optimization of learning via exploration. These phenomena suggest that exploration involves memory-attention iterative interactions, by which the memory representation that evolves continuously over the course of exploration is repeatedly queried in order to strategically guide moment-to-moment visual sampling behavior. Across a wide range of experimental settings, neuroimaging and lesion-deficit evidence suggest that the hippocampus is necessary for this strategic memory-attention dialogue, which is supported by hippocampal interactions with distributed prefrontal and parietal regions. Furthermore, by manipulating the timecourse of exploration, separate contributions from hippocampus versus fronto-parietal network regions were dissociated. Hippocampal-dependent memory is thus a dynamic process, rather than a static record of experience. These findings show how the exploration state is a fundamental modulator of hippocampal-cortical interactions that build memories, and pinpoint unique exploration-related cognitive operations performed by hippocampus versus distributed cortical networks.

TALK 5: A POTENTIAL ROLE FOR NOREPINEPHRINE HOT SPOTS IN LONG-TERM MEMORY FOR NEGATIVE STIMULI.

Mara Mather[1], Shawn Nielsen[1], Michiko Sakaki[2], Jasmine Raw[2]; [1]University of Sourthern California, [2]University of Reading

Arousal makes salient or important stimuli stand out even more while everything else fades in the background. The locus coeruleus-norepinephrine (LC-NE) system is activated during physiologically arousing situations and plays a key role in increasing the gain on mental representations. This amplification of gain may be especially adaptive in dangerous situations, when it can be critical to focus on threatening stimuli. In addition, negative stimuli tend to be more salient than positive stimuli across a broad range of situations and contexts. In this series of behavioral and neuroimaging studies, we tested the hypothesis that arousal-induced LC activity enhances encoding of negative stimuli more than positive or neutral stimuli. To increase tonic arousal, we had participants either squeeze a handgrip as hard as they could several times, or just rest their hand around a water bottle before viewing a series of pictures. The handgrip manipulation increased pupil dilation, suggesting that it reliably increased the LC activity and NE levels. In addition, the handgrip manipulation enhanced subsequent memory for the negative stimuli compared with the positive and neutral stimuli. Furthermore, these effects were stronger

in women in low ovarian hormone states (either on hormone contraception or during the follicular phase of their menstrual cycle), consistent with effects of estrogen on the noradrenergic system. These findings indicate that higher tonic levels LC-NE activation support an encoding advantage for negative stimuli—a bias that may be adaptive in many high stakes situations but may lead to disadvantages in situations where positive stimuli are informative.

Poster Schedule

Poster sessions are scheduled for Saturday-Tuesday in Pacific Concourse Exhibition Hall of the San Francisco Hyatt Regency. All attendees must present their CNS 2017 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. Note that presenters are asked to set up poster in advance of their session and to leave their poster up for a period following their session (see your specific session for hours). This is to allow attendees to view posters outside the formal session times. Only registered poster presenters, wearing a CNS 2017 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	Setup Begins	Session Begins	Tear-Down	Take-Down Completed
A	Saturday, March 25	4:30 pm – 5:00 pm	5:00 pm – 7:00 pm	7:00 pm – 7:15 pm	7:15 pm
B	Sunday, March 26	7:30 am – 8:00 am	8:00 am – 10:00 am	11:30 am – 11:45 am	11:45 am
C	Sunday, March 26	1:30 pm – 2:00 pm	5:00 pm – 7:00 pm	7:00 pm – 7:15 pm	7:15 pm
D	Monday, March 27	7:30 am – 8:00 am	8:00 am – 10:00 am	11:30 am – 11:45 am	11:45 am
E	Monday, March 27	1:30 pm – 2:00 pm	2:30 pm – 4:30 pm	5:30 pm – 5:45 pm	5:45 pm
F	Tuesday, March 28	7:30 am – 8:00 am	8:00 am – 10:00 am	11:45 am - Noon	Noon

* 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

Poster A1 The effects of attention modulation on sensory processing of spoken words in native-English and native-Polish listeners
Monica Wagner[1], Jungmee Lee[2], Valerie L Shafer3; [1]St. John University, [2]University of Wisconsin, Madison, [3]The Graduate Center, City University of New York
Topic Area: ATTENTION: Auditory

Poster A2 Prefrontal and parietal recruitment during the MSIT selective attention task predicts rTMS treatment outcome in patients with subjective tinnitus
George James[1], Jeff Thostenson[1], Ginger Brown[1], Gwendolyn Carter[1], Mark Mennemeier[1]; [1]University of Arkansas for Medical Sciences
Topic Area: ATTENTION: Auditory

Poster A3 EEG Evidence of Covert Command Following and the Impact of State Fluctuations in Patients with Severe Brain Injury
William H. Curley[1], Jonathan D. Drover[1], Mary M. Conte[1], Nicholas D. Schiff[1,2,3]; [1]Feil Family Brain and Mind Research Institute, Weill Cornell Medicine, NY, [2]Department of Neurology, Weill Cornell Medicine, NY, [3]The Rockefeller University, NY
Topic Area: ATTENTION: Auditory

Poster A4 A resonator model predicts temporal orienting in rhythmic music
Brian K. Hurley[1], Lauren K. Fink[1], Petr Janata[1]; [1]University of California, Davis
Topic Area: ATTENTION: Auditory

Poster A5 Neural generators and fast dynamics of the task-relevant P3a ERP
Lizzy Blundon[1], Lawrence Ward[1]; [1]University of British Columbia
Topic Area: ATTENTION: Auditory

Poster A6 Predicting attentional failures: the spatiotemporal neural dynamics of attention during sustained dual-task performance.
James Elliott[1], Barry Giesbrecht[1]; [1]University of California, Santa Barbara
Topic Area: ATTENTION: Nonspatial

Poster A7 Feedback guided learning: prefeedback alpha modulates utilization of outcome information
Berry van den Berg[1,2], Benjamin Geib[1], Rene San Martin[1,3], Monicque Lorist[2], Marty Woldorff[1]; [1]Duke University, [2]University of Groningen, Univ Med Ctr Groningen, The Netherlands, [3]Universidad Diego Portales, Santiago, Chile
Topic Area: ATTENTION: Nonspatial

Poster A8 Contributions of the Supplementary Motor Area to the interaction between phasic alerting and conscious perception
Mar Martín-Signes[1], Carlos Pérez-Serrano[1], Ana B. Chica[1]; [1]University of Granada
Topic Area: ATTENTION: Nonspatial

Poster A9 Region-specific neural consequences of Biased-Competitional Heterogeneity of the Effects of Attentional Prioritization
Andrew D Sheldon[1], Elyana Saad[1], Bradley R Postle[1]; [1]University of Wisconsin, Madison
Topic Area: ATTENTION: Nonspatial

Poster A10 Attentional blink to alcohol cues in binge drinkers versus non-binge drinkers
Francesco DePalma[1], Natalie Ceballos[1], Reiko Graham[1]; [1]Texas State University
Topic Area: ATTENTION: Other

Poster A11 The Children's Brain Activation in Discriminating Faces along the Morphed Continuum of Happy and Fearful Expressions
Ming-Chun Lee[1], SHIH-TSENG HUANG[1]; [1]Department of Psychology and Center for research in Cognitive Science, National Chung-Cheng University, Taiwan
Topic Area: EMOTION & SOCIAL: Development & aging

Poster A12 The effects of aging on gaze biases for faces
Toshiki Saito[1], Rui Nouchi[1], Hikari Kinjo[2], Ryuta Kawashima[1]; [1]Tohoku University, [2]Meiji Gakuin University
Topic Area: EMOTION & SOCIAL: Development & aging

Poster A13 Sexually dimorphic cerebellar findings in children with ADHD
Jina Pakpoor[1,2], Deana Crocetti[1], Stewart Mostofsky[1,2]; [1]Kennedy Krieger Institute, Baltimore, MD, USA, [2]Johns Hopkins School of Medicine
Topic Area: EMOTION & SOCIAL: Development & aging

Poster A14 The aging mirror neuron system: EEG activation during biological motion observation
Victoria, E. A. Brunsdon[1], Elisabeth, E. F. Bradford[1], Heather Ferguson[1]; [1]University of Kent
Topic Area: EMOTION & SOCIAL: Development & aging

Poster A15 Ponies proliferate positive affect: The effectiveness of equine therapy on positive affect in adolescents with serious emotional disturbances
Hanna Roberts[1], Nikki Honzel[1]; [1]Carroll College
Topic Area: EMOTION & SOCIAL: Development & aging

Poster A16 Observing model-based control of emotion-triggered attention with steady-state visual evoked potentials
deborah talmi[1], Matthias Wieser, Martina Slapkova; [1]University of Manchester, [2]University of Rotterdam, [3]University of Manchester
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A17 Stress prior to learning affects resting state functional connectivity and emotional memory at retrieval
Stephanie Sherman[1], Sarah M. Kark[1], Ryan T. Daley[1], Jessica D. Payne[2], Elizabeth A. Kensinger[1]; [1]Boston College, [2]University of Notre Dame
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A18 Neural Correlates of Immediate and Long-term Effects of Emotion Regulation: A fMRI Study of Explicit and Implicit Emotional Suppression
Yuta Katsumi[1], Florin Dolcos[1], Sanda Dolcos[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A19 Influence of acute stress throughout the memory cycle on associative memory
Elizabeth Goldfarb[1], Alexa Tompary[1], WenXi Zhou[1], Lila Davachi[1], Elizabeth Phelps[1,2]; [1]New York University, [2]Nathan Kline Institute
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A20 Brain Mechanisms for Processing Natural Dynamic Facial Expressions of Emotion
Shih-Tseng T. Huang[1], Yen-Ju Lu[1]; [1]Department of Psychology and Center for research in Cognitive Science, National Chung-Cheng University, Taiwan

Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A21 The Association of Skin Conductance Level with Emotional Memory Performance Over Time
Tony Cunningham[1], Elaina Bolinger[2], Jan Born[2], Jessica Payne[1]; [1]University of Notre Dame, [2]University of Tübingen
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A22 Simple arithmetic: Not so simple for highly math anxious individuals
Hyesang Chang[1], Lisa Sprute[1], Erin A. Maloney[1], Sian L. Beilock[1], Marc G. Berman[1]; [1]The University of Chicago
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A23 Who Cares About Feelings? An ERP Study of Emotional Face Processing, Psychopathic Traits, and Empathy
Danielle diFilipo[1,2], Taylor Valentin[2], Kayla Talbot[2], Jill Grose-Fifer[1,2]; [1]The Graduate Center, City University of New York, [2]John Jay College of Criminal Justice, City University of New York
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A24 Seeing what we want to see: Motivation shapes perceptual judgments and category-selective activity in the ventral visual stream
Yuan Chang Leong[1], Brent Hughes[2], Jamil Zaki[1]; [1]Stanford University, [2]University of California, Riverside
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A25 Which coping strategies predict better outcomes after a stroke?
Marie-Christine Nizzi[1]; [1]Harvard University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A26 Disturbed Emotional Processing in Post-traumatic Stress: Evidence from the Late Positive Potential
Brian Albanese[1], Richard Macatee[1], Nicholas Allan[2], Edward Bernat[3], Norman Schmidt[1]; [1]Florida State University, [2]Ohio University, [3]University of Maryland
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster A27 My rubbery neck: Attentional stickiness for self-relevant objects
Grace Truong[1], Rebecca M. Todd[1]; [1]University of British Columbia
Topic Area: EMOTION & SOCIAL: Self perception

Poster A28 A dual piano performance EEG study: the effect of the partner's animacy and melodic content on alpha-band oscillations
Iran Roman[1], Madeline Huberth[1], Nick Gang[1], Tysen Dauer[1], Wisam Reid[1], Chryssie Nanou[1], Matthew Wright[1], Takako Fujioka[1]; [1]Stanford University
Topic Area: EMOTION & SOCIAL: Self perception

Poster A29 Self-esteem and the brain: structural correlates in the prefrontal cortex
Igor Nenadic[1,2], Katharina Frisch[1], Bianca Besteher[1], Robert Spalthoff[1], Christian Gaser[1,3]; [1]Department of Psychiatry and Psychotherapy, Jena University Hospital, Jena, Germany, [2]Department of Psychiatry and Psychotherapy, Philipps University Marburg and Marburg University Hospital (UKGM), Marburg, Germany, [3]Department of Neurology, Jena University Hospital, Jena, Germany
Topic Area: EMOTION & SOCIAL: Self perception

Poster A30 Neuropsychological Correlates of Self-Kindness on Late Adolescence: Increased Cognitive Flexibility and Emotional Regulation.
Nayara Mota[1], Elenilda Chaves[1], Marina Antunes[1], Vanessa Daudt[1], Rudi Borges[1]; [1]University of the State of Rio de Janeiro
Topic Area: EMOTION & SOCIAL: Self perception

Poster A31 Development of the error-monitoring system from ages 9-35: unique insight provided by MRI-constrained source localization of EEG
George A. Buzzell[1], John E. Richards[2], Lauren K. White[3], Daniel S. Pine[4], Nathan A. Fox[1]; [1]University of Maryland, College Park, [2]University of South Carolina, [3]Children's Hospital of Pennsylvania, [4]National Institute of Mental Health
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster A32 Functional neural correlates of selective attention deficits in Cerebral Small Vessel Disease: a multi-modal approach to exploring variability in vascular cognitive impairment
Ayan Dey[1,2,3], Vessela Stamenova[2,3], Alissa Papadopoulos[2], Laura Oliva[2], Laryssa Levesque[2], Gary Turner[1,4], Sandra E. Black[1,2,3,5], Brian Levine[1,2,3]; [1]University of Toronto, Canada, [2]Rotman Research Institute at Baycrest, Toronto, Canada, [3]Canadian Partnership for Stroke Recovery, [4]York University, Toronto, Canada, [5]Sunnybrook Health Sciences Center, Toronto, Canada
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster A33 How do relational integration deficits contribute to older adults' associative memory impairments?
Taylor James[1], Audrey Duarte[1]; [1]Georgia Institute of Technology
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster A34 Real-time strategy game training effects white matter integrity in older adults
Nicholas Ray[1], Kaoru Nashiro[2], Margaret O'Connell[1], Shuo Qin[1], Evan Smith[1], Chandramallika Basak[1]; [1]University of Texas at Dallas, [2]University of Southern California
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster A35 The neuroanatomy of working memory training: A quantitative meta-analysis of fMRI studies
Oshin Vartanian[1,2], Vladyslava Replete[1], Quan Lam[1]; [1]Defence Research and Development Canada, [2]University of Toronto
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A36 Stress Interactions with Working Memory in Adolescence
Alana Campbell[1,2], Mae Nicopolis[1,2], Louis Murphy[1], Aysenil Belger[1,2]; [1]University of North Carolina at Chapel Hill, [2]Carolina Institute for Developmental Disablities
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A37 Working memory and speech perception: evidence from transcranial magnetic stimulation and brain morphometry
Isabelle Deschamps[1,2], Melody Courson[1,2], Pascale Tremblay[1,2]; [1]Faculty of Medicine, Laval University, QC, Canada, [2]Centre de Recherche de l'Institut Universitaire en Santé Mentale de Québec, QC, Canada
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A38 Ventromedial prefrontal cortex plays a critical role in schematic support of short-term memory
Liz Race[1,2], Hope Tobin[1,2], Mieke Verfaellie[2,3]; [1]Tufts University, [2]VA Boston Healthcare System, [3]Boston University School of Medicine
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A39 Neuroimaging, Neurostimulation, and Neuropsychological Evidence for Different States of Representation in Working Memory
Nathan Rose[1], Bradley R Postle[2]; [1]University of Notre Dame, [2]University of Wisconsin-Madison
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A40 Hippocampal Activity Predicts High-resolution Visual Working Memory
Alyssa Borders[1], Andrew Yonelinas[1]; [1]University of California, Davis
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A41 Reward's role in memory-based visual search
Daniel Schneider[1], Claudia Bonmassar[2], Clayton Hickey[2]; [1]Leibniz Research Centre for Working Environment and Human Factors, TU Dortmund, [2]Center for Mind/Brain Sciences, University of Trento
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A42 Use-dependent coding for working memory
Nicholas E. Myers[1], Maryann A. P. Noonan[1], Anna C. Nobre[1], Mark G. Stokes[1]; [1]University of Oxford
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A43 Evaluating Moderators in the Use of Transcranial Direct Current Stimulation with Working Memory Training
Jacky Au[1], Benjamin Katz[3], Sheebani Talati[3], Seung-Min Moon[1], Kimberly Bunarjo[1], Benjamin Gibson[1], Martin Buschkuehl[2], Tessa Abagis[3], Chelsea Zabel[3], Susanne Jaeggi[1], John Jonides[3]; [1]University of California, Irvine, [2]MIND Research Institute - Irvine, CA, [3]University of Michigan, Ann Arbor
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster A44 Sustained Attention and Working Memory Are Improved by Attention Regulation Training with Guided Experiential Skill Application
Sahar M. Yousef[1], Anthony J.-W. Chen[1,2,3], Omid Rhezaii[1], Fred Loya[2,3], Deborah Binder[2,3], Michael A. Silver[1]; [1]University of California, Berkeley, [2]Veterans Administration Northern California Health Care System, [3]University of California, San Francisco
Topic Area: EXECUTIVE PROCESSES: Other

Poster A45 Left-lateralized reading network illustrated by causal effective connectivity
Chotiga Pattamadilok[1], Samuel Planton[1], Deirdre Bolger[2], Mireille Bonnard[3]; [1]Aix Marseille Université, CNRS, LPL UMR 7309, 13100, Aix-en-Provence, France, [2]Labex Brain and Language Research Institute, [3]Aix Marseille Université, Institut de Neurosciences des Systèmes, INSERM, UMR 1106, Marseille, France
Topic Area: LANGUAGE: Other

Poster A46 Subliminal Speech Priming on Emirati verbs: an MEG investigation
Meera AlKaabi[1], Kevin Schluter[2], Alec Marantz[3]; [1]United Arab Emirates University, [2]New York University Abu Dhabi, [3]New York University
Topic Area: LANGUAGE: Other

Poster A47 Code-switching in real time: ERP evidence from habitual bilingual code-switchers
Eleonora Rossi[1,2], Megan Zirnstein[2], Gerrit Jan Kootstra[3]; [1]California State Polytechnic University, Pomona, [2]University of California, Riverside, [3]Windesheim University of Applied Sciences
Topic Area: LANGUAGE: Other

Poster A48 Sequence processing and language lateralization
Shuang Geng[1], Qi Su[1], Shuai Wang[1], Xing Tian[2,3], Qing Cai[1,3]; [1]School of Psychology and Cognitive Science, East China Normal University, [2]New York University Shanghai, [3]NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai
Topic Area: LANGUAGE: Other

Poster A49 Neural decomposition of synergistic and redundant information in interaction between audiovisual speech rhythms and brain oscillations
Hyojin Park[1], Robin A. A. Ince[1], Gregor Thut[1], Joachim Gross[1]; [1]Institute of Neuroscience and Psychology, University of Glasgow
Topic Area: LANGUAGE: Other

Poster A50 Evaluating the massed practice and behavioral relevance principles in neurocognitive language therapy
Friedemann Pulvermuller[1,2], Benjamin Stahl[1,3], Felix Dreyer[1], Guglielmo Lucchese[1], Verena Buscher[1], Bettina Mohr[4]; [1]Brain Language Lab, Freie Universitat Berlin, [2]Berlin School of Mind and Brain, Humboldt Universitat zu Berlin, [3]Charite Universitatsmedizin, Campus Mitte, Berlin, [4]Charite Universitatsmediizin, Campus Benjamin Franklin, Berlin
Topic Area: LANGUAGE: Other

Poster A51 Neuroanatomical Correlates of Visuoconstruction in the Primary Progressive Aphasias
Christa Watson[1], Maria Luisa Mandelli[1], Katherine Possin[1], Maria Luisa Gorno-Tempini[1]; [1]University of California, San Francisco
Topic Area: LANGUAGE: Other

Poster A52 Multimodal characterization of ventro-occipito-temporal reading regions
Garikoitz Lerma-Usabiaga[1], Manuel Carreiras[1,2], Pedro M. Paz-Alonso[1]; [1]BCBL. Basque Center on Cognition, Brain and Language., [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain.
Topic Area: LANGUAGE: Other

Poster A53 Abnormal Speech Feedback Processing in Individuals with 16p11.2 Deletions
Carly Demopoulos[1], Hardik Kothare[1], Danielle Mizuiri[1], Jennifer Henderson-Sabes[1], Brieana Fregeau[1], Jennifer Tiernagel[2], Elliott Sherr[1], John Houde[1], Srikantan Nagarajan[1]; [1]University of California-San Francisco, [2]Simons Foundation Autism Research Initiative
Topic Area: LANGUAGE: Other

Poster A54 Electrophysiological Correlates of Crowding in the Perception of Letters and Symbols
Kurt Winsler[1], Phillip Holcomb[1], Katherine Midgley[1], Jonathan Grainger[2]; [1]San Diego State University, [2]CNRS & Aix-Marseille University
Topic Area: LANGUAGE: Other

Poster A55 Variables distinguishing school age children with autism who are held back in school compared to children with autism who are not held back
Talent V. Dang[1,2], Philip Lai[3]; [1]The Salk Institute for Biological Studies, [2]University of California, San Diego, [3]University of Wisconsin
Topic Area: LANGUAGE: Other

Poster A56 Decoding Linguistic Structure Building in the Time-Frequency Domain
Phillip M. Alday[1], Andrea E. Martin[2,3]; [1]University of South Australia, [2]Max Planck Institute for Psycholinguistics, [3]University of Edinburgh
Topic Area: LANGUAGE: Other

Poster A57 Modeling the minds of co-listeners during language comprehension: an ERP study.
Olessia Jouravlev[1], Dima Ayyash[1], Zach Mineroff[1], Evelina Fedorenko[1,2,3]; [1]Massachusetts Institute of Technology, [2]Harvard Medical School, [3]Massachusetts General Hospital
Topic Area: LANGUAGE: Other

Poster A58 Working Memory and Cognitive Control Modulate Effects of Speaker Reliability on Predictive Processing during Comprehension
Shruti Dave[1], Trevor Brothers[1], Matthew Traxler[1], Tamara Swaab[1]; [1]University of California, Davis
Topic Area: LANGUAGE: Semantic

Poster A59 First Language Proficiency Modulates Individual Differences in Semantic Processing: An MEG Study.
Morgan B. Johnson[1], Lisa J. Beck[1], Lyam Bailey[1], Tim Bardouille[1,2], Aaron J. Newman[1]; [1]Dalhousie University, [2]BIOTIC, IWK Health Centre and Capital District Health Authority
Topic Area: LANGUAGE: Semantic

Poster A60 Time-course of motor involvement in literal and metaphoric action sentence processing: A TMS study
Megan Reilly[1], Olivia Howerton[1], Rutvik Desai[1]; [1]University of South Carolina
Topic Area: LANGUAGE: Semantic

Poster A61 Smaller N400 Amplitudes are Reflected in Creative Individuals
Kristina Pfeifer[1], Gavin Dowd[2], Reza Ghafur[2], Alejandro Heredia[2], Mark W. Geisler[2]; [1]San Francisco State University
Topic Area: LANGUAGE: Semantic

Poster A62 A neurobiologically inspired computational model of sensorimotor grounding of abstract semantics
Malte R Schomers[1,2], Friedemann Pulvermüller[1,2]; [1]Brain Language Laboratory, Freie Universität Berlin, Germany, [2]Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, Germany
Topic Area: LANGUAGE: Semantic

Poster A63 Verbal labelling of tactile percepts increases connectivity between somatosensory and auditory cortices
Tally McCormick Miller[1,3], Timo Torsten Schmidt[2,4], Felix Blankenburg[2,3], Friedemann Pulvermüller[1,3]; [1]Brain Language Laboratory, Freie Universität Berlin, [2]Neurocomputation and Neuroimaging Unit, Freie Universität Berlin, [3]Berlin School of Mind and Brain, Humboldt Universität Berlin, [4]Institute of Cognitive Science, Universität Osnabrück, Germany
Topic Area: LANGUAGE: Semantic

Poster A64 Processing of up/down words recruits cortical oculomotor areas
Markus Ostarek[1,2], Jeroen van Paridon[1,2], Samuel Evans[3], Falk Huettig[1,4]; [1]Max Planck Institute for Psycholinguistics, Nijmegen, [2]International Max Planck Research School for Language Sciences, [3]Institute of Cognitive Neuroscience, University College London, [4]Donders Institute for Brain, Cognition, and Behavior, Radboud University, Nijmegen
Topic Area: LANGUAGE: Semantic

Poster A65 Visual gender cue effects on incremental language comprehension
Alba Rodriguez[1,3], Yoana Vergilova[2], Matthew W Crocker[2], Pia Knoeferle[1]; [1]Humboldt University Berlin, [2]Saarland University, Germany, [3]Bielefeld University, Germany
Topic Area: LANGUAGE: Semantic

Poster A66 Influence of Speakers' Gaze on Listeners' Comprehension: Evidence from Event Related Potentials (ERP)
Torsten Kai Jachmann[1], Heiner Drenhaus[1], Maria Staudte[1], Matthew W. Crocker[1]; [1]Saarland University, Germany
Topic Area: LANGUAGE: Semantic

Poster A67 Evidence for Right Hemisphere Role in Semantic Exemplar Generation
Alessandra Macbeth[1], Adam Felton[1], Christine Chiarello[1]; [1]University of California, Riverside
Topic Area: LANGUAGE: Semantic

Poster A68 Effects of Text Difficulty during Natural Reading: A co-registered eye tracking and fMRI study
Wonil Choi[1], Matthew Lowder[2], John Henderson[2]; [1]GIST College, [2]Center for Mind and Brain, University of California, Davis
Topic Area: LANGUAGE: Semantic

Poster A69 Speaker-specific predictions about category membership during language comprehension
Rachel Ryskin[1,2], Shukhan Ng[3], Katie Mimnaugh[3], Sarah Brown-Schmidt[4], Kara D. Federmeier[3,5]; [1]Massachusetts Institute of Technology, [2]Boston University, [3]University of Illinois at Urbana-Champaign, [4]Vanderbilt University, [5]Beckman Institute for Advanced Science and Technology
Topic Area: LANGUAGE: Semantic

Poster A70 Examination of the relationship between resting state neural oscillations and lexical semantic retrieval in mild traumatic brain injury
Marissa DeCaro[1], Amy Ramage[1], Stephanie Barlow[1], Daniel Seichepine[2], Robert Ross[1]; [1]University of New Hampshire, [2]University of New Hampshire-Manchester
Topic Area: LANGUAGE: Semantic

Poster A71 Accessing Script Knowledge: The Case Of Emotion
Katharina Menn[1], Dorothee J. Chwilla[1]; [1]Donders Institute for Brain, Cognition, and Behaviour, Radboud University
Topic Area: LANGUAGE: Semantic

Poster A72 N400 Effects on Conceptual Expansion
Alejandro Heredia Cedillo[1], Kristina Pfeifer[1], Gavin Dowd[1], Reza Ghafur[1], Mark W. Geisler[1]; [1]San Francisco State University
Topic Area: LANGUAGE: Semantic

Poster A73 Prototype representations in ventromedial prefrontal cortex and hippocampus during concept generalization
Caitlin Bowman[1], Dagmar Zeithamova[1]; [1]University of Oregon
Topic Area: LONG-TERM MEMORY: Episodic

Poster A74 Patterns of Alpha-band Oscillations Track Spatial Long Term Memory Performance
David Sutterer[1], Joshua Foster[1], John Serences[2], Edward Vogel[1], Edward Awh[1]; [1]University of Chicago, [2]University of California - San Diego
Topic Area: LONG-TERM MEMORY: Episodic

Poster A75 Detecting neural correlates of autobiographical memory for recent and remote memories through high-resolution fMRI
Farah Naaz[1], Lindsay K. Knight[1], Brooke N. Siers[1], Brendan E. Depue[1]; [1]University of Louisville
Topic Area: LONG-TERM MEMORY: Episodic

Poster A76 The Role of the Posterior Parietal Cortex in Episodic Retrieval
Marty Fiati[1], Peter Bright[1]; [1]Anglia Ruskin University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A77 Neural correlates of preparation during context memory encoding in young and older adults
Jonathan Strunk[1], Audrey Duarte[1]; [1]Georgia Institute of Technology
Topic Area: LONG-TERM MEMORY: Episodic

Poster A78 EEG oscillations and value-based recognition memory
Blake Elliott[1], Chris Blais[1], Gene Brewer[1]; [1]Arizona State University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A79 Altered hippocampal-prefrontal oscillatory dynamics coordinating memory binding in two cases of developmental amnesia
Nicholas B. Diamond[1,2], Rosanna K. Olsen[2], Jennifer D. Ryan[1,2]; [1]University of Toronto, [2]Rotman Research Institute, Baycrest Health Sciences
Topic Area: LONG-TERM MEMORY: Episodic

Poster A80 Neural similarity patterns across repeated memory encoding are further influenced by the modality in which stimuli are presented
Carolin Sievers[1], Fraser W. Smith[1], Louis Renoult[1]; [1]University of East Anglia, UK
Topic Area: LONG-TERM MEMORY: Episodic

Poster A81 Hippocampal forgetting signals: the case of prior knowledge consistency
Niv Reggev[1], Talya Sadeh[2], Oded Bein[3], Anat Maril[4]; [1]Harvard University, [2]Ben Gurion University of the Negev, [3]New York University, [4]Hebrew University of Jerusalem
Topic Area: LONG-TERM MEMORY: Episodic

Poster A82 The effect of shared distinctiveness on source memory and illusory correlations: An event-related potential study
Michael Weigl[1], Hong Hanh Pham[1], Axel Mecklinger[1], Timm Rosburg[1,2]; [1]Saarland University, [2]University Psychiatric Clinics Basel
Topic Area: LONG-TERM MEMORY: Episodic

Poster A83 Self-referential memory and rest activity within the posteromedial cortex originate from different neuronal populations
Amy Daitch[1], Josef Parvizi[1]; [1]Stanford University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A84 Hippocampus is necessarily involved in recollection memory precision
Aneesha S Nilakantan[1], Donna J Bridge[1], John A Walker[1], Stephen A VanHaerents[1], Joel L Voss[1]; [1]Northwestern University Feinberg School of Medicine
Topic Area: LONG-TERM MEMORY: Episodic

Poster A85 Sensory stimulation during sleep to selectively strengthen memories: Sounds can be arbitrarily associated with visuo-spatial learning
Larry Cheng[1], James Antony[2], Paula Pacheco[2], Ken Norman[2], Ken Paller[1]; [1]Northwestern University, [2]Princeton University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A86 Rhythmic enhancement of visual long-term memory
Hunter A. Johndro[1], Lauren Jacobs[1], Aniruddh D. Patel[1], Elizabeth Race[1]; [1]Tufts University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A87 Frequency dependence of noninvasive brain stimulation effects on hippocampal-cortical networks
Molly S. Hermiller[1], Zainab Fatima[1], Jonathan O'Neil[1], Robert Palumbo[1], Stephen VanHaerents[1], Tommi Raij[1,2], Donna Bridge[1], Joel L. Voss[1]; [1]Northwestern University Feinberg School of Medicine, [2]Rehabilitation Institute of Chicago
Topic Area: LONG-TERM MEMORY: Episodic

Poster A88 Predicting Individual Differences in Learning and Memory By Measuring Limbic White Matter
Athanasia Metoki[1], Kylie H. Alm[1], Yin Wang[1], Ingrid R. Olson[1]; [1]Temple University, Department of Psychology
Topic Area: LONG-TERM MEMORY: Episodic

Poster A89 A Sad Mood Prior to Sleep is Sufficient to Enhance Sleep-Dependent Consolidation of Sad Memories
Mckensey Johnson[1], Holly Bowman[1], Gretta Johnson[1], Israh U. Imam[1], Anjelica E. Langdon[1], Carmen E. Westerberg[1]; [1]Texas State University
Topic Area: LONG-TERM MEMORY: Episodic

Poster A90 Structure-Function Correlates of Successful Associative Encoding – A Multimodal Imaging Approach.
Nina Becker[1,2], Grégoria Kalpouzos[2], Alireza Salami[2], Erika J. Laukka[2], Yvonne Brehmer[1,2]; [1]Otto Hahn Group on Associative Memory, Max Planck Institute for Human Development, Berlin, Germany, [2]Aging Research Center, Karolinska Institutet and Stockholm University, Stockholm, Sweden
Topic Area: LONG-TERM MEMORY: Episodic

Poster A91 Changes in Item Representations Following Category Learning
Stefania Ashby[1], Caitlin Bowman[1], Dagmar Zeithamova[1]; [1]University of Oregon
Topic Area: LONG-TERM MEMORY: Episodic

Poster A92 Schema-related predictions and their violations in episodic memory
Darya Frank[1], Daniela Montaldi[1], Bianca Wittmann[2], Deborah Talmi[1]; [1]University of Manchester, [2]University of Giessen
Topic Area: LONG-TERM MEMORY: Episodic

Poster A93 Galectin-3 is a novel negative regulator of memory formation
Hsiao-Yuan Lee[1,2], Yan-Chu Chen[2], Yun-Li Ma[1], Cheng-Hsiung Lin[1], Wei-Lun Hsu[1]; [1]Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan 115, [2]Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan 114
Topic Area: LONG-TERM MEMORY: Other

Poster A94 Age Related Changes in Neural Noise in the Default Mode Network
Nicole Dosamantes[1], Jorge Yanar[1], Lorri Kais[1], Hannah Walker[1], Mark Albert[1], Robert G Morrison[1]; [1]Loyola University Chicago
Topic Area: METHODS: Electrophysiology

Poster A95 Alpha-frequency transcranial alternating current stimulation (tACS) induces plastic increases in posterior-frontal network connectivity
Kevin Clancy[1], Sarah Baisley[1], Nika Kartvelishvili[1], Mingzhou Ding[2], Wen Li[1]; [1]Florida State University, [2]University of Florida - Gainesville

Topic Area: METHODS: Electrophysiology

Poster A96 Novel characterization of an architecturally distinct sleep stage and its implications for recovery from the minimally conscious state
Jackie L. Gottshall[1,2], Zoe M. Adams[1], Peter B. Forgacs[1,3,5], Tanya J. Nauvel[1,4], Nicholas D. Schiff[1,3,5]; [1]Feil Family Brain and Mind Research Institute, Weill Cornell Medicine, NY, [2]Neuroscience Program, Weill Cornell Graduate School of Medical Sciences, NY, [3]Department of Neurology, Weill Cornell Medicine, NY, [4]Computational Biology and Medicine Program, Weill Cornell Graduate School of Medical Sciences, NY, [5]The Rockefeller University, NY
Topic Area: METHODS: Electrophysiology

Poster A97 Age Related Changes in Neural Noise During Cognitive Control
Jorge Yanar[1], Nicole Dosamantes[1], Lorri Kais[1], Hannah Walker[1], Mark Albert[1], Robert G Morrison[1]; [1]Loyola University Chicago
Topic Area: METHODS: Electrophysiology

Poster A98 Cross-Frequency Coupling as a Biomarker of Human Cognitive Functions
Maria Mikail[1], Reza Zomorrodi[2,3], Zafiris J. Daskalakis[2,3,4], Tarek K. Rajji[2,3,4]; [1]Royal College of Surgeons, Dublin, Ireland, [2]Temerty Centre for Therapeutic Brain Intervention, Centre for Addiction and Mental Health, Toronto, Canada, [3]Schizophrenia Division, Centre for Addiction and Mental Health, Toronto, Canada, [4]Department of Psychiatry, University of Toronto, Toronto, Canada
Topic Area: METHODS: Electrophysiology

Poster A99 A statistical method for analyzing and comparing spatiotemporal cortical activation patterns
Patrick Krauss[1], Achim Schilling[1], Claus Metzner[1], Konstantin Tziridis[1], Holger Schulze[1]; [1]University of Erlangen
Topic Area: METHODS: Electrophysiology

Poster A100 A novel paradigm for rapid and simultaneous evaluation of auditory and visual pathways
Andrew S. Kessler[1], Kristina C. Backer[1], Laurel A. Lawyer[1], Sharon Coffey-Corina[1], David P. Corina[1], Lee M. Miller[1]; [1]University of California, Davis
Topic Area: METHODS: Electrophysiology

Poster A101 Emerging EEG/ERP Methods: New Potential for Tobacco Science
Mauricio Rangel-Gomez[1], Raul Cruz-Cano[1], Pamela Clark[1], Edward Bernat[2]; [1]School of Public Health, University of Maryland, College Park, [2]Department of Psychology, University of Maryland, College Park
Topic Area: METHODS: Electrophysiology

Poster A102 Distinct Neural Mechanisms for Correcting Increases and Decreases in Asynchrony During Sensorimotor Synchronization
Kelly Jantzen[1], Rachel Walls[1], McKaila Leytze[1], Elisabeth Amir-Brownstein[1], Andrew Jaye[1], Kathleen Lucier[1], Sarah Martinez[1], McNeel Jantzen[1]; [1]Western Washington University
Topic Area: PERCEPTION & ACTION: Motor control

Poster A103 Motor evoked potentials reflect changes in rapid inhibitory control during serial ordering
Lawrence P Behmer Jr.[1], Matthew J C Crump[1], K J Jantzen[2], Sarah Martinez[2], Rachel Walls[2], Elisabeth Amir-Brownstein[2], Andrew Jaye[2], Mckaila Leytze[2], Kathleen Lucier[2]; [1]Brooklyn College of CUNY, [2]Western Washington University
Topic Area: PERCEPTION & ACTION: Motor control

Poster A104 Cognitive interference modulates speech acoustics in a vowel-modified Stroop task
Caroline Niziolek[1], Ian Quillen[1], Kimberly Lin[1], Sara Beach[2], Swathi Kiran[1]; [1]Boston University, [2]Harvard Medical School
Topic Area: PERCEPTION & ACTION: Motor control

Poster A105 Response Inhibition Deficits Are Associated with Disrupted Intrinsic Connectivity of the Motor Network after Pediatric Traumatic Brain Injury
Jaclyn Stephens[1,2], Cindy Salorio[1,2], Mary Beth Nebel[1,2], Stewart Mostofsky[1,2], Stacy Suskauer[1,2]; [1]Kennedy Krieger Institute, [2]Johns Hopkins School of Medicine
Topic Area: PERCEPTION & ACTION: Motor control

Poster A106 Touchscreen-based speech production without vocal tract sensory feedback
Megan Thompson[1], John Houde[2], Hardik Kothare[2], Srikantan Nagarajan[2]; [1]UC Berkeley-UC San Francisco Joint Graduate Group in Bioengineering, [2]UCSF Biomagnetic Imaging Laboratory
Topic Area: PERCEPTION & ACTION: Motor control

Poster A107 A Causal Study of the Role of Motor Planning in Musical Beat Perception
Jessica Ross[1], John Iversen[2], Ramesh Balasubramaniam[1]; [1]University of California, Merced, [2]University of California, San Diego
Topic Area: PERCEPTION & ACTION: Motor control

Poster A108 Sensorimotor adaptation to real-time formant shifts is influenced by the direction and magnitude of shift.
Hardik Kothare[1], Vikram Ramanarayanan[2], Benjamin Parrell[3], Srikantan Nagarajan[1], John Houde[1]; [1]University of California, San Francisco, [2]Educational Testing Service R&D, [3]University of Delaware
Topic Area: PERCEPTION & ACTION: Motor control

Poster A109 The effect of deep brain stimulation of the subthalamic nucleus in Parkinson's disease on perceptual decision-making as a function of task difficulty and speed-accuracy instructions
Yu-Ting Huang[1], Saryah Alhejazi[1], Artem Bunchuk[1], Dilan Athauda[1,2], Marwan Hariz[1,2], Ludvic Zrinzo[2], Tom Foltynie[1,2], Patricia Limousin[1,2], Maarten Speekenbrink[1], Marjan Jahanshahi[1]; [1]University College London, [2]National Hospital for Neurology and Neurosurgery
Topic Area: PERCEPTION & ACTION: Motor control

Poster A110 Have a little faith in … your predictions: The development of confidence with proficiency in a time-estimation task - insights from feedback-related brain potentials
Romy Frömer[1], Werner Sommer[1], Birgit Stürmer[2], Nick Yeung[3]; [1]Humboldt-Universität zu Berlin, [2]International Psychoanalytic University, [3]University of Oxford
Topic Area: PERCEPTION & ACTION: Motor control

Poster A111 Neural correlates of aesthetic ratings of calligraphic characters and scenery photos in experts and novices of Chinese calligraphy.
Denise H. Wu[1], Makayla S. Chen[1], Teresa K. Pegors[2], Daisy L. Hung[1,3], Ovid J.-L. Tzeng[3,4]; [1]National Central University, Taiwan, [2]Azusa Pacific University, USA, [3]Taipei Medical University, Taiwan, [4]National Chiao Tung University, Taiwan
Topic Area: PERCEPTION & ACTION: Vision

Poster A112 On events and features: An ERP study on sequence effects in a choice/nogo Simon task
Edmund Wascher[1], Katharina Hoppe[1]; [1]IfADo - Leibniz Research Centre for Working Environment and Human Factors
Topic Area: PERCEPTION & ACTION: Vision

Poster A113 Atypical laterality in visual sensory activation and interhemispheric transfer in Autism Spectrum Disorders
Yukari Takarae[1], Won Suk Song[1], Clifford Saron[2]; [1]Center for Autism and Developmental Disabilities, UT Southwestern, [2]Center for Mind and Brain and M.I.N.D. Institute, UC Davis
Topic Area: PERCEPTION & ACTION: Vision

Poster A114 Aesthetic appreciation of cultural artifacts engages additional processes beyond a core domain-general system
Edward Vessel[1], Ilkay Isik[1], Amy Belfi[2], Jonathan Stahl[3], G. Gabrielle Starr[2]; [1]Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Germany, [2]New York University, New York, NY, [3]Ohio State University, Columbus, OH
Topic Area: PERCEPTION & ACTION: Vision

Poster A115 Interplay between early visual sensory processing impairments and glutathione dysregulation in early-phase psychosis.
Chrysa Retsa[1], Jean-François Knebel[1,2], Carina Ferrari[3], Raoul Jenni[3], Margot Fournier[3], Michel Cuenod[3], Stephanie Clarke[1], Philippe Conus[4], Kim Q. Do[3], Micah M. Murray[1,2,5,6]; [1]The Laboratory for Investigative Neurophysiology (The LINE), Lausanne University Hospital (CHUV), Lausanne, Switzerland, [2]The EEG Brain Mapping Core, Center for Biomedical Imaging (CIBM), Ecole Polytechnique Fédérale de Lausanne, Switzerland, [3]Center for Psychiatric Neuroscience, Department of Psychiatry, Lausanne University Hospital (CHUV), Lausanne, Switzerland, [4]Service of General Psychiatry, Department of Psychiatry, Lausanne University Hospital (CHUV), Lausanne, Switzerland, [5]Department of Hearing and Speech Sciences, Vanderbilt University, Nashville, TN, USA, [6]Department of Hearing and Speech Sciences, Vanderbilt University, Nashville, TN, USA
Topic Area: PERCEPTION & ACTION: Vision

Poster A116 Behavioral Oscillations in Perceptual Organization
Gideon Caplovitz[1], Gennady Erlikhman[1]; [1]Department of Psychology, University of Nevada Reno
Topic Area: PERCEPTION & ACTION: Vision

Poster A117 Magnocellular-parvocellular pathway reciprocity in visual processing and the trait-like set point modulated by anxiety
Yuqi You[1], Wen Li[1]; [1]Florida State University
Topic Area: PERCEPTION & ACTION: Vision

Poster A118 Dissociating neural activity related to subjective visibility and objective performance with simultaneous EEG/fMRI
Jason Samaha[1], Joshua LaRocque[1], Olivia Gosseries[1], Giulio Tononi[1], Bradley Postle[1]; [1]University of Wisconsin-Madison
Topic Area: PERCEPTION & ACTION: Vision

Poster A119 Individualized alpha-band rTMS to the inferior frontal junction selectively enhances visual search performance
Bruce Luber[1], Greg Appelbaum[2], Lysianne Beynel[2], Sara H Lisanby[1]; [1]National Institute of Mental Health, [2]Duke University
Topic Area: PERCEPTION & ACTION: Vision

Poster A120 Evaluation of the N1 as an Electrophysiological Marker of Surround Suppression in Healthy Adults
Lisa Levinson[1], Lauren C. Shuffrey[1,2,3,4], Heather L Green[1], Dayna Moya Sepulveda[1], Grace Pak[1], Alexis Becerra[1], Karen Froud[1]; [1]Teachers College, Columbia University, [2]Columbia University Medical Center, [3]New York State Psychiatric Institute, [4]Center for Autism and the Developing Brain
Topic Area: PERCEPTION & ACTION: Vision

Poster A121 Tracking the Time Course of Visual Prediction: Graded Effects of Preactivation Shift Earlier Given Extended Preview Time
Cybelle Smith[1], Kara D. Federmeier[1]; [1]University of Illinois, Urbana-Champaign
Topic Area: LONG-TERM MEMORY: Priming

Poster A122 Vocabulary learning benefits from REM after slow-wave sleep
Laura Batterink[1], Carmen Westerberg[2], Ken Paller[1]; [1]Northwestern University, [2]Texas State University
Topic Area: LONG-TERM MEMORY: Semantic

Poster A123 Becoming a Martian archeologist: Motor interference affects conceptual judgments of learned vs. unlearned tools
Heath Matheson[1], Sharon L. Thompson-Schill[1]; [1]Department of Psychology, University of Pennsylvania
Topic Area: LONG-TERM MEMORY: Semantic

Poster A124 Neural Correlates for Trait Memory Differences
Marc N Coutanche[1], Griffin Koch[1]; [1]University of Pittsburgh
Topic Area: LONG-TERM MEMORY: Semantic

Poster A125 Influence of confirmed and violated expectations on recognition confidence in a semantic retrieval task
Alexandra M. Gaynor[1], Elizabeth F. Chua[1,2]; [1]The Graduate Center, The City University of New York, [2]Brooklyn College, The City University of New York
Topic Area: LONG-TERM MEMORY: Semantic

Poster A126 Using ERPs to Dissociate the Neurocognitive Processes Underlying Knowledge Extension through Memory Integration in Adults
Nicole L. Varga[1], Patricia J. Bauer[1]; [1]Emory University
Topic Area: LONG-TERM MEMORY: Semantic

Poster A127 Abstract representations of object directed action in the left inferior parietal lobule
Quanjing Chen[1], Frank E. Garcea[1], Robert A. Jacobs[1], Bradford Z. Mahon[1]; [1]University of Rochester
Topic Area: LONG-TERM MEMORY: Semantic

Poster A128 Memantine's Effects on the Reconsolidation of Long-term Methamphetamine Associated Memories
Michael Hanna[1], Paige Braden[1], Brittanie Clarke[1], Hunter Goehring[1]; [1]Vanguard University
Topic Area: LONG-TERM MEMORY: Semantic

Poster A129 The concreteness effect from memory illusions' perspective: The HA-DIM Effect
Alejandro Marin-Gutierrez[1], Emiliano Diez Villoria[2], Angel Fernandez Ramos[2]; [1]Universidad de La Sabana, [2]Universidad de Salamanca- INICO
Topic Area: LONG-TERM MEMORY: Semantic

Poster A130 Lateralization in Superior Temporal Sulcus Animal Representations: Motion and Social-Interactive Roles
nadeem dabbakeh[1], Tyler Davis[1]; [1]Texas Tech University
Topic Area: LONG-TERM MEMORY: Semantic

Poster A131 Busyness and brain structure: Middle-aged adults show strongest relationship between busyness and cortical thickness
Sara B. Festini[1], Xi Chen[1], Denise C. Park[1]; [1]University of Texas at Dallas
Topic Area: OTHER

Poster A132 Group-to-individual (G2i) inferences in neuropsychological expert testimony: How the legal system understands averaged brain data
Valerie Hardcastle[1], MK Kitzmiller[1], Shelby Lahey[1]; [1]University of Cincinnati
Topic Area: OTHER

Poster A133 Primary Learning and Secondary Learning are reciprocally woven to develop human intelligence
Rose Ru-Whui Lee[1,2], Daisy Lan Hung[3], Ovid Jyh-Lang Tzeng[1,2,4]; [1]National Taiwan Normal University, [2]Academia Sinica, [3]Taipei Medical University, [4]National Chiao Tung University
Topic Area: OTHER

Poster A134 Intraparietal sulcus codes for auditory quantities
Shipra Kanjlia[1], Lisa Feigenson[1], Marina Bedny[1]; [1]Johns Hopkins University
Topic Area: OTHER

Poster A135 Levels of Mental Construal Involved in Processing Abstract and Representational Art
Celia Durkin[1], Eileen Hartnett[2], Eric Kandel[3], Daphna Shohamy[4]; [1]University of California, San Diego, [2]Columbia University, [3]Columbia University, [4]Columbia University
Topic Area: OTHER

Poster A136 Automated meta-analysis of event-related potentials and their correlates through text-mining
Thomas Donoghue[1], Bradley Voytek[1]; [1]University of California, San Diego
Topic Area: OTHER

Poster A137 Older adults at-risk for developing MCI show changes in brain signal complexity: A multiscale entropy analysis
Joshua W. Villafuerte[1,2], Rachel N. Newsome[1,2], Sarah M. Carpentier[1,2], Morgan D. Barense[1,2], Jennifer D. Ryan[1,2], Cheryl L. Grady[1,2]; [1]University of Toronto, [2]Rotman Research Institute at Baycrest
Topic Area: OTHER

Poster A138 Are there ripple effects from focal brain lesions to intact neural tissue?
Yuan Tao[1], Jeremy Purcell[1], Brenda Rapp[1]; [1]Johns Hopkins University
Topic Area: OTHER

Poster A139 Transcriptome analysis identifies blood biomarkers in the middle cerebral artery occlusion non-human stroke model
Sung S. Choi[1], Eui-Jin Lee[2], Sang-Hoon Cha[3], Sang-Rae Lee[4], Kyung Sik Yi[3], Da H. Kim[1], So H. Kim[1], Joo L. Park[1], Youngjeon Lee[4], Kyu-Tae Chang[4], Hong J. Lee[1]; [1]Biomedical Research Institute, Chung-Ang University College of Medicine, Seoul, Korea, [2]Institute of Catholic Integrative Medicine (ICIM), Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Incheon, Korea, [3]Department of Radiology, Chungbuk National University Hospital, Chungbuk, Republic of Korea, [4]National Primate Research Center, Korea Research Institute of Bioscience and Biotechnology, Chungju, Chungbuk, Korea
Topic Area: OTHER

Poster Session B

Poster B1 Cardiac Measures of Autonomic Arousal are Associated with ERP Measures of Selective Attention in Children and Adults
Ryan Giuliano[1], Christina Karns[1], Theodore Bell[1], Leslie Roos[1], Seth Petersen[1], Elizabeth Skowron[1], Helen Neville[1], Eric Pakulak[1]; [1]University of Oregon
Topic Area: ATTENTION: Auditory

Poster B2 Attention sharpens prediction error, prediction determines behavior
Alessandro Tavano[1], David Poeppel[1,2]; [1]Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, [2]New York University
Topic Area: ATTENTION: Auditory

Poster B3 Spectral analysis of passive listening EEG paradigms reveals consistent patterns of activation in severely brain-injured patients
Zoe M. Adams[1], William H. Curley[1], Mary M. Conte[1], Nicholas D. Schiff[1,2,3]; [1]Feil Family Brain and Mind Research Institute, Weill Cornell Medicine, NY, [2]Department of Neurology, Weill Cornell Medicine, NY, [3]The Rockefeller University, NY
Topic Area: ATTENTION: Auditory

Poster B4 Long-term memory guides auditory spatial attention: An event-related potential study
Jacqueline Zimmermann[1,2], Claude Alain[1,2], Morris Moscovitch[1,2]; [1]University of Toronto, [2]Rotman Research Institute, Baycrest
Topic Area: ATTENTION: Auditory

Poster B5 The effects of 24-hour sleep deprivation on ERP indices of selective attention and working memory
Malayka Mottarella[1], Eve Wiggins[1], Seth Eggleston[1], Kendra Good[1], Ryan Giuliano[2], Courtney Stevens[1]; [1]Willamette University, [2]University of Oregon
Topic Area: ATTENTION: Auditory

Poster B6 A Mobile Cognition Approach To Attention: Exploring Modulations Of P300 Event-Related Potentials In The Real-World
Simon Ladouce[1], David I. Donaldson[1], Paul Dudchenko[1], Magdalena Ietswaart[1]; [1]University of Stirling, Scotland (UK)
Topic Area: ATTENTION: Auditory

Poster B7 Temporal Expectation Weights Visual Signals Over Auditory Signals
Marcia Grabowecky[1], Melisa Menceloglu[1], Satoru Suzuki[1]; [1]Northwestern University
Topic Area: ATTENTION: Multisensory

Poster B8 Attention to detail predicts adaptation to statistics of sensory environment
Jennifer K. Toulmin[1], Ryan A. Stevenson[2,3], Ariana Youm[1], Samantha Schulz[2,3], Morgan D. Barense[1,4], Susanne Ferber[1,4]; [1]University of Toronto, [2]Western University, [3]Brain and Mind Institute, [4]Rotman Research Institute at Baycrest
Topic Area: ATTENTION: Multisensory

Poster B9 Task instruction modulates alpha band event-related spectral perturbation to ambiguously located auditory stimuli
Daniel M. Roberts[1], Craig G. McDonald[1], Carryl L. Baldwin[1]; [1]George Mason University
Topic Area: ATTENTION: Multisensory

Poster B10 An attentional mechanism for minimizing cross-modal distraction
Lauren Grant[1], Daniel Weissman[1]; [1]University of Michigan
Topic Area: ATTENTION: Multisensory

Poster B11 The effects of cross-modal processing on attentional asymmetries during visual search in right-hemispheric patients with and without neglect
Rebecca E. Paladini[1], Sonja Kesselring[1], Julia Frey[1,2], Flurin Feuerstein[1], Urs P. Mosimann[1,4], Tobias Nef[1], Thomas Nyffeler[1,2], René M. Müri[1,3], Dario Cazzoli[1]; [1]University of Bern, Bern, Switzerland, [2]Luzerner Kantonsspital, Luzern, Switzerland, [3]Inselspital, University Hospital Bern, and University of Bern, Bern, Switzerland, [4]Private Hospital Wyss, Münchenbuchsee, Switzerland
Topic Area: ATTENTION: Multisensory

Poster B12 Spatial attentional asymmetries in a cross-modal visual search task and the role of the frontal eye field
Dario Cazzoli[1], Rebecca E. Paladini[1], Lorenzo Diana[1], Giuseppe Zito[2], Urs P. Mosimann[1,3], Thomas Nyffeler[1,4], René M. Müri[1,5], Tobias Nef[1]; [1]University of Bern, Bern, Switzerland, [2]Imperial College, London, United Kingdom, [3]Private Hospital Wyss, Münchenbuchsee, Switzerland, [4]Luzerner Kantonsspital, Luzern, Switzerland, [5]Inselspital, University Hospital Bern, and University of Bern, Bern, Switzerland
Topic Area: ATTENTION: Multisensory

Poster B13 Dissociations between neural responses to external visual and auditory stimuli as a result of internal visual and auditory mind-wandering
Sophie Forster[1], Charlotte Kemp[1], Giulia Poerio[2], Ben Dyson[1]; [1]University of Sussex, UK, [2]University of York, UK
Topic Area: ATTENTION: Multisensory

Poster B14 Effects of acute stress on intertemporal choice and altruism in younger and older adults
Erika P. Sparrow[1], Bonnie A. Armstrong[1], Julia Spaniol[1]; [1]Ryerson University
Topic Area: EMOTION & SOCIAL: Development & aging

Poster B15 Interoceptive sensitivity is associated with affect, personality, and memory in older adults
Marcus Haustein[1], Natalie Denburg[1]; [1]University of Iowa
Topic Area: EMOTION & SOCIAL: Development & aging

Poster B16 The effects of aging on false-belief reasoning abilities: an EEG study with older and younger adults
Elisabeth E.F. Bradford[1], Victoria E.A. Brunsdon[1], Heather Ferguson[1]; [1]University of Kent, U.K.
Topic Area: EMOTION & SOCIAL: Development & aging

Poster B17 Structural Connectivity between the Left Basal Ganglia and Left Insula Predicts Initiation of Substance Use in Adolescence
Kelly C. Martin[1], Katherine O'Connell[2], Valerie L. Darcey[1,2], Emma J. Rose[3], Diana H. Fishbein[3], John W. VanMeter[1]; [1]Georgetown University, Center for Functional and Molecular Imaging, Washington, DC, [2]Georgetown University, Interdisciplinary Program in Neuroscience, Washington, DC, [3]The Pennsylvania State University, University Park, PA
Topic Area: EMOTION & SOCIAL: Development & aging

Poster B18 STRESS-MEDIATED ALTERATIONS OF AMYGDALAR ACTIVATION AND CORTICAL NETWORK COHERENCE ASSOCIATED WITH SEROTONIN TRANSPORTER POLYMORPHISMS
David Beversdorf[1], Neetu Nair[1], John Hegarty[1,2], Katherine Lane[1], Bradley Ferguson[1], Patrick Hecht[1], Michael Tilley[3], Jeffrey Johnson[1], Shawn Christ[1]; [1]University of Missouri, [2]Stanford University, [3]Central Methodist University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B19 Everyday moral reasoning: the role that persons play in the neural processing of social and non-social events that elicit gratitude or distress
Christina Karns[1]; [1]University of Oregon
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B20 Early frontal responses to emotional valence in an Affective Go-NoGo task: Theta-band changes in ventral ACC
Mario Liotti[1], Killian Kleffner[1], Ashley C Livingstone[1], Megan Liau[1]; [1]Simon Fraser University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B21 Anodal Transcranial Direct Current Stimulation over Right Dorsolateral Prefrontal Cortex Alters Decision Making During Approach-Avoidance Conflict
Evangelia G. Chrysikou[1], Claire Gorey[2], Robin L. Aupperle[3,4]; [1]University of Kansas, [2]University of South Florida, [3]Laureate Institute for Brain Research, [4]University of Tulsa
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B22 Emotional Response Inhibition in Healthy Older and Younger Adults
Jill Waring[1], Taylor Greif[1], Manon Masson[1], Kenzie Dye[1], Michael Hase[1]; [1]Saint Louis University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B23 Experience sampling of emotional states induced during Pavlovian fear conditioning
Daniel Stjepanović[1], Kevin S. LaBar[1]; [1]Center for Cognitive Neuroscience & Dept of Psychology and Neuroscience, Duke University, Durham, NC, USA
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B24 The role of the medial prefrontal cortex (mPFC) in the generalization of conditioned fear
Kelsey Spalding[1]; [1]University of Iowa
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B25 Neural Activation Accompanying Emotional Judgments of Faces by Latino Youth-At-Risk for Bipolar Disorder
Kareem Al-Khalil[1], Hugo Sandoval[2], Michael Escamilla[2], Karl Kashfi[3], Luis Ramos-Duran[2], Ivette Noriega[1], Desiree Walisky[1,3], Ravi Rajmohan[3], Michael O'Boyle[1,3]; [1]Texas Tech University, Lubbock, [2]Texas Tech University Health Sciences Center Paul L. Foster School of Medicine, El Paso, [3]Texas Tech University Health Sciences Center, Lubbock
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B26 Tempo of Self-Selected Happy Music on Posterior to Frontal Theta Asymmetry
Christine Rapadas Jimenez[1], Trevor C. J. Jackson[1], Mark W. Geisler[1]; [1]San Francisco State University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B27 Effects of intelligence mindset on performance are mediated by dlPFC and caudate
Christina Bejjani[1], Samantha DePasque[2], Jamil Bhanji[3], Elizabeth Tricomi[3]; [1]Duke University, [2]UCLA, [3]Rutgers University, Newark
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B28 Age Differences in the Neural Correlates of Selective Memory for Emotion: An Event-Related Potential Study
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Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster B29 Sleep deprivation impairment of flexible attentional control is dependent on dopaminergic genotype
Paul Whitney[1], John Hinson[1], Brieann Satterfield[1], Hans Van Dongen[1]; [1]Washington State University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B30 Activity flows over task-evoked networks shape cognitive task activations across task switches
Michael Cole[1], Takuya Ito[1], Douglas Schultz[1], Ravi Mill[1]; [1]Rutgers University-Newark
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B31 Dissociable Patterns of PFC-Cerebellum Connectivity WIth Implications for Hierarchical Models of Executive Function
Joseph Orr[1], Bryan Jackson[1], Jessica Bernard[1]; [1]Texas A&M University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B32 Evolutionary Purpose Of A Left-Lateralized Task-Switch Mechanism: Insight From A Novel Behavioral Procedure
Nicole M Bowlsby[1], Barbara J Rutherford[1]; [1]University of British Columbia Okanagan
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B33 Inflexible Cognitive Control Processes in Children with Autism Spectrum Disorder
Jeremy Hogeveen[1], Matthew Elliott[1], Christine Wu Nordahl[1], Marie K Krug[1], Marjorie Solomon[1]; [1]University of California-Davis
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B34 Differential conflict adaptation between cognitive control and sentence comprehension versus production
Malathi Thothathiri[1], Daniel Evans[1]; [1]The George Washington University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B35 Investigating the Functional Structure and Dynamics of the Prefrontal Cortex
Savannah Cookson[1,2], Eric Schumacher[1]; [1]Georgia Institute of Technology, [2]University of California, Berkeley
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B36 Assessing the role of norepinephrine in attentional flexibility: A pupillometry study
Rebecca D. Calcott[1], Jason Hubbard[1], Elliot T. Berkman[1]; [1]University of Oregon
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B37 Knowledge of temporal delay instantiates distinct neural pathways for proactive cognitive control
Jacqueline Janowich[1], James Cavanagh[1]; [1]University of New Mexico
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B38 Reward identity prediction error signaling in human orbitofrontal cortex
James D. Howard[1], Thorsten Kahnt[1]; [1]Northwestern University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster B39 Self-Monitoring after Traumatic Brain Injury
Leslie Burton[1]; [1]University of Connecticut
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B40 Predictors of metacognition in dreaming and waking: State versus trait factors
Tracey Kahan[1], Birgit Koopmann-Holm[1]; [1]Santa Clara University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B41 Modulation of Event-related Potential Markers of Sustained Response Inhibition in Intensive Meditation Training
Anthony P. Zanesco[1,2], Brandon G. King[1,2], Chivon E. Powers[2], Kezia R. Wineberg[2], Rosanna De Meo[2], Clifford D. Saron[2]; [1]University of California, Davis, [2]UC Davis Center for Mind and Brain
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B42 EEG Reveals Deficits in Cognitive Control Following Brain Injury
James Cavanagh[1], James Broadway[1], Kevin Wilson[1], Rebecca Rieger[1], Andrew Mayer[2]; [1]University of New Mexico, [2]Mind Research Network
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B43 ERP Evidence for Conflict in Contingency Learning
Chris Blais[1], Peter S Whitehead[2], Gene A Brewer[1]; [1]Arizona State University, [2]Duke University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B44 Tip-of-the-Tongue States Enhance Processing to Feedback
Janet Metcalfe[1], Paul A. Bloom[1], Judy Xu[1], Matti Vuorre[1], David Friedman[1]; [1]Columbia University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B45 Model-based differentiation of networks of reward and impulsivity in cannabis use disorders
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Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B46 Cortical markers show differences in areas sustaining inhibitory control between children and adults
Marine Moyon[1], Katell Mevel[1], Lisa Delalande[1], François Orliac[1], Sonia Dollfus[2,3], Olivier Houdé[1,4], Carole Peyrin[5], Wim De Neys[1], Nicolas Poirel[1,4], Grégoire Borst[1], Gregory Simon[1]; [1]LaPsyDÉ, UMR 8240, CNRS, Université Paris Descartes, Université de Caen Normandie, France, [2]ISTS, UMR 6301, CNRS, CEA, Caen, France, [3]CHU de Caen, Service de Psychiatrie, Centre Esquirol, Caen, France, [4]Institut Universitaire de France (IUF), Paris, [5]LPNC, UMR 5105, CNRS, Université Pierre Mendès France, France
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B47 Bilingualism, Self-Control, and Impulsivity do not Predict Flanker, Simon, or Stroop-Like Interference: Gender Does
Kenneth Paap[1], Regina Anders[1], Roman Mikulinsky[1], Shigeaki Masuda[1], Rodriguez Gersom[1], Mason Lauren[1]; [1]San Francisco State University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster B48 Prefrontal dopamine metabolism predicts neurostimulation-linked working memory training gains
Kevin Jones[1,2], Jaclyn Stephens[1,3], Marian Berryhill[1]; [1]University of Nevada, Reno, [2]Georgetown University Medical Center, [3]Kennedy Krieger Institute
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B49 Interacting long-range networks govern control over working memory
Elizabeth L. Johnson[1], Callum D. Dewar[1,2], Anne-Kristin Solbakk[3], Tor Endestad[3], Torstein R. Meling[3], Robert T. Knight[1]; [1]University of California, Berkeley, [2]University of Illinois, [3]University of Oslo
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B50 Decoding the content and the rule during visuomotor working memory
Romain Quentin[1], Jean-Remi King[2], Etienne Sallard[1], Nathan Fishman[1], Ethan Buch[1], Ryan Thompson[1], Leonardo Cohen[1]; [1]National Institute of Neurological Disorders and Stroke (NINDS/NIH), [2]New York University (NYU)
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B51 More power to complexity: event-related desynchronization in the alpha-band responds to complexity and not numerosity of objects in visual working memory (VWM)
Shriradha Geigerman[1], Anthony V McVey[1], Alexandria B Cook[2], Haoxiang Yang[3]; [1]Georgia Institute of Technology, [2]Georgia State University, [3]Northwestern University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B52 Working memory capacity related to dorsolateral prefrontal activity in monkeys
Hua Tang[1], Xue-Lian Qi[1], Mitchell Riley[1], Christos Constantinidis[1]; [1]Wake Forest School of Medicine
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B53 Abnormal brain network activity underlying internal speech in schizophrenia
Nicole Sanford[1,2], Todd Woodward[1,2]; [1]University of British Columbia, [2]BC Children's Hospital Research Institute
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B54 Selective Attention and Load Effects in Parietal Cortex: A complex picture of working memory
Brandee Feola[1], Donald J. Bolger[1,2], Toby Hamovitz[3], Lesley Sand[1], Amber M. Sprenger[3], Sharona M. Atkins[1,2], Michael R. Dougherty[3]; [1]Human Development and Quantitative Methodology Deparment, University of Maryland, College Park, [2]Department of Neuroscience and Cognitive Sciences Department, University of Maryland, College Park, [3]Psychology Department, University of Maryland, College Park
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B55 Top-down modulation of threatening representations in visual working memory
Bo-Cheng Kuo[1], Yei-Yu Yeh[1]; [1]National Taiwan University, Taiwan
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B56 Three-Dimensional MOT task as an assessment tool for attention and working memory: a comparison with traditional measures
Chiara Perico[1,2], Jocelyn Faubert[3], Armando Bertone[1,2,4]; [1]Perceptual Neuroscience Laboratory for Autism and Development, [2]School/Applied Child Psychology, Department of Education and Counselling Psychology, McGill University, [3]Laboratoire de psychophysique et de perception visuelle, École d'optométrie, Université de Montréal, [4]Human Development, Department of Education and Counselling Psychology, McGill University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster B57 Leveraging the Test Effect to Improve Maintenance of the Gains Achieved Through Cognitive Rehabilitation
Rhonda Friedman[1], Sarah Snider[1], Kevin Jones[1]; [1]Georgetown University
Topic Area: LANGUAGE: Other

Poster B58 Network-level analysis of language abilities in chronic aphasia
And Turken[1], Timothy Herron[1], Brian Curran[1], Krista Parker[1], Juliana Baldo[1], Nina Dronkers[1]; [1]VA Northern California Health Care System, Medical Research, [2]UC Davis Medical School
Topic Area: LANGUAGE: Other

Poster B59 Attentional Control during Language Comprehension: Connecting Brain to Behavior
Megan Boudewyn[1], Cameron Carter[1]; [1]University of California, Davis
Topic Area: LANGUAGE: Other

Poster B60 The influence of dialogue context on the relationship between language production and comprehension
Kaitlyn Litcofsky[1], Janet van Hell[1]; [1]Pennsylvania State University
Topic Area: LANGUAGE: Other

Poster B61 Neural correlates of word frequency effects in bilinguals
Myriam Oliver[1], Manuel Carreiras[1,2], Pedro M. Paz-Alonso[1]; [1]BCBL. Basque Center on Cogntion, Brain and Language, [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain.
Topic Area: LANGUAGE: Other

Poster B62 Language experience and phonological rule modulate pre-attentive lexical tone perception
Wen-Jui Kuo[1], Claire H. C. Chang[1], Tzu-Hui Lin[1]; [1]Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan
Topic Area: LANGUAGE: Other

Poster B63 Using fNIRS to Investigate Speech-Language Tasks
Nicholas Wan[1], Allison Hancock[1], Ronald Gillam[1]; [1]Utah State University
Topic Area: LANGUAGE: Other

Poster B64 Violating linguistic prediction in musicians and non-musicians
Allison R. Fogel[1], Edward W. Wlotko[1], Gina R. Kuperberg[1,2,3], Aniruddh D. Patel[1]; [1]Tufts University, [2]MGH/HST Athinoula A. Martinos Center for Biomedical Imaging, [3]Massachusetts General Hospital
Topic Area: LANGUAGE: Other

Poster B65 ERP Measures of Anodal Transcranial Direct Current Stimulation Effects on Second Language Vocabulary Acquisition
He Pu[1], Sarah Perlo[1], Katherine Gawlas[1], Joshua Manning[1], Marianna Eddy[1,2], Katherine J. Midgley[3], Phillip J. Holcomb[1,3]; [1]Tufts University, [2]U.S Army Natick Soldier Research, Development, and Engineering Center, [3]San Diego State University
Topic Area: LANGUAGE: Other

Poster B66 Visual cortex entrains to low-frequency amplitude variability in sign language
Geoffrey Brookshire[1], Jenny Lu[1], Howard Nusbaum[1], Susan Goldin-Meadow[1], Daniel Casasanto[1]; [1]The University of Chicago
Topic Area: LANGUAGE: Other

Poster B67 ERP correlates of early phonological processing in deaf and hearing readers: Do they reflect the same underlying mechanisms?
Eva Gutierrez[1,2], Marta Vergara[1], Eva Rosa[3], Ana Marcet[1], Amelia Maña[1], Manuel Perea[1]; [1]University of Valencia, Spain, [2]University College London, [3]Catholic University of Valencia San Vicente Mártir
Topic Area: LANGUAGE: Other

Poster B68 Cortical plasticity of sentence processing after classroom-based training experience
Zhenghan Qi[1], Michelle Han[1], Jennifer Minas[1], Amy Finn[2], John Gabrieli[1]; [1]Massachusetts Institute of Technology, [2]University of Toronto
Topic Area: LANGUAGE: Other

Poster B69 The brain dissociates between different levels of prediction during language comprehension
Gina R. Kuperberg[1,2,3,4], Edward W. Wlotko[1,5], Simone J. Riley[1], Margarita Zeitlin[1], Maria Luiza Cuhna-Lima[1]; [1]Tufts University, [2]Massachusetts General Hospital, [3]Athinoula A. Martinos Center for Biomedical Imaging, [4]Harvard Medical School, [5]Moss Rehabilitation Research Institute
Topic Area: LANGUAGE: Semantic

Poster B70 Cerebral Asymmetries in Metaphor Comprehension: Examining the Influence of Task
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Topic Area: LANGUAGE: Semantic

Poster B71 Motor cortex in figurative language comprehension: a TMS study
Yury Shtyrov[1,2], Elena Kulkova[2], Matteo Feurra[2], Andriy Myachykov[2,3]; [1]Aarhus University, Denmark, [2]NRU Higher School of Economics, Moscow, [3]Northumbria University, Newcastle upon Tyne
Topic Area: LANGUAGE: Semantic

Poster B72 Lesion Analysis of Single-Word Auditory Comprehension in 109 Patients
Juliana Baldo[1], Carl Ludy[1], Brian Curran[1], And Turken[1], Nina Dronkers[1,2]; [1]VA Northern California Health Care System, [2]University of California, Davis
Topic Area: LANGUAGE: Semantic

Poster B73 Linguistic and Non-Linguistic Semantic Processing in Individuals with Autism Spectrum Disorders: An ERP Study
Emily Coderre[1], Mariya Chernenok[1,2], Barry Gordon[1,3], Kerry Ledoux[1]; [1]Cognitive Neurology/Neuropsychology, Department of Neurology, The Johns Hopkins University School of Medicine, [2]Center for Mind and Brain, University of California, Davis, [3]Department of Cognitive Science, The Johns Hopkins University
Topic Area: LANGUAGE: Semantic

Poster B74 The impact of minimal context on predictions generated during sentence comprehension
Edward W. Wlotko[1,2], Bram Vandekerckhove[2], Connie Choi[2], Minjae Kim[2,4], Gina R. Kuperberg[2,3,4,5]; [1]Moss Rehabilitation Research Institute, [2]Tufts University, [3]Massachusetts General Hospital, [4]Athinoula A. Martinos Center for Biomedical Imaging, [5]Harvard Medical School
Topic Area: LANGUAGE: Semantic

Poster B75 The effects of aphasia on nonverbal counting tasks
Alexander Kranjec[1,2], John Verbos[1], Sarah Wallace[1]; [1]Duquesne University, [2]Carnegie Mellon University
Topic Area: LANGUAGE: Semantic

Poster B76 Pragmatic humor influences semantic prediction and conflict resolution in online comprehension: Evidence from ERPs
Megan Zirnstein[1], Amy Kinsey[2], Rhonda McClain[2], Sybrine Bultena[3], Dorothee Chwilla[3], Judith F. Kroll[1,2]; [1]University of California, Riverside, [2]Pennsylvania State University, [3]3Donders Institute for Brain, Cognition, and Behaviour, Radboud University, Nijmegen
Topic Area: LANGUAGE: Semantic

Poster B77 Precursors and Processes of Prediction: A Word-Stem Completion ERP Study
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Topic Area: LANGUAGE: Semantic

Poster B78 Neurocognitive effects of sentential constraint in visual word recognition
Nyssa Bulkes[1], Darren Tanner[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Semantic

Poster B79 Harry Potter and the Chamber of WHAT?: Real-time semantic access is a function of the individual's knowledge
Melissa Troyer[1], Marta Kutas[1]; [1]University of California, San Diego
Topic Area: LANGUAGE: Semantic

Poster B80 Adult Second Language Learning and Semantic Integration as Revealed by EEG and Eye-tracking
Kiera O'Neil[1], Ana Zappa[2], Jean-Marie Pergandi[2], Aaron Newman[1], Daniel Mestre[2,3], Cheryl Frenck-Mestre[2,3]; [1]Dalhousie, [2]Aix Marseille Université, [3]Centre National de la Recherche Scientifique
Topic Area: LANGUAGE: Semantic

Poster B81 Representational similarity in the brain and computational language processing: New clues about the neural encoding of word meaning.
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Topic Area: LANGUAGE: Semantic

Poster B82 A neurocomputational model of lexical-semantic memory based on feature representation of concepts
Cristiano Cuppini[1], Eleonora Catricalà[2], Elisa Magosso[1], Stefano Cappa[2], Mauro Ursino[1]; [1]University of Bologna, Italy, [2]IUSS, Pavia, Italy
Topic Area: LANGUAGE: Semantic

Poster B83 tDCS to premotor cortex changes action verb understanding: Complementary effects of inhibitory and excitatory stimulation
Tom Gijssels[1,2], Richard B. Ivry[3], Daniel Casasanto[1]; [1]University of Chicago, [2]Vrije Universiteit Brussel, Belgium, [3]University of California, Berkeley
Topic Area: LANGUAGE: Semantic

Poster B84 Value-Based Remembering and Executive Functioning in Aging
Barbara J. Knowlton[1], Joseph P. Hennessee[1], Alan D. Castel[1]; [1]UCLA
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B85 Mental-orientation: A novel approach to Alzheimer's disease
Gregory Peters-Founshtein[1,2], Michael Peer[1,2], Yanai Rein[1], Barak Yoresh[1,4], Shlomzion Kahana Merhavi[2], Zeev Meiner[3], Shahar Arzy[1,2]; [1]Neuropsychiatry Lab, Faculty of Medicine, Hadassah Hebrew University Medical School, Jerusalem, Israel, [2]Department of Neurology, Hadassah Hebrew University Medical Center, Jerusalem, Israel, [3]Departments of Physical Medicine and Rehabilitation, Hadassah University Medical Center, Jerusalem, Israel, [4]The Rachel and Selim Benin School of Computer Science and Engineering, Hebrew University, Jerusalem, Israel
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B86 Roles of the posterior-anterior shift and of the parietal activation maintenance in age-related protective mechanisms involved in memory
Emilie Alibran[1], Badiaa Bouazzaoui[1], Lucie Angel[1], Marie Gomot[1], Michel Isingrini[1]; [1]University of Tours
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B87 A Look at Age and Relational Memory: Explicit and Implicit Measures Show Differences in Relational Memory Performance Between Healthy Young and Older Adults
David Warren[1], Kelsey Spalding[2], Alice Olvera[2,3], Kevin Selden[2], Melissa Duff[4], Daniel Tranel[2]; [1]University of Nebraska Medical Center, [2]University of Iowa, [3]Loyola Marymount University, [4]Vanderbilt University
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B88 Age differences in pre-stimulus subsequent memory effects: An event-related potential study
Joshua Koen[1], Erin Horne[1], Nedra Hauck[1], Michael Rugg[1]; [1]University of Texas at Dallas
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B89 Neural Responses Decrease While Performance Increases with Practice: A Neural Network Model
Milena Rabovsky[1], Steven S. Hansen[2], James L. McClelland[2]; [1]Freie Universitaet Berlin, Germany, [2]Stanford University
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B90 The neural correlates of functional compensation in high performing older adults
Abdelhalim Elshiekh[1], Sricharana Rajagopal[2], Stamatoula Pasvanis[2], Elizabeth Ankudowich[1], Natasha M Rajah[1,2]; [1]Department of Neuroscience, McGill University, [2]Douglas Mental Health University Institute and Department of Psychiatry, McGill University
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Poster B91 Empirical Validation of a Neuropsychological Battery to Assess Frontal Lobe and Medial Temporal Lobe Functioning in Young and Older Adults
Anjali Thapar[1], Allen Osman[1]; [1]Bryn Mawr College
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B92 Age-related dedifferentiation of anterior and posterior hippocampal structural whole-brain covariance
Kristin Nordin[1], Jonas Persson[1], Eva Stening[1], Agneta Herlitz[2], Elna-Marie Larsson[1], Hedvig Söderlund[1]; [1]Uppsala University, Uppsala, Sweden, [2]Karolinska Institutet, Solna, Sweden
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B93 Developmental Difference in Hippocampal Segmentation using FreeSurfer Compared with Manual Demarcation
Qijing Yu[1], Roya Homayouni[1], Andrea Shafer[1], Naftali Raz[1], Noa Ofen[1]; [1]Wayne State University
Topic Area: LONG-TERM MEMORY: Development & aging

Poster B94 Vocabulary acquisition during sleep
Marc Züst[1], Simon Ruch[1], Roland Wiest[2], Katharina Henke[1]; [1]University of Bern, Switzerland, [2]University Hospital of Bern, Switzerland
Topic Area: LONG-TERM MEMORY: Episodic

Poster B95 Depth electrode recording of the amygdala-hippocampal network during mnemonic discrimination of emotional scenes
Jie Zheng[1], Rebecca F. Stevenson[1], Logan D. Harriger[1], Stephanie L. Leal[2], Sumeet Vadera[1], Michael A. Yassa[1], Jack J. Lin[1]; [1]University of California, Irvine, [2]University of California, Berkeley
Topic Area: LONG-TERM MEMORY: Episodic

Poster B96 Older adults with one vs. no apolipoprotein E type 4 allele display different patterns of fMRI activity related to recognition, but not to spatial context
E. H. Yu[1,2], M-E Lafaille-Magnan[1,2], S. Pasvanis[2], S. Rajagopal[2], M.N. Rajah[1,2], PREVENT-AD Research Group[3]; [1]McGill University, [2]Douglas Mental Health University Institute, Montreal, Quebec, Canada, [3]https://preventad.loris.ca/team_2016_09_16.pdf
Topic Area: LONG-TERM MEMORY: Episodic

Poster B97 Normal variation in relational memory and pattern separation can be predicted by white matter connectivity
Chi Ngo[1], Kylie Alm[1], Athanasia Metoki[1], Nora Newcombe[1], Ingrid Olson[1]; [1]Temple University
Topic Area: LONG-TERM MEMORY: Episodic

Poster B98 Elucidating Neural Correlates of Olfactory Targeted Memory Reactivation in the Sleeping Human Brain
Laura Shanahan[1], Eva Gjorgieva[1], Jay Gottfried[1,2]; [1]Northwestern University Feinberg School of Medicine, [2]Northwestern University Weinberg College of Arts and Sciences
Topic Area: LONG-TERM MEMORY: Episodic

Poster B99 Boosting the Brain: Frontal-midline Theta Neurofeedback Training and Its Transfer
Kathrin C. J. Eschmann[1,2], Regine Bader[2], Axel Mecklinger[1,2]; [1]International Research Training Group "Adaptive Minds" (GRK 1457), [2]Saarland University, Saarbrücken, Germany
Topic Area: LONG-TERM MEMORY: Episodic

Poster B100 The Lateral Parietal Cortex Processes both the Encoding and Retrieval of Spatial Long-Term Memories
Oliver Gray[1], Daniella Ryding[1], Daniela Montaldi[1]; [1]University of Manchester
Topic Area: LONG-TERM MEMORY: Episodic

Poster B101 Visual sampling predicts hippocampal activity
Zhong-Xu Liu[1], Kelly Shen[1], Rosanna K. Olsen[1,2], Jennifer D. Ryan[1,2]; [1]Rotman Research Institute at Baycrest Health Sciences, Toronto, [2]University of Toronto
Topic Area: LONG-TERM MEMORY: Episodic

Poster B102 Enhanced avoidance habits in people with a history of early-life stress
Tara Patterson[1], Barbara Knowlton[1]; [1]University of California Los Angeles
Topic Area: LONG-TERM MEMORY: Other

Poster B103 Your favorite number is special (to you): ERP evidence for item-level differences in retrieval of information from numerals
Danielle S. Dickson[1,2], Kara D. Federmeier[2]; [1]University of Texas at San Antonio, [2]University of Illinois at Urbana-Champaign
Topic Area: LONG-TERM MEMORY: Other

Poster B104 Forgotten visual events from a naturalistic TV-viewing paradigm are associated with higher inter-trial coherence in the alpha band of the EEG
Daniel A. Rogers[1], Phillip M. Alday[1], Andrew W. Corcoran[1], Jessica Gysin-Webster[1], Magdalena Nenycz-Thiel[2], Duane Varan[3], Matthias Schlesewsky[1], Ina Bornkessel-Schlesewsky[1]; [1]School of Psychology, Social Work and Social Policy, University of South Australia, [2]School of Marketing, University of South Australia, [3]MediaScience, Austin, Texas, USA
Topic Area: LONG-TERM MEMORY: Other

Poster B105 Age-related changes to hippocampal and neocortical oscillations during relational binding and comparison.
Renante Rondina[1,2], Rosanna Olsen[1], Morgan Barense[2], Jed Meltzer[1,2], Jennifer Ryan[1,2]; [1]Rotman Research Institute, [2]University of Toronto
Topic Area: LONG-TERM MEMORY: Other

Poster B106 Influence of sex on genetic contributions to default mode network associations: a structural MRI study of monozygotic and dizygotic twin pairs
Matthew Jerram[1], Elena Molokotos[1], Amy Janes[1,2]; [1]Suffolk University, [2]McLean Imaging Center
Topic Area: NEUROANATOMY

Poster B107 Probing plasticity of auditory cortex in adulthood: Structural brain changes following pitch discrimination training
Elisabeth Wenger[1], André Werner[1], Simone Kühn[1,2], Ulman Lindenberger[1]; [1]Max Planck Institute for Human Development, Berlin, Germany, [2]University Clinic Hamburg-Eppendorf, Hamburg, Germany
Topic Area: NEUROANATOMY

Poster B108 White matter integrity predicts cognitive training-induced improvements in attention and executive functioning in schizophrenia
Karuna Subramaniam[1], Jeevit Gill[1], Melissa Fisher[2], Pratik Mukherjee[1], Srikantan Nagarajan[1], Sophia Vinogradov[2]; [1]University of California San Francisco, [2]University of Minnesota
Topic Area: NEUROANATOMY

Poster B109 Using Patterns of Functional Brain Connectivity to Predict Autism Spectrum Disorder
Hakeem Brooks[1], Jin Cheong[2], Jeremy Cohen[1], Luke Chang[2]; [1]Xavier University of Louisiana, New Orleans, LA, [2]Dartmouth College, Hanover, NH
Topic Area: NEUROANATOMY

Poster B110 Gray matter volume differences in children with discrepant reading ability or poor reading ability
Audreyana Jagger[1], Michelle Kibby[1]; [1]Southern Illinois University
Topic Area: NEUROANATOMY

Poster B111 Subclinical Eating Disorder Traits are Correlated with Cortical Structure in Regions Associated with Food Perception and Food Reward
Emily Richard[1], Cynthia Peng[1], Esha Mehta[1], Caylynn Yao[1], Annchen Knodt[2], Ahmad Hariri[2], Gregory Wallace[1]; [1]The George Washington University, [2]Duke University
Topic Area: NEUROANATOMY

Poster B112 Tactile Enumeration and Brain Plasticity in Acalculia
Zahira Ziva Cohen[1], Isabel Arend[1], Kenneth Yuen[2], Ronel Veksler[1], Sharon Naparstek[1], Yarden Gliksman[1], Avishai Henik[1]; [1]Ben-Gurion University of the Negev, Beer Sheva, Israel, [2]Johannes Gutenberg University Medical Center, Mainz, Germany
Topic Area: NEUROANATOMY

Poster B113 Differences in brain structures in healthy young smokers: an MRI volumetric study
Gergely Darnai[1,2], Beatrix Lábadi[1], András Zsidó[1], Orsolya Inhóf[1], Eszter Simon[1], Eszter Kohn[1], Gábor Perlaki[3,4], Gergely Orsi[3,4], Norbert Kovács[2], József Janszky[2,4], Tamás Bereczkei[1]; [1]University of Pécs, Department of Psychology, Hungary, [2]University of Pécs, Department of Neurology, Hungary, [3]Pécs Diagnostic Centre, Pécs, Hungary, [4]MTA-PTE Clinical Neuroscience MR Research Group, Pécs, Hungary
Topic Area: NEUROANATOMY

Poster B114 Age predicts Changes in Functional Networks in Early Childhood: Integration of Sensory and Cognitive Networks
Christiane Rohr[1], Anish Arora[1], Ivy Cho[1], Kari Parsons[1], Prayash Katlariwala[1], Dennis Dimond[1], Deborah Dewey[1], Signe Bray[1]; [1]The University of Calgary, Canada
Topic Area: NEUROANATOMY

Poster B115 Elevated inflammation associated with reduced brain volume and white matter integrity in the Coronary Artery Risk Development in Young Adults Study
Aoife O'Donovan[1,2], Allison Kaup[1,2], Lenore Launer[3], Stephen Sidney[4], Kristine Yaffe[1,2]; [1]University of California, San Francisco, [2]San Francisco VA Medical Center, [3]National Institute on Aging, [4]Kaiser Permanente Northern California
Topic Area: NEUROANATOMY

Poster B116 Differences in association for surface area and thickness within functional brain networks between monozygotic and dizygotic twin pairs
Elena Molokotos[1], Amy Janes[2], Matthew Jerram[1]; [1]Suffolk University, [2]McLean Imaging Center
Topic Area: NEUROANATOMY

Poster B117 Sensorimotor Synchronization at 3 Tempi
GEORGIOS MICHALAREAS[1,3], Francesco Di Pompeo[2], Pascal Fries[3], David Poeppel[1,4]; [1]Department of Neuroscience, Max Planck Institute for Empirical Aesthetics, [2]Institute for Advanced Biomedical Technologies, University G. D'Annunzio, [3]Ernst Strüngmann Institute for Neuroscience in Cooperation with Max Planck Society, [4]Department of Psychology, New York University
Topic Area: PERCEPTION & ACTION: Motor control

Poster B118 Grasping Movement (Re-)planning Interferes with Working Memory during the Maintenance Process: An ERP Study
Rumeysa Gunduz Can[1,2], Thomas Schack[1,2,3], Dirk Koester[1,2]; [1]Faculty of Psychology and Sport Science, Bielefeld University, Germany, [2]Cognitive Interaction Technology - Center of Excellence, Bielefeld University, Germany, [3]Research Institute for Cognition and Robotics, Bielefeld University, Germany
Topic Area: PERCEPTION & ACTION: Motor control

Poster B119 Feedforward Motor Enhancement of Auditory Sensory Thresholds
John Myers[1], Jeffrey Mock[1], Edward Golob[1]; [1]University of Texas at San Antonio
Topic Area: PERCEPTION & ACTION: Motor control

Poster B120 Neural Correlates of a Prospective Sense of Agency
Nura Sidarus[1,2], Matti Vuorre[3], Patrick Haggard[1]; [1]University College London, [2]Ecole Normale Supérieure - PSL Research University, [3]Columbia University
Topic Area: PERCEPTION & ACTION: Motor control

Poster B121 Dissecting stimulus-dependent and stimulus-independent factors in an implicit learning task reveals a mixture of performance enhancing and performance eroding processes on different time scales
Balázs Török[1,3], Karolina Janacsek[2,3], Dávid G. Nagy[2,3], Gergő Orbán[3], Dezso Nemeth[2,3]; [1]Budapest University of Technology and Economics, [2]Eötvös Loránd University, [3]Hungarian Academy of Sciences
Topic Area: PERCEPTION & ACTION: Motor control

Poster B122 Reliability of fMRI data during speech production tasks across scanning sessions
Saul Frankford[1], Alfonso Nieto-Castañón[1], Frank H. Guenther[1]; [1]Boston University
Topic Area: PERCEPTION & ACTION: Motor control

Poster B123 Lateralization of hand-related movement imagery: An EEG study
Chris Donoff[1], Chris Madan[1,2], Sarah Elke[1], Anthony Singhal[1]; [1]University of Alberta, [2]Boston College
Topic Area: PERCEPTION & ACTION: Motor control

Poster B124 Implicit Sequence Learning in Children with and Without ASD
Morgan Wright[1], Rebecca Campbell[1], Kaitlyn Tracy[1], Amber Schmitt[1], Jin Bo[1]; [1]Eastern Michigan University
Topic Area: PERCEPTION & ACTION: Motor control

Poster B125 Neural correlates of guided and unguided motor timing in Parkinson's disease
Klara Hagelweide[1,2], Ellen Binder[2], Katja Kornysheva[3], Esther A. Pelzer[2,4], Marc Tittgemeyer[4], Gereon R. Fink[2,5], Ricarda I. Schubotz[1,2]; [1]University of Muenster, Germany, [2]University Hospital Cologne, Germany, [3]University College London, Great Britain, [4]Max Planck Institute for Metabolism Research, Cologne, Germany, [5]Research Centre Jülich, Germany
Topic Area: PERCEPTION & ACTION: Motor control

Poster B126 Cerebellar-Motor Connectivity in Patients with Schizophrenia: Insight Into Negative Symptom Severity
Jessica Bernard[1]; [1]Texas A&M University
Topic Area: PERCEPTION & ACTION: Motor control

Poster B127 Motor cortex excitability during perception of dynamic handwritten and typed text
Chelsea Gordon[1], Ramesh Balasubramaniam[1]; [1]University of California, Merced
Topic Area: PERCEPTION & ACTION: Motor control

Poster B128 Electrophysiological Correlates of an Excitatory:Inhibitory Imbalance in Children with Autism Spectrum Disorder
Lauren C. Shuffrey[1,2,3,4], Lisa Levinson[1], Heather L. Green[1], Dayna Moya Sepulveda[1], Grace Pak[1], Alexis Becerra[1], Karen Froud[1]; [1]Teachers College, Columbia University, [2]Columbia University Medical Center, [3]New York State Psychiatric Institute, [4]Center for Autism and the Developing Brain
Topic Area: PERCEPTION & ACTION: Vision

Poster B129 Cultural specialization of visual cortex
John C. Ksander[1], Laura E. Paige[1], Hunter A. Johndro[1,2], Angela H. Gutchess[1]; [1]Brandeis University, [2]Tufts University
Topic Area: PERCEPTION & ACTION: Vision

Poster B130 It's the Right Cue: Hemispheric Differences in Predictive Processing of Natural Scenes.
Manoj Kumar[1], Yanqi Zhang[1], Diane M. Beck[1], Kara D. Federmeier[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: PERCEPTION & ACTION: Vision

Poster B131 Category Learning Generates Categorical Perception: Behavioral, Neural and Computational Aspects
Fernanda Perez Gay Juarez[1,2,3], Christian Thériault[2,3], Madeline Gregory[1,3], Daniel Rivas[2,3], Hisham Sabri[2,3], Stevan Harnad[1,2]; [1]McGill University, [2]Université du Québec à Montréal, [3]Center for Research in Brain, Language and Music
Topic Area: PERCEPTION & ACTION: Vision

Poster B132 Which way: Neural decoding of spatial directions in images, schemas, and words
Steven Weisberg[1], Steven Marchette[1], Anjan Chatterjee[1]; [1]University of Pennsylvania
Topic Area: PERCEPTION & ACTION: Vision

Poster B133 Embodiment and expertise effects on aesthetics judgments
Beatriz Calvo-Merino[1], Alexander Jones[2], Patrick Haggard[3], Bettina Forster[1]; [1]City, University of London, [2]Middlesex University, [3]University College London
Topic Area: PERCEPTION & ACTION: Vision

Poster B134 Deconstructing a Superadditivite Effect of the Sander Parallelogram Illusion
Robert L. Whitwell[1], Sean Olsen[1], James T. Enns[1]; [1]The University of British Columbia
Topic Area: PERCEPTION & ACTION: Vision

Poster B135 Comparing computational, object and functional models of scene representation in the human brain
Iris I A Groen[1], Michelle R Greene[2], Christopher Baldassano[3], Li Fei-Fei[2], Diane M Beck[4], Chris I Baker[1]; [1]National Institutes of Mental Health, [2]Stanford University, [3]Princeton University, [4]University of Illinois
Topic Area: PERCEPTION & ACTION: Vision

Poster B136 Model-free population receptive field profile estimates reveal information about orientation and ellipticity in early visual areas.
Christian Merkel[1], Jens-Max Hopf[1,2], Mircea Ariel Schoenfeld[1,2]; [1]Otto-von-Guericke University, Magdeburg, [2]Leibniz Institute for Neurobiology, Magdeburg
Topic Area: PERCEPTION & ACTION: Vision

Poster B137 Is the N170 lateralization for word and face processing affected by sign language experience and/or deafness?
Zed Sevcikova Sehyr[1], Karen Emmorey[1], Katherine J. Midgley[1], Phillip J. Holcomb[1]; [1]San Diego State University
Topic Area: PERCEPTION & ACTION: Vision

Poster B138 Teaching cognitive neuroscience: Transformation from large lecture class to small active learning groups
Brenda Rapp[1], Soojin Park[1], Jeremy Purcell[1], Michael Reese[1]; [1]Johns Hopkins University
Topic Area: OTHER

Poster B139 Intergenerational early adversity: executive function and stress physiology in parents and children from lower socioeconomic status backgrounds
Eric Pakulak[1], Theodore Bell[1], Ryan Giuliano[1], Christina Karns[1], Helen Neville[1]; [1]University of Oregon
Topic Area: EXECUTIVE PROCESSES: Other

Poster B140 Measures of Functional Networks Correlate with Chronic Symptom Status in Patients with Traumatic Brain Injury
Keith Main[1,2,3], Anna-Clare Milazzo[2,3], Bernard Ng[3], Salil Soman[2,3,4], Jordan Nechvatal[2,3], Jennifer Kong[2], Stephanie Kolakowsky-Hayner[5], Ansgar Furst[2,3], J. Wesson Ashford[2,3], Michael Greicius[3], Maheen Adamson[1,2,3]; [1]Defense and Veterans Brain Injury Center, [2]War Related Illness and Injury Study Center, [3]Stanford University School of Medicine, [4]Harvard University Medical School, [5]Santa Clara Valley Medical Center
Topic Area: EXECUTIVE PROCESSES: Other

Poster B141 Cognitive Control for Speech Production: Evidence for a rostro-caudal activation gradient in the frontal lobes
Nicolas Bourguignon[1], Don Nguyen[2], Vincent Gracco[2,3]; [1]Ghent University, [2]Centre for Research on Brain, Language & Music, McGill University, [3]Haskins Laboratories
Topic Area: EXECUTIVE PROCESSES: Other

Poster Session C

Poster C1 The brain pulsatility: an index of neurocognitive aging
Badiaa Bouazzaoui[1], Lucie Angel[1], Michel Isingrini[1], Severine Fay[1], Laurence Taconnat[1], Sandrine Vanneste[1], Moise Ledoux[1], Frédéric Patat[2,3], Vincent Camus[2], Laurent Barantin[2], Frédéric Andersson[2], Jean-Pierre Remenieras[2]; [1]Université de Tours, UMR CNRS 7295 Centre de Recherches sur la Cognition et l'Apprentissage, [2]Université de Tours, UMR INSERM U930 Imagerie & Cerveau, [3]CIC IT 1415 Ultrasons et radiopharmaceutiques
Topic Area: ATTENTION: Development & aging

Poster C2 Increased neural response to wins over losses with older adults: Examining the positivity bias in aging
Anna McCarrey[1,2], Joshua Goh[2,3], Vijay Venkatraman[4], Claudia Wolf[2], Gabriela Gomez[2], Susan Resnick[2]; [1]Idaho State University, [2]National Institute on Aging, [3]National Taiwan University College of Medicine, [4]University of Melbourne
Topic Area: ATTENTION: Development & aging

Poster C3 The Effects of 1 Hour Sleep Loss in School-Aged Children: An Event-Related Potentials Study
Sarah Leonhardt[1], Josh A. Miller[2], Dennis L. Molfese[3]; [1]Carroll College-Helena, MT, [2]Colgate University, [3]University of Nebraska-Lincoln
Topic Area: ATTENTION: Development & aging

Poster C4 Contributions of medial prefrontal cortex to internally directed attention
Julia W. Y. Kam[1], Jack L. Lin[2], Tor Endstead[3], Anne-Kristin Solbakk[3], Pal G. Larsson[4], Sandon Griffin[1], Robert T. Knight[1]; [1]University of California, Berkeley, [2]University of California, Irvine, [3]University of Oslo, [4]Oslo University Hospital
Topic Area: ATTENTION: Other

Poster C5 Engaging narratives evoke similar brainwaves and lead to similar perception of time
Samantha Cohen[1], Simon Henin[2], Lucas C. Parra[2]; [1]The Graduate Center of the City University of New York, [2]The City College of the City University of New York
Topic Area: ATTENTION: Other

Poster C6 Individual difference effects on attentional capture by perceptually salient distractors
Tessa Abagis[1], John Jonides[1]; [1]University of Michigan
Topic Area: ATTENTION: Other

Poster C7 Reappraisal of stress improves selective attention
Ritsuko Nishimura[1]; [1]Aichi Shukutoku University
Topic Area: ATTENTION: Other

Poster C8 Differential neural outcome processing of monetary and non-monetary feedback: a comparison of college drinkers and non-drinkers
Heather E. Soder[1], Geoffrey F. Potts[1]; [1]University of South Florida
Topic Area: ATTENTION: Other

Poster C9 Greater Theta and Delta Synchrony When Viewing Built versus Natural Environments in a Passive Oddball Task
Salif Mahamane[1], Nick Wan[1], Allison Hancock[1], Alexis Porter[2], Kerry Jordan[1]; [1]Utah State University, [2]Carnegie Mellon University
Topic Area: ATTENTION: Other

Poster C10 Revealing the interaction between anxiety-traits and meditation in an attentional reorienting task by brain oscillations
Shao-Yang Tsai[1], Satish Jaiswal[1], Wei-Kuang Liang[1], Chi-Hung Juan[1]; [1]National Central University
Topic Area: ATTENTION: Other

Poster C11 Neural Correlates of Educational Engagement
Gad Touchan[1], Samantha Cohen[2], Denise Robles[1], Stella Ferrari[1], Simon Henin[1], Lucas Parra[1]; [1]City College of New York, [2]CUNY Graduate Center
Topic Area: ATTENTION: Other

Poster C12 The effect of cerebellar lesions on visual attention during motor-cognitive dual-task performance
Erika Künstler[1], Albrecht Günther[1], Carsten Klingner[1], Otto Witte[1], Peter Bublak[1]; [1]Jena University Hospital
Topic Area: ATTENTION: Other

Poster C13 Racial Colorblindness: Ironic Attentional Processing of Racial Stimuli
Andre' Oliver[1], Avi Ben-Zeev[1], Mark W. Geisler[1]; [1]San Francisco State University
Topic Area: ATTENTION: Other

Poster C14 Learning outcomes and brain-to-brain synchrony between students vary by teaching style: evidence from classroom EEG experimentation
Dana Bevilacqua[1], Suzanne Dikker[1,2], Ido Davidesco[1], Lu Wan[3], Kim Chaloner[4], Mingzhou Ding[3], David Poeppel[1]; [1]New York University, [2]Utrecht University, [3]University of Florida, [4]Grace Church High School
Topic Area: ATTENTION: Other

Poster C15 The effects of time pressure on flanker task performance investigated using the drift diffusion model
Chia Ning Chiu[1], Neil G Muggleton[1,2,3]; [1]National Central University, [2]University College London, [3]Goldsmiths
Topic Area: ATTENTION: Other

Poster C16 Prior knowledge of category size impacts search
Brianna McGee[1], Chelsea Echiverri[1], Benjamin Zinszer[2], Rachel Wu[1]; [1]University of California, Riverside, [2]University of Rochester
Topic Area: ATTENTION: Other

Poster C17 The effect of emotional expectation on episodic encoding in young and older adults
Brittany Corbett[1], Lisa Weinberg[1], Audrey Duarte[1]; [1]Georgia Institute of Technology
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C18 Dissociation Between Perceived and Felt Emotions in Musical Anhedonia
Emily Przysinda[1], Matthew Sachs[2], Yvonne Leung[3], Tima Zeng[1], Psyche Loui[1]; [1]Wesleyan University, [2]University of Southern Califonia, [3]Western Sydney University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C19 Impaired proactive control under threat of shock
Tara Miskovich[1], Kenneth Bennett[1], Daniel Stout[2,3], Christine Larson[1]; [1]1University of Wisconsin-Milwaukee, [2]Center of Excellence for Stress and Mental Health, VA San Diego Healthcare System, [3]Department of Psychiatry, University of California San Diego
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C20 Common Neural Substrates of Down-Regulating Negative Emotion and Social Threat
Teodora Stoica[1], Lindsay Knight[1], Leonard Faul[1], Farah Naaz[1], Brendan Depue; [1]University of Louisville
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C21 Social attention bias in Williams syndrome and Autism spectrum disorder
Kelsie Boulton[1], Melanie Porter[1,2]; [1]Macquarie University, Sydney, Australia, [2]ARC Centre of Excellence in Cognition and its Disorders, Macquarie University, Sydney, Australia
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C22 Inverse EEG Theta Peak Frequency Oscillation in Frontal- and Parietal-midlines Predicts Lower Cognitive Control and Working Memory in Individuals with High Trait Anxiety
Salahadin Lotfi[1], Kenneth Bennett[1], Maryam Ayazi[1], Erin Peterson[1], Shannon Cavanaugh[1], Christine Larson[1], Hanjoo Lee[1]; [1]University of Wisconsin-Milwaukee
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C23 The Effects of Acute Psychosocial Stress on Oculomotor Saccadic Adaptation
Delia A. Gheorghe[1], Muriel T.N. Panouillères[2], Nicholas D. Walsh[1]; [1]University of East Anglia, [2]University of Oxford
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C24 Relative Preservation of Emotion Recognition Abilities in Women Compared to Men with Parkinson's Disease
Colleen Frank[1], Emily Flandermeyer[2], Tara Lineweaver[2]; [1]University of Michigan, [2]Butler University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C25 Incidental haptic sensations influence judgment of crimes: neural underpinnings of embodied cognitions
Michael Schaefer[1], Claudia Denke[2], Claudia Spies[2], Andreas Heinz[2], Andreas Ströhle[2], Lillia Cherkasskiy[3], Hyunjin Song[4], John Bargh[3]; [1]Medical School Berlin, Germany, [2]Charité – Universitätsmedizin Berlin, Germany, [3]Yale University, CT, USA, [4]Arizona Christian University, AZ, USA
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster C26 The Effects of Self-Selected Music on Cortical Asymmetries
Trevor C. J. Jackson[1], Christine R. Jimenez[1], Mark W. Geisler[1]; [1]San Francisco State University
Topic Area: EMOTION & SOCIAL: Other

Poster C27 Enhancing social attention mechanisms via noninvasive brain stimulation
Eva Wiese[1], Eric Joshua Blumberg[1], Aziz Abubshait[1], Raja Parasuraman[1]; [1]George Mason University
Topic Area: EMOTION & SOCIAL: Other

Poster C28 Perception of distributive justice is context-dependent as revealed by the N400 effect and behavioral data.
Benjamin Ernst[1], Manuela Sirrenberg[1]; [1]Catholic University of Eichstätt-Ingolstadt
Topic Area: EMOTION & SOCIAL: Other

Poster C29 Resting-state temporal dynamics and mind-wandering frequency during reading
Erik Erwin Jahner[1,2], Xiao-Fei Yang[1], Mary Helen Immordino-Yang[1]; [1]USC, [2]University of California Riverside
Topic Area: EMOTION & SOCIAL: Other

Poster C30 Role of two embedded syntaxes for belief attribution in adults with typical development and with autism: A behavioral experiment
Morgane Burnel[1,2,3], Marcela Perrone-Bertolotti[1,2], Stephanie Durrleman[4], Anne Reboul[3], Monica Baciu[1,2]; [1]Univ. Grenoble Alpes, LPNC, F-38040 Grenoble, France, [2]CNRS, LPNC UMR 5105, F-38040 Grenoble, France, [3]Univ Lyon, CNRS, Institute for Cognitive Sciences - Marc Jeannerod (UMR 5304), F-69675 Bron, France, [4]Psycholinguistics Department, Faculty of Psychology and Educational Sciences, University of Geneva
Topic Area: EMOTION & SOCIAL: Other

Poster C31 Age and Modulation of BOLD Response to Task Difficulty: the Protective Effects of Crystallized Knowledge
Zhang Jingting[1], Zhuang Song[1], Patricia A. Reuter-Lorenz[2], Denise C. Park[1]; [1]University of Texas at Dallas, [2]University of Michigan
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C32 Doubly Dissociable Neuromorphological Correlates of Memory and Perceptual Inhibition in Healthy Aging
Teal Eich[1], Ray Razlighi[1], Derek Nee[2], John Jonides[3], Yaakov Stern[1]; [1]Columbia University, [2]Florida State Univerity, [3]University of Michigan
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C33 Incentive effects on cognitive control in younger and older adults: Behavioral and ERP evidence
Farrah Kudus[1], Ryan S. Williams[2], Benjamin J. Dyson[3], Julia Spaniol[1]; [1]Ryerson University, [2]University of Toronto, [3]University of Sussex
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C34 Cognitive Control and Adaptive Learning in Adolescents
Ilyoung Kim[1], Jeanyung Chey[1]; [1]Seoul National University
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C35 Different Functional Neural Correlates of Executive Deficits in Amnestic Mild Cognitive Impairment according to High and Low Beta-amyloid Burden
Eun Hyun Seo[1], IL Han Choo[2]; [1]Chosun University, Gwangju, Korea, [2]Chosun University Hospital, Gwangju, Korea
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C36 The impact of interruptions on task performance: Comparing younger and older adults in an event-related spectral perturbation study
Stefan Arnau[1], Kristina Küper[1], Edmund Wascher[1]; [1]Leibniz Research Centre for Working Environment and Human Factors (IfADo)
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C37 Age-Related Stereotype Threat Effects on Metacognition
Natasha Fourquet[1], Barbara J Knowlton[1], Castel Alan[1]; [1]University of California, Los Angeles
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C38 Moderating Effect of White Matter Integrity on Task-Related Brain Activation
Melanie Lucas[1], Helena Blumen[2], Meltum Izzetoglu[3], Roee Holtzer[1,2]; [1]Ferkauf Graduate School of Psychology, Yeshiva University, Bronx, NY, [2]Albert Einstein School of Medicine, Yeshiva University, Bronx, NY, [3]School of Biomedical Engineering, Science, and Health Systems, Drexel University, Philadelphia, PA
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C39 Development of the Frontal Aslant Tract (FAT) Using Restricted Diffusion Imaging (RDI)
Dea Garic[1], Iris Broce[1], Heidy Zetina[1], Anthony Steven Dick[1]; [1]Florida International University
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C40 Childhood development of behavioral and brain network changes related to basal ganglia: resting-state functional connectivity of striatal regions varies with performance on cognitive tasks in children
Rachel K. Spooner[1], Nicholas Christopher-Hayes[1], Julia M. Stephen[2], Vince D. Calhoun[2], Yu-Ping Wang[3], Tony W. Wilson[1], David E. Warren[1]; [1]University of Nebraska Medical Center, [2]University of New Mexico, [3]Tulane

University
Topic Area: EXECUTIVE PROCESSES: Development & aging

Poster C41 Additive effects of two DRD2 polymorphisms on working memory performance, and striatal functional and structural MRI measurements
Xin Li[1], Micael Andersson[2], Lars Nyberg[2], Jonas Persson[1]; [1]Aging Research Center (ARC), Karolinska Institute and Stockholm University, [2]Umeå Center for Functional Brain Imaging (UFBI), Umeå University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C42 Revealing unattended working memory representations with fMRI
Annelinde Vandenbroucke[1,2], Derek Nee[3], Elizabeth Lorenc[2], Mark D'Esposito[2]; [1]Donders Center for Cognitive Neuroscience, Rabdoud University Nijmegen, the Netherlands, [2]UC Berkeley, California, USA, [3]Florida State University, Florida, USA
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C43 Oscillatory mechanisms for orienting attention towards internal representations: effects of aging
Sara Aurtenetxe[1], Eveline van Bijnen[1], Roy P.C. Kessels[1], Joukje M. Oosterman[1], Anna C. Nobre[2], Ole Jensen[3]; [1]Donders Institute for Brain Cognition and Behaviour, Radboud University, [2]Oxford Centre for Human Brain Activity, University of Oxford, [3]School of Psychology, University of Birmingham
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C44 Compensation or restoration: Optimizing tDCS-enhanced visual working memory in older adults
Hector Arciniega[1], Filiz Gözenman[2], Marian Berryhill[1]; [1]University of Nevada, Reno, [2]Yaşar University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C45 Effects of emotion, load, distraction, and dopamine tone on working memory and associated neural function in veterans with mTBI and/or PTSD
Michael Ballard[1,2], Taylor Vega[1,2], Andrew Kayser[1,2]; [1]Weill Institute for Neurosciences, University of California, San Francisco, [2]VA Northern California Health Care System
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C46 Exploring the Relationships Between Early-Life Environments of Scarcity, Parenting Style, and Working Memory in Childhood: A Cross-Species Study
Stephen H. Braren[1], Rosemarie E. Perry[1], Cristina M. Alberini[1], Regina M. Sullivan[2], Clancy Blair[1]; [1]New York University, [2]New York University School of Medicine
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C47 EEG dissociates acute brain injury patients from controls during visuospatial working memory
James Broadway[1], Rebecca Rieger[1], Kevin Wilson[1], Andrew Mayer[2], James Cavanagh[1]; [1]University of New Mexico, [2]Mind Research Network
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C48 Predicting Individual tDCS-Linked Working Memory Benefits Through Resting-State fMRI
Adelle Cerreta[1], Ryan Mruczek[2], Marian Berryhill[1]; [1]University of Nevada, Reno, [2]Worcester State University

Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C49 Competitive and independent encoding of episodic versus procedural memory
Sungshin Kim[1], Joel Voss; [1]Medical Social Sciences, Feinberg School of Medicine
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster C50 Attention modulates relative lateralization of N170 for single letters in Japanese Hiragana
Tomoki Uno[1], Ayumi Seki[2], Tetsuko Kasai[2]; [1]Graduate School of Education, Hokkaido University, [2]Faculty of Education, Hokkaido University
Topic Area: LANGUAGE: Lexicon

Poster C51 Second-language reading proficiency is related to changes in N170s?
Osamu Takai[1], Anthony Herdman[1]; [1]University of British Columbia
Topic Area: LANGUAGE: Lexicon

Poster C52 Cross-language interaction in auditory and visual word processing in bilinguals: Electrophysiological and behavioral evidence
Katharine Donnelly Adams[1], Fatemeh Abdollahi[1], Ping Li[1], Janet G. van Hell[1]; [1]The Pennsylvania State University
Topic Area: LANGUAGE: Lexicon

Poster C53 Effects of Iconicity on Cross-modal Translation Priming in Hearing Learners of American Sign Language and Deaf Native Signers: An ERP Study
Megan Mott[1], Katherine J. Midgley[1], Phillip J. Holcomb[1], Karen Emmorey[1]; [1]San Diego State University
Topic Area: LANGUAGE: Lexicon

Poster C54 Neural correlates for naming disadvantage of the dominant language in bilingual word production
Yongben Fu[1], Di Lu[1], Chunyan Kang[1], Junjie Wu[1], Fengyang Ma[2], Guosheng Ding[1], Taomei Guo[1]; [1]Beijing Normal University, [2]University of Cincinnati
Topic Area: LANGUAGE: Lexicon

Poster C55 Electrophysiological evidence of the cognate facilitation effect during bilingual visual word recognition
Karla Orihuela[1], Hélène Giraudo[1], Noémie te Rietmolen[1], Albert Kim[2]; [1]University of Toulouse, [2]University of Colorado, Boulder
Topic Area: LANGUAGE: Lexicon

Poster C56 A Cross Linguistic Comparison of Category- and Letter- Fluency: Mandarin and English
Nancy Eng[1,2], Melissa Salzberg[1], Jet Vonk[1,2], Nakyung Yoo[1]; [1]Hunter College of CUNY, [2]The Graduate Center of CUNY
Topic Area: LANGUAGE: Lexicon

Poster C57 EARLY FEEDBACK FROM FRONTAL TO OCCIPITO-TEMPORAL CORTEX DURING VISUAL WORD RECOGNITION
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Topic Area: LANGUAGE: Lexicon

Poster C58 Phonological and semantic priming in American Sign Language: An ERP study
Brittany Lee[1,2], Katherine J. Midgley[1], Phillip J. Holcomb[1], Karen Emmorey[1], Gabriela Meade[1,2]; [1]San Diego State University, [2]University of California, San Diego
Topic Area: LANGUAGE: Lexicon

Poster C59 Bilingual aphasia: exploring the relationship between language control and lexical access
Desiree Sasunian[1], Pia Etchegoin[1], Kathryn Tidaback[1], Kareem Darwiche[1], Teresa Gray[1]; [1]San Francisco State University
Topic Area: LANGUAGE: Lexicon

Poster C60 Blind individuals do not develop a reading area in ventral occipitotemporal cortex
Judy Kim[1], Shipra Kanjlia[1], Lotfi Merabet[2], Marina Bedny[1]; [1]Johns Hopkins University, [2]Harvard Medical School
Topic Area: LANGUAGE: Lexicon

Poster C61 Connectivity of the language system revealed by direct brain stimulation during awake neurosurgery
Bram Diamond[1], Frank E. Garcea[1,2], Benjamin Chernoff[1], Raouf Belkhir[1], Alex Teghipco[1], Susan O. Smith[3], Eduardo Navarrete[4], Webster H. Pilcher[3], Bradford Z. Mahon[1,2,3]; [1]University of Rochester, [2]Center for Visual Science, [3]University of Rochester Medical Center, [4]University of Padova
Topic Area: LANGUAGE: Lexicon

Poster C62 Multivariate analyses reveals distributed and overlapping neural representations of bilinguals' first and second language
Emily S. Nichols[1], Marc F. Joanisse[1], Gao Yue[2], Liu Li[2]; [1]The University of Western Ontario, [2]Beijing Normal University
Topic Area: LANGUAGE: Lexicon

Poster C63 Multilayer neural network modeling of speech envelope prediction errors
Jona Sassenhagen[1], Benjamin Gagl[1], Christian J. Fiebach[1]; [1]University of Frankfurt
Topic Area: LANGUAGE: Other

Poster C64 Predicting tonal language learning aptitude from individual differences in brain morphology and microstructure
Dimitrios Donavos[1], Anita Bowles[1,2]; [1]University of Maryland Center for Advanced Study of Language, [2]Rosetta Stone, Ltd.
Topic Area: LANGUAGE: Other

Poster C65 Reading naturalistic text alters the information processing timeline: Evidence from concurrent self-paced reading and electroencephalography
Shannon McKnight[1], Albert Kim[1]; [1]University of Colorado, Boulder
Topic Area: LANGUAGE: Other

Poster C66 Thinning of the Left Middle Temporal Gyrus is Associated with Word Retrieval Difficulties in Tempora
Clara Yoon[1], Victor Kang[1], Joo Sung Yi[1]; [1]New York University
Topic Area: LANGUAGE: Other

Poster C67 ERP Brain Responses to Emoji-Generated Irony
Benjamin Weissman[1], Darren Tanner[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Other

Poster C68 Magnitude Processing in Bilingual Developmental Dyscalculia
Alejandro Martinez[1], Elena Salillas[1]; [1]Basque Center on Cognition Brain and Language (BCBL)
Topic Area: LANGUAGE: Other

Poster C69 The influence of the cortical thickness of Planum Temporale on word tone processing in Swedish native speakers
Andrea Schremm[1], Mikael Novén[1], Merle Horne[1], Mikael Roll[1]; [1]Lund University
Topic Area: LANGUAGE: Other

Poster C70 Involvement of the visuo-orthographic system during spoken sentence processing
Samuel Planton[1], Valérie Chanoine[2], Julien Sein[3], Jean-Luc Anton[3], Bruno Nazarian[3], Christophe Pallier[4], Chotiga Pattamadilok[1]; [1]Aix Marseille Univ, CNRS, LPL, Aix-en-Provence, France, [2]Labex Brain and Language Research Institute, France, [3]Aix Marseille Univ, CNRS, Centre IRMf, INT UMR 7289, Marseille, France, [4]INSERM-CEA, Cognitive Neuroimaging Unit, Neurospin Center, Gif-sur-Yvette, France
Topic Area: LANGUAGE: Other

Poster C71 Neural correlates of referential processing: Event-related potentials for ambiguity versus resolution
Les Sikos[1], Harm Brouwer[1], Matthew Crocker[1]; [1]Saarland University
Topic Area: LANGUAGE: Other

Poster C72 Language Improvement in Aphasia Therapy is Reflected by the Mismatch Negativity to Meaningful and Meaningless Constructions, but not by That to Ungrammatical Strings
Guglielmo Lucchese[1], Friedemann Pulvermüller[1,2], Benjamin Stahl[1,3], Felix Dreyer[1], Bettina Mohr[4]; [1]Brain Language Laboratory, Freie Universtät Berlin, 14195, Berlin Germany, [2]Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, 10099 Berlin, Germany., [3]Charité Universitätsmedizin Berlin, Campus Mitte, 10117, Berlin Germany, [4]Charité Universitätsmedizin Berlin, Campus Benjamin Franklin, 12203, Berlin Germany
Topic Area: LANGUAGE: Other

Poster C73 A brain index of semantic prediction
Luigi Grisoni[1], Natalie McCormick Miller[1,2], Friedemann Pulvermüller[1,2]; [1]Freie Universität Berlin, Brain Language Laboratory, Department of Philosophy and Humanities, 14195 Berlin, Germany, [2]Berlin School of Mind and Brain, Humboldt Universität zu Berlin, 10099 Berlin, Germany
Topic Area: LANGUAGE: Semantic

Poster C74 Readers select perspective in comprehension independent of pronoun: evidence from fMRI during narrative comprehension
Franziska Hartung[1,2], Peter Hagoort[2,3], Roel M. Willems[3,4]; [1]University of Pennsylvania, [2]Max Planck Institute for Psycholinguistics, [3]Donders Institute for Brain, Cognition, and Bahavior, [4]Center for Language Studies, Radboud University
Topic Area: LANGUAGE: Semantic

Poster C75 Semantic grounding in a neurocomputational model including realistic connectivity and spiking neurons
Rosario Tomasello[1,2], Max Garagnani[1,4], Thomas Wennekers[3], Friedemann Pulvermüller[1,2]; [1]Freie Universität Berlin, Brain Language Laboratory, [2]Humboldt-Universität zu Berlin, Berlin School of Mind and Brain, [3]University of Plymouth, Centre for Robotics and Neural Systems (CRNS), [4]Goldsmiths, University Of London
Topic Area: LANGUAGE: Semantic

Poster C76 The neural basis of the integration of speech and gesture: A brain stimulation approach
wanying zhao[1], Kevin Riggs[1], Igor Schindler[1], Henning Hollo[1]; [1]University of Hull
Topic Area: LANGUAGE: Semantic

Poster C77 A causal role of motor systems in processing concrete and abstract nouns? – Evidence from voxel based lesion symptom mappings in brain tumor patients.
Felix R. Dreyer[1], Thomas Picht[2], Dietmar Frey[2], Friedemann Pulvermüller[1,3]; [1]Freie Universität Berlin, [2]Charité Hospital Berlin, [3]Berlin School of Mind and Brain

Topic Area: LANGUAGE: Semantic

Poster C78 Semantic Word Category Deficits in Neurodegenerative Diseases
Zubaida Shebani[1,2], Karalyn Patterson[1,3], Peter J. Nestor[4], Lara Z. Diaz-de-Grenu[3,5], Kate Dawson[3], Friedemann Pulvermuller[1,6,7]; [1]Medical Research Council, Cognition and Brain Sciences Unit, Cambridge, [2]Linguistics Department, College of Humanities and Social Sciences, United Arab Emirates University, UAE, [3]Department of Clinical Neurosciences, University of Cambridge, [4]German Center for Neurodegenerative Diseases (DZNE), Magdeburg, Germany, [5]Tecnalia Research and Innovation Center, Health Division, Neurotechnology Unit, Bizkaia Technology Park, Derio, Spain, [6]Brain Language Laboratory, Department of Philosophy and Humanities, WE4, Freie Universität Berlin, Berlin, Germany, [7]Berlin School of Mind and Brain, Humboldt Universität zu Berlin, Berlin, Germany
Topic Area: LANGUAGE: Semantic

Poster C79 Effective Connectivity of Aphasic Bilingual Semantic Processing
Robert Buckshaw II[1], Erin Meier[1], Swathi Kiran[1]; [1]Boston University
Topic Area: LANGUAGE: Semantic

Poster C80 Gesture Comprehension and Verbal Working Memory
Seana Coulson[1], Ying Choon Wu[1], Megan Bardolph[1], Tania Delgado[1]; [1]University of California, San Diego
Topic Area: LANGUAGE: Semantic

Poster C81 The neural representation of verbs and nouns meaning
Giulia V. Elli[1], Connor Lane[1], Marina Bedny[1]; [1]Johns Hopkins University
Topic Area: LANGUAGE: Semantic

Poster C82 Neuroimaging Evidence for Individual Differences in L1 Lexical Semantic Processing
Lisa Beck[1], Lyam Bailey[2], Morgan Johnson[3], Ella C. Dubinsky[4], Kaitlyn M. Tagarelli[5], Timothy Bardouille[6], Aaron J. Newman[7]; [1]Dalhousie University
Topic Area: LANGUAGE: Semantic

Poster C83 Investigating semantic representations in brain with fMRI and LSA
Sverker Sikström[1], Johan Mårtensson[1]; [1]Department of psychology, Lund university
Topic Area: LANGUAGE: Semantic

Poster C84 "I deny my expectations. Even so, I predict": Differential electrophysiological effects of concession and result connectives in discourse comprehension
Edward Alexander[1], Einat Shetreet[2], Connie Choi[1], Ming Xiang[3], Gina Kuperberg[1,4,5]; [1]Department of Psychology, Tufts University, [2]Department of Linguistics, Tel Aviv University, [3]Department of Linguistics, University of Chicago, [4]MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, [5]Department of Psychiatry, Massachusetts General Hospital
Topic Area: LANGUAGE: Semantic

Poster C85 Age-related differences in the functional connectivity of the medial temporal lobe support successful memory encoding
Lingfei Tang[1], Andrea Shafer[1], Ryan Liddane[1], Hager Alkhafaji[1], Noa Ofen[1]; [1]Wayne State University
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C86 Fixation reinstatement supports visuospatial memory in older adults: An eye movement compensation effect.
Jordana Wynn[1,2], Rosanna Olsen[2], Malcolm Binns[2], Bradley Buchsbaum[1,2], Jennifer Ryan[1,2]; [1]Department of Psychology, University of Toronto, [2]Rotman Research Institute, Baycrest Hospital
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C87 The role of prior knowledge during automatic and controlled memory retrieval in younger and older adults
Tarek Amer[1,2], Kelly S. Giovanello[3], Cheryl L. Grady[1,2], Lynn Hasher[1,2]; [1]University of Toronto, [2]Rotman Research Institute, [3]University of North Carolina at Chapel Hill
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C88 Age effects on resting state functional connectivity preceding and following an associative learning task.
gwenaelle catheline[1,2], manon Edde[1], georges Di-scala[1], bixente Dilharreguy[1], sandra Chanraud[1,2]; [1]INCIA, UMR CNRS 5287, Université de Bordeaux, Bordeaux, France, [2]EPHE, PSL Research University.
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C89 Normal older adults' performance on a famous faces task is related to gray matter thickness and amyloid-beta in ApoE4 carriers
Rachel Bell[1], Stephanie L. Leal[1], Taylor Mellinger[1], Kaitlin Swinnerton[1], William J. Jagust[1]; [1]University of California, Berkeley
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C90 Age-related differences in time course of brain activation and connectivity during feedback-based associative learning.
Sandra CHANRAUD[1,2], Georges DI-SCALA[1], Maud DUPUY[1], Bixente DILHARREGUY[1], Michèle ALLARD[1,2,3]; [1]INCIA - Université de Bordeaux, UMR 5287- CNRS, Bordeaux cedex, France, [2]EPHE, PSL Research University, Bordeaux, France, [3]CHU de Bordeaux, Bordeaux, France
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C91 Associations between region-specific structural brain integrity and cognitive abilities in old age: A multivariate, longitudinal, structural equation modeling approach
Sandra Düzel[1], Andreas Brandmaier[1,2], Simone Kühn[3], Ulman Lindenberger[1,2]; [1]Max Planck Institute for Human Development, Berlin, Germany, [2]Max Planck UCL Centre for Computational Psychiatry and Ageing Research, Berlin, Germany, [3]University Clinic Hamburg-Eppendorf, Hamburg, Germany
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C92 Aging effects on perceptual and conceptual memory: transformations from short-term to long-term memory
Anisha Adke[1], Caitlin R. Bowman[1], Dagmar Zeithamova[1]; [1]University of Oregon
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C93 An electocorticography (ECoG) study of memory formation in children
Qin Yin[1], Lingfei Tang[1], Mo Malik[1], Andrea Shafer[1], David Chen[1], Eishi Asano[1,2], Noa Ofen[1]; [1]Wayne State University, [2]Children's Hospital of Michigan
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C94 Using functional magnetic resonance imaging to guide positron emission tomography analyses in mild cognitive impairment.
Shaina L. Garrison[1], Chris M. Foster[2], Daniel Kaufer[1], Kathleen Welsh-Bohmer[3], David Lalush[1,4], Kelly S. Giovanello[1]; [1]University of North Carolina at Chapel Hill, [2]University of Texas at Dallas, [3]Duke University, [4]North Carolina State University
Topic Area: LONG-TERM MEMORY: Development & aging

Poster C95 Disentangling interactions between context switches and the spacing effect
Lynn Lohnas[1], Lila Davachi[1]; [1]New York University
Topic Area: LONG-TERM MEMORY: Episodic

Poster C96 Neurobehavioural characteristics of limbic encephalitis associated with voltage-gated potassium channel complex antibodies.
Clare Loane[1], Adriana Roca-Fernandez[1,2], Carmen Lage-Martinez[1,3], Samrah Ahmed[1], Christopher R Butler[1]; [1]Memory Research Group, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, UK., [2]Oxford Multiple Sclerosis and Neuromyelitis Group, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, UK., [3]Cognitive Disorders Unit, Hospital Universitario Marques de Valdecilla, Santander, Spain.
Topic Area: LONG-TERM MEMORY: Episodic

Poster C97 Confidence in recognition memory can be inferred from response pressure without explicit instruction
Josephine A. Urquhart[1], Akira R. O'Connor[1]; [1]University of St Andrews
Topic Area: LONG-TERM MEMORY: Episodic

Poster C98 Characterizing remote memory in posterior cortical atrophy
Samrah Ahmed[1], Muireann Irish[2,3,4], Clare Loane[1], Ian Baker[5], Masud Husain[1], Sian Thompson[5], Clare Mackay[1], Giovanna Zamboni[1], David Foxe[2,3,4], John Hodges[2,3,4], Olivier Piguet[2,3,4], Christopher Butler[1]; [1]University of Oxford, [2]ARC Centre of Excellence in Cognition and its Disorders, [3]Neuroscience Research Australia, [4]The University of New South Wales, [5]Oxford University Hospitals NHS Trust, John Radcliffe Hospital
Topic Area: LONG-TERM MEMORY: Episodic

Poster C99 Goal-invariant and goal-dependent retrieval success effects during conceptual and perceptual episodic recollection
Joseph P. Hennessee[1], Anthony D. Wagner[2], Jesse Rissman[1]; [1]University of California, Los Angeles, [2]Stanford University
Topic Area: LONG-TERM MEMORY: Episodic

Poster C100 Brain activity underlying reactivation of episodic memories following lesion of the right temporal lobe
Corinna Haenschel[1], Nareg Khachatoorian[1], Danai Dima[1], Shona Illingworth[2], Catherine Loveday[3], Martin Conway[1]; [1]City University London, London, UK, [2]University of Kent, UK, [3]University of Westminster, London UK
Topic Area: LONG-TERM MEMORY: Episodic

Poster C101 Resting-state medial temporal lobe connectivity with reward centers predicts how motivation impacts learning
Lea E. Frank[1], Alison R. Preston[2], Dagmar Zeithamova[1]; [1]University of Oregon, [2]University of Texas at Austin
Topic Area: LONG-TERM MEMORY: Episodic

Poster C102 Measuring the impact of short-term training on brain networks using resting state connectivity
Adam Steel[1,2], Cibu Thomas[1], Aaron Trefler[1], Gang Chen[3], Chris Baker[1]; [1]Laboratory of Brain and Cognition, National Institutes of Health, [2]Oxford Centre for Functional MRI of the Brain, University of Oxford, [3]Statistics and Computing Core, National Institutes of Health
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C103 The consolidation of explicit, but not implicit probabilistic sequence learning is associated with anterior delta and theta activity of post-learning Non-REM sleep
Zsofia Zavecz[1,2], Peter Simor[3], Karolina Janacsek[1,2], Kata Horváth[1,2], Csenge Török[1,2], Noémi Éltető[1], Orsolya Pesthy[1], Dezso Nemeth[1,2]; [1]Eötvös Loránd University, Budapest Hungary, [2]Hungarian Academy of Sciences, Budapest, Hungary, [3]Budapest University of Technology and Economics, Budapest, Hungary
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C104 Statistical learning: Manipulation of timing in the reconsolidation phase
Csenge Török[1,2], Karolina Janacsek[1,2], Dezso Nemeth[1,2]; [1]Hungarian Academy of Sciences, Institute of Cognitive Neuroscience and Psychology, [2]Eotvos Lorand University, Institute of Psychology
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C105 Statistical learning and explicit sequence-learning are differentiated with ERPs during task automatization
Adam Takacs[1], Andrea Kóbor[2], Zsofia Kardos[3,4], Karolina Janacsek[1,3], Kata Horvath[1,3], Dezso Nemeth[1,3]; [1]Institute of Psychology, Eötvös Loránd University, Budapest, Hungary, [2]Brain Imaging Centre, Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary, [3]Institute of Cognitive Neuroscience and Psychology, Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary, [4]Department of Cognitive Science, Budapest University of Technology and Economics, Budapest, Hungary
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C106 Knowledge of statistical regularities undergoes similar consolidation in explicit and implicit probabilistic learning
Kata Horváth[1,2], Csenge Török[1,2], Balázs Török[1,2], Orsolya Pesthy[1], Karolina Janacsek[1,2], Dezso Nemeth[1,2]; [1]Eötvös Loránd University, Budapest, Hungary, [2]Hungarian Academy of Sciences, Budapest, Hungary
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C107 Motor learning deficits in cannabis users
Shikha Prashad[1], Elizabeth Dedrick[1], Francesca Filbey[1]; [1]University of Texas at Dallas
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C108 Additive effects of two dopamine modulating genes on feedback-based cognitive sequence learning in younger adults
Sylvia Larson[1], Angelica Boeve[1], Mark Gluck[2], Jessica Petok[1]; [1]Saint Olaf College, [2]Rutgers University
Topic Area: LONG-TERM MEMORY: Skill learning

Poster C109 Neurophysiological Effects of the Presence of an Irrelevant Visual Stimulus on Auditory Neural Activity
Kristina Backer[1], Andrew S. Kessler[1], Laurel A. Lawyer[1], Lee M. Miller[1], David P. Corina[1]; [1]University of California, Davis
Topic Area: PERCEPTION & ACTION: Audition

Poster C110 The Effect of Musicianship and Instrument Type on the Processing of Temporal Features for Speech
Anne Huntemer-Silveira[1], K.J. Jantzen[1], McNeel G. Jantzen[1]; [1]Western Washington University
Topic Area: PERCEPTION & ACTION: Audition

Poster C111 Cortical Networks for Intelligible Speech Identified with Reverse Correlation
Jonathan Venezia[1], Gregory Hickok[2], Virginia Richards[2]; [1]VA Loma Linda Healthcare System, [2]University of California, Irvine
Topic Area: PERCEPTION & ACTION: Audition

Poster C112 Music and the brain: A causal role for the right superior temporal gyrus in expert music ability
Frank Garcea[1,2], Benjamin Chernoff[1], Bram Diamond[1], Wesley Lewis[1], Samuel Tomlinson[3], Alexander Teghipco[1], Raouf Belkhir[1], Susan Smith[3], Jonathan Stone[3], Elizabeth Marvin[4], Webster Pilcher[3], Bradford Mahon[1,2,3];

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Topic Area: PERCEPTION & ACTION: Audition

Poster C113 Speech perception and attention in early bilngual adults and children
Hia Datta[1], Arild Hestvik[2], Valerie Shafer[3]; [1]Communication Sciences and Disorders, Molloy College, [2]Linguistics and Cognitive Sciences, University of Delaware, [3]Speech-Language-Hearing Sciences, The Graduate Center, CUNY
Topic Area: PERCEPTION & ACTION: Audition

Poster C114 Differential altered auditory electrocortical responses in young children with and without megalencephaly on the autism spectrum.
Rosanna De Meo[1,2], Sevan K. Haroontonian[1], Christine Wu Nordahl[2], David G. Amaral[2], Susan M. Rivera[1,2,3], Clifford Saron[1,2]; [1]Center for Mind and Brain, University of California at Davis, Davis, CA, [2]MIND Institute, University of California at Davis School of Medicine, Sacramento, CA, [3]Department of Psychology, University of California at Davis, Davis, CA
Topic Area: PERCEPTION & ACTION: Audition

Poster C115 Involvement or irrelevance: Representation of the self vs. other in joint piano performance recorded by dual-EEG
Madeline Huberth[1], Tysen Dauer[1], Iran Roman[1], Chryssie Nanou[1], Wisam Reid[1], Nick Gang[1], Matthew Wright[1], Takako Fujioka[1]; [1]Stanford University
Topic Area: PERCEPTION & ACTION: Audition

Poster C116 A network for auditory-motor coupling: comparison between musicians and nonmusicians
Shoji Tanaka[1], Eiji Kirino[2,3]; [1]Sophia University, [2]Juntendo University, [3]Shizuoka Hospital
Topic Area: PERCEPTION & ACTION: Audition

Poster C117 Distinct prefrontal responses to salient distractors during perception and goal-directed action
Dan McCarthy[1], Christine Gamble[1], Joo-Hyun Song[1,2]; [1]Department of Cognitive, Linguistic & Psychological Sciences, Brown University, [2]Brown Institute for Brain Science, Brown University
Topic Area: PERCEPTION & ACTION: Other

Poster C118 What do the power and time development of EEG oscillations tell us? Time frequency analysis and event related synchronization in dance experts' perception of music.
Mari-Anne Rosario[1], Hiroko Nakano[1]; [1]Saint Mary's College of California, Moraga CA USA
Topic Area: PERCEPTION & ACTION: Other

Poster C119 Functional parcellation of the planum temporale
Alex Teghipco[1], Prantik Kundu[2,3], Bradley R. Buchsbaum[4], Peter A. Bandettini[5], Gregory Hickok[1]; [1]University of California, Irvine, [2]Icahn School of Medicine at Mt. Sinai, [3]University of Cambridge, [4]University of Toronto, [5]National Institute of Mental Health
Topic Area: PERCEPTION & ACTION: Other

Poster C120 The Influence of Visual Cues on Nonsymbolic Number Comparison and Their Relation to Math Competency
Eric Wilkey[1], Jordan C. Barone[1], Michele M. M. Mazzocco[2], Stephan E. Vogel[3], Gavin R. Price[1]; [1]Peabody College, Vanderbilt University, [2]Institute of Child Development, University of Minnesota, [3]Institute of Psychology, University of Graz, Austria
Topic Area: PERCEPTION & ACTION: Other

Poster C121 pMTG and dlPFC involvement in top-down contextual effects during the perception of other people's actions
Lucia Amoruso[1], Alessandra Finisguerra[1], Cosimo Urgesi[1,2]; [1]University of Udine, Italy, [2]Scientific Institute (IRCCS) Eugenio Medea
Topic Area: PERCEPTION & ACTION: Other

Poster C122 Large scale comparison of retinotopic and category selective maps throughout human visual cortex
Edward Silson[1], Iris Groen[1], Caitlin Van Wicklin[1], Chris Baker[1]; [1]Section on Learning and Plasticity, Laboratory of Brain and Cognition, National Institute of Mental Health, National Institutes of Health
Topic Area: PERCEPTION & ACTION: Vision

Poster C123 Covert simulation of others' actions in real-time
Julia Hamilton[1], Aleksandra Sherman[1]; [1]Occidental College
Topic Area: PERCEPTION & ACTION: Vision

Poster C124 Perception of size and local/global stimulus features during action preparation: an electrophysiological investigation.
Xavier Job[1], Jan de Fockert[1], José van Velzen[1]; [1]Goldsmiths, University of London
Topic Area: PERCEPTION & ACTION: Vision

Poster C125 Native language facilitates conscious visual perception
Martin Maier[1,2], Rasha Abdel Rahman[1,2]; [1]Humboldt-Universität zu Berlin, [2]Berlin School of Mind and Brain
Topic Area: PERCEPTION & ACTION: Vision

Poster C126 Differences in activation patterns connected to the level of arousal evoked by watching dynamic stimuli – fMRI study results
Pamela Sobczak[1], Maria Bierzynska[2], Anna Kozak[3], Maksymilian Bielecki[4], Keerthana Karunkaran[5], Bharat Biswal[6], Jan Strelau[7], Małgorzata Kossut[8]; [1]Department of Psychology, SWPS University of Social Sciences and Humanities, Warsaw, Poland, [2]Laboratory of Neuroplasticity, Department of Molecular and Cellular Neurobiology, Nencki Institute of Experimental Biology, Warsaw, Poland, [3]Laboratory of Neuroplasticity, Department of Molecular and Cellular Neurobiology, Nencki Institute of Experimental Biology, Warsaw, Poland, [4]Department of Psychology, SWPS University of Social Sciences and Humanities, Warsaw, Poland, [5]Department of Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, USA, [6]Department of Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, USA, [7]Department of Psychology, SWPS University of Social Sciences and Humanities, Warsaw, Poland, [8]Laboratory of Neuroplasticity, Department of Molecular and Cellular Neurobiology, Nencki Institute of Experimental Biology, Warsaw, Poland
Topic Area: PERCEPTION & ACTION: Vision

Poster C127 Making sense of objects lying about: How contextual objects shape brain activity during action observation
Nadiya El-Sourani[1,2], Ima Trempler[1,4], Moritz F. Wurm[3], Gereon R. Fink[2,4], Ricarda I. Schubotz[1,2]; [1]University of Münster, Germany, [2]University Hospital Cologe, Germany, [3]University of Trento, Rovereto TN, Italy, [4]Research Centre Jülich, Germany
Topic Area: PERCEPTION & ACTION: Vision

Poster C128 fMRI investigation of part-whole contingencies using 2-D shapes: A partial least squares analysis
Padmapriya Muralidharan[1], Anthony Cate[1]; [1]Virginia Polytechnic Institute and State University
Topic Area: PERCEPTION & ACTION: Vision

Poster C129 Communicability of cerebral activities: shaping similar percepts across individuals
Shahin Tavakol; [1]
Topic Area: PERCEPTION & ACTION: Vision

Poster C130 The effect of border-ownership on perception of three dimensional object
Tomonori Ishizaki[1], Masayuki Kikuchi[1]; [1]Tokyo University of Technology
Topic Area: PERCEPTION & ACTION: Vision

Poster C131 Scenes shape the neural representation of objects
Talia Brandman[1], Marius Peelen[1]; [1]University of Trento
Topic Area: PERCEPTION & ACTION: Vision

Poster C132 Ocular measures provide mechanistic insights into the malleability of reasoning skills
Belen Guerra-Carrillo[1], Maria Eckstein[1], Pooya Ganjali[1], Silvia A. Bunge[1]; [1]University of California at Berkeley
Topic Area: THINKING: Reasoning

Poster C133 Cognitive models of realistic belief updating
Nikki Marinsek[1], Michael B. Miller[1]; [1]University of California, Santa Barbara
Topic Area: THINKING: Reasoning

Poster C134 Neural networks of logical reasoning and the influence of belief system
Mohammadreza Bonyadi[1], Maryam Ziaei[1], David C. Reutens[1]; [1]Centre for Advanced Imaging, the University of Queensland, St. Lucia, Brisbane, Australia
Topic Area: THINKING: Reasoning

Poster C135 Intelligence and modular brain networks: The TPJ's involvement in inter-modular communication is associated with general intelligence
Kirsten Hilger[1,2], Matthias Ekman[3], Christian Fiebach[1,2], Ulrike Basten[1]; [1]Goethe University Frankfurt, Frankfurt am Main, Germany, [2]IDeA Center for Individual Development and Adaptive Education, Frankfurt am Main, Germany, [3]Donders Institute for Brain, Cognition, and Behaviour, Radboud University Nijmegen, The Netherlands
Topic Area: THINKING: Reasoning

Poster C136 Neural representations of numerosity support the acquisition of counting in preschool children
Alyssa Kersey[1], Jessica Cantlon[1]; [1]University of Rochester
Topic Area: THINKING: Reasoning

Poster C137 Activation of Paired Associates Predicts Cue Revaluation in Causal Learning
Sean O'Bryan[1], Evan Livesey[2], Tyler Davis[1]; [1]Texas Tech University, [2]University of Sydney
Topic Area: THINKING: Reasoning

Poster C138 Does the brain have a domain-general mechanism for representing mental models?
Katherine L. Alfred[1], Andrew C. Connolly[1], Joshua S. Cetron[1], David J. M. Kraemer[1]; [1]Dartmouth College
Topic Area: THINKING: Reasoning

Poster C139 The Role of the Prefrontal Cortex in Inductive Reasoning: An fNIRS Study
Layla Unger[1], Jaeah Kim[1], Theodore J. Huppert[2], Julia Badger[3], Anna V. Fisher[1]; [1]Carnegie Mellon University, [2]University of Pittsburgh, [3]University of Oxford
Topic Area: THINKING: Reasoning

Poster C140 Overlapping neural representations of magnitude support understanding nonsymbolic and symbolic fractions
John Binzak[1], Elizabeth Toomarian[1], Edward Hubbard[1]; [1]University of Wisconsin - Madison
Topic Area: THINKING: Reasoning

Poster C141 Training Spatial Thinking in the High School Classroom Impacts Cognitive and Neural Correlates of Verbal Relational Reasoning
Emily Peterson[1,2], Robert Kolvoord[1], David Kraemer[3], Adam Weinberger[2], David Uttal[4], Dan Goldman[2], Adam Green[2]; [1]James Madison University, [2]Georgetown University, [3]Dartmouth College, [4]Northwestern University
Topic Area: THINKING: Reasoning

Poster Session D

Poster D1 Large-scale network fMRI connectivity increases caused by autobiographical memory retrieval
Kristen Warren[1], Sungshin Kim[1], Molly Hermiller[1], Aneesha Nilakantan[1], Jon O'Neil[1], Robert Palumbo[1], Joel Voss[1]; [1]Northwestern University
Topic Area: LONG-TERM MEMORY: Other

Poster D2 Structural and functional evidence for thalamic nucleus reuniens in the human brain
Zachariah Reagh[1], Aaron Mattfeld[2], Timothy Allen[2], Maria Montchal[1], Michael Yassa[1]; [1]University of California, Irvine, [2]Florida International University
Topic Area: LONG-TERM MEMORY: Other

Poster D3 Is this my rubber ducky? Does sleep benefit memory specificity or memory generalization?
Sarah Witkowski[1], Leonardo E. Dionisio[1], Jessica D. Creery[1], Ken A. Paller[1]; [1]Northwestern University
Topic Area: LONG-TERM MEMORY: Other

Poster D4 Prevalence of mild cognitive impairment and dementia in a population of adults over 60 years old in El Salvador
Jonathan V. Hernández[1]; [1]Universidad de El Salvador
Topic Area: LONG-TERM MEMORY: Other

Poster D5 Chronic Treatment with Bean Phosphatidyl-Serine Ameliorates Learning and Memory in TMT-induced Cognitive Deficit rats
Minsook Ye[1], dae-hyun hahm[1], hye-jung lee[1], insop shim[1]; [1]kyung hee university
Topic Area: LONG-TERM MEMORY: Other

Poster D6 Functional and structural characteristics of attentional networks predict attention and consciousness interactions
Ana B. Chica[1], Michel Thiebaut de Schotten[2], Paolo Bartolomeo[2], Pedro M. Paz-Alonso[3]; [1]University of Granada, [2]CNRS U7225, Inserm U1127, [3]BCBL, Basque Center on Cognition, Brain and Language
Topic Area: ATTENTION: Spatial

Poster D7 Flexible biasing of visuospatial attention works through both target facilitation and distractor suppression
Kerstin Unger[1], Rebecca Waugh[1], Michael S. Worden[1]; [1]Brown University, Department of Neuroscience
Topic Area: ATTENTION: Spatial

Poster D8 Somatic symptoms and exogenous attention: an ERP study investigating modality specificity
Bettina Forster[1], Maayan Karlinski[1], Alexander Jones[2]; [1]City, University of London, [2]Middlesex University, London

Topic Area: ATTENTION: Spatial

Poster D9 ERP evidence of increased distractor salience AND suppression in psychopathic personality (target detection is unimpaired)
Patrick Carolan[1], John J. McDonald[1], Mario Liotti; [1]Simon Fraser University
Topic Area: ATTENTION: Spatial

Poster D10 Brain Structures Modulating Alpha Oscillations in Anticipatory Spatial Visual Attention: A Simultaneous EEG-fMRI Study
Mingzhou Ding[1], Yuelu Liu[2], Jesse Bengson[2], Haiqing Huang[1], George R Mangun[2]; [1]University of Florida, [2]University of California at Davis
Topic Area: ATTENTION: Spatial

Poster D11 Cortical thickness and global/local visual abilities in children
Nicolas Poirel[1,2], Grégory Simon[1], Katell Mevel[1], François Orliac[1], Sonia Dollfus[3,4], Olivier Houdé[1,2], Carole Peyrin[5], Grégoire Borst[1]; [1]LaPsyDÉ, UMR 8240, CNRS, Université Paris Descartes, Université de Caen Normandie, France, [2]Institut Universitaire de France (IUF), Paris, [3]ISTS, UMR 6301, CNRS, CEA, Caen, France, [4]CHU de Caen, Service de Psychiatrie, Centre Esquirol, Caen, France, [5]LPNC, UMR 5105, CNRS, Université Pierre Mendès France, France
Topic Area: ATTENTION: Spatial

Poster D12 Sensory Activation as A Common Mechanism of Perceptual Pseudoneglect: Establishing Convergent and Discriminant Validity of Measures of Attention and Awareness
Jiaqing Chen[1], Matthias Niemeier[1,2]; [1]University of Toronto Scarborough, [2]Centre for Vision Research, York University
Topic Area: ATTENTION: Spatial

Poster D13 Dynamic coupling between the anterior cingulate and occipital alpha power during willed attentional control.
Jesse Bengson[1,3], Xiaoke Zhang[2], George Mangun[3]; [1]Sonoma State University, [2]University of Delaware, [3]University of California-Davis
Topic Area: ATTENTION: Spatial

Poster D14 Can orienting endogenous spatial attention impact subjective awareness more than objective performance?
Marine Vernet[1], Savannah Lokey[1], Sara Ahmed[1], Shruti Japee[1], Valentinos Zachariou[1], Leslie Ungerleider[1]; [1]Laboratory of Brain and Cognition, NIMH/NIH
Topic Area: ATTENTION: Spatial

Poster D15 Impact of acute lung injury on cognitive function in experimental mice
Amarjit Naura[1], Bijayani Sahu[1], Rajat Sandhir[1]; [1]Department of Biochemistry, Panjab University, Chandigarh
Topic Area: ATTENTION: Spatial

Poster D16 Subthalamic nucleus stimulation impairs emotional conflict monitoring in Parkinson's Disease
Friederike Irmen[1,2], Julius Huebl[2], Henning Schroll[2,4], Gerd-Helge Schneider[3], Andrea Kühn[1,2,3]; [1]Berlin School of Mind and Brain, Humboldt Universität zu Berlin, Germany, [2]Department of Neurology, Charité University Medicine Berlin, Germany, [3]Department of Neurosurgery, Charité University Medicine Berlin, Germany, [4]Department of Computer Science, Chemnitz University of Technology, Chemnitz, Germany
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D17 Evidence for error feedback control during intrinsic neuromodulation of emotion.
Keith Bush[1], Josh Cisler[2], Andrew James[1], Clint Kilts[1]; [1]University of Arkansas for Medical Sciences, [2]University of Wisconsin - Madison
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D18 Early and late inhibitory processes for emotional words: An ERP investigation
Regard Booy[1], Mario Liotti[1]; [1]Simon Fraser University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D19 Effects of interoceptive attention on emotional responses
Kamryn Taub[1], Sean Fannon[1]; [1]Folsom Lake College
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D20 Neural basis of altruistic motivation towards ingroup soccer fans
Tiago Bortolini[1,2], Patrícia Bado[1,2], Sebastian Hoefle[1], Annerose Engel[1], Roland Zahn[3], Jean-Claude Dreher[4], Jorge Moll[1]; [1]Cognitive and Behavioral Neuroscience Unit, D'Or Institute for Research and Education, Rio de Janeiro, [2]Graduate Program in Morphological Sciences, Federal University of Rio de Janeiro, [3]Institute of Psychiatry, Psychology & Neuroscience, Centre for Affective Disorders, King's College London, [4]Neuroeconomics, Reward and Decision-making Team, Institut des Sciences Cognitives Marc Jeannerod, Centre National de la Recherche Scientifique
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D21 Medial prefrontal activation and liking / wanting judgements: Near-Infrared Spectroscopy (NIRS) study.
Eriko Matsumoto[1], Tomoya Kawashima[1,2], Masahiro Zaitsu[1], Mathieu Lajante[3], Tomoyuki Naito[4]; [1]Graduate School of Intercultural Studies, Kobe University, [2]Japan Society for the Promotion of Science, [3]Graduate School of Management (IGR – IAE), University of Rennes 1 & CREM (UMR 6211), [4]Graduate School of Medicine, Osaka University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D22 The role of reward and punishment motivation in attention: an ERP investigation
Arzu Ozkan Ceylan[1], Xiaoqian Yu[2], Justin Burgess[2], Geoffrey F. Potts[2]; [1]Hacettepe University Department of Psychology, [2]University of South Florida Department of Psychology
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D23 Modulating network dynamics using Theta Burst Stimulation to vlPFC
Cammie Rolle[1], Hersh Trivedi[1], Karen Monuszko[1], Andrew Yee[1], Amit Etkin[1]; [1]Stanford University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D24 Emotion regulation constructs associated with variance of fear learning in Post-Traumatic Stress Disorder
Emily M. Hahn[1], Josh M. Cisler[2], G. Andrew James[1], Anthony A. Privratsky[1], Clinton D. Kilts[1]; [1]Brain Imaging Research Center, Psychiatric Research Institute, University of Arkansas for Medical Sciences, [2]Department of Psychiatry, University of Wisconsin- Madison
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D25 Neural Processing of Gender Stereotypes Separate Liberals and Conservatives
Adam Baker[1], Travis Baker[2], Genevieve Fuji Johnson[3], Mario Liotti[4]; [1]Simon Fraser University, [2]Rutgers University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D26 Deriving a neural representation of interpersonal guilt from multivariate brain patterns
Hongbo Yu[1,6], Leonie Koban[2,3], Luke Chang[2,4], Ullrich Wagner[5], Patrik Vuilleumier[3], Xiaolin Zhou[1], Tor Wager[2]; [1]Peking University, [2]University of Colorado Boulder, [3]University of Geneva, [4]Dartmouth College, [5]University of Münster, [6]University of Oxford
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D27 Sex Differences in Cooperation Decisions Following Observed Affective Non-Verbal Social Interactions: An ERP Investigation
Matthew Moore[1], Illia Kuznietsov[2], Yuta Katsumi[1], Stephanie Kern[1], Qingying Zheng[1], Sanda Dolcos[1], Florin Dolcos[1]; [1]University of Illinois at Urbana-Champaign, [2]Eastern European National University
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D28 Contributions of physiological arousal levels to performance under pressure: an fMRI study.
Noriya Watanabe[1,2,3,4], Mauricio R. Delgado[1]; [1]Rutgers University, [2]Japan Society for Promotion of Science, [3]Nagoya University, [4]National Institute of Information and Communications Technology
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster D29 I Like the Way You Move: Increased Value of Biological Motion in Individuals with Few Autistic Traits
Elin Williams[1], Emily S Cross[1]; [1]Bangor University
Topic Area: EMOTION & SOCIAL: Other

Poster D30 Mirroring multiple agents at the same time: An fMRI study
Emiel Cracco[1], Christian Keysers[2], Amanda Clauwaert[1], Marcel Brass[1]; [1]Ghent University, [2]Netherlands Institute for Neuroscience
Topic Area: EMOTION & SOCIAL: Other

Poster D31 Trait impulsivity is associated with functional connectivity of striatal-frontal circuits differentially in smokers and nonsmokers
Sufang Li[1], Xiaochu Zhang[1], Betty Jo Salmeron[1], Hong Gu[1], Elliot Stein[1], Yihong Yang[1]; [1]Neuroimaging Research Branch, National Institute on Drug Abuse, NIH
Topic Area: EMOTION & SOCIAL: Other

Poster D32 Embodied empathy when judging crimes: Interindividual differences predict responses in somatosensory brain areas
Claudia Denke[1], Claudia Spies[1], Andreas Heinz[2], Andreas Ströhle[2], Michael Schaefer[3]; [1]Department of Anesthesiology and Intensive Care Medicine,Charité – Universitätsmedizin Berlin, [2]Department of Psychiatry and Psychotherapy, Charité – Universitätsmedizin Berlin, [3]Medical School Berlin
Topic Area: EMOTION & SOCIAL: Other

Poster D33 Neurocomputational model of decision-making under social influence in cocaine addicts
Dongil Chung[1], Brooks King-Casas[1,2,3], George Christopoulos[1,4,5], Thomas Newton[6], Richard De La Garza[6], Pearl Chiu[1,2,3]; [1]Virginia Tech Carilion Research Institute, [2]Salem Veteran Affairs Medical Center, [3]Virginia Tech, [4]Nanyang Technological University, [5]Culture Science Institute, [6]Baylor College of Medicine & Michael E. DeBakey VA Medical Center
Topic Area: EMOTION & SOCIAL: Other

Poster D34 Variations in alpha oscillatory power during rule switching
Paolo Medrano[1], Robert Ross[1]; [1]University of New Hampshire
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D35 Towards Optimal Competitive Behavior: Wins versus Losses Determine Model-based versus Random Choices in Competitive Task Switching
Atsushi Kikumoto[1], Caitlin Corona[1], Joshua Karpf[1], Ulrich Mayr[1]; [1]University of Oregon
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D36 Different Levels of Intrinsic Reward Modulate Cognitive Control Allocation While Performing a Naturalistic Behavioral Task
Richard Huskey[1], Britney Craighead[2], Michael Miller[2], Rene Weber[2]; [1]The Ohio State University, [2]University of California Santa Barbara
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D37 Preparatory brain activity in dual-tasking
Marco Steinhauser[1], Robert Steinhauser[1]; [1]Catholic University of Eichstätt-Ingolstadt
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D38 Individual differences in mixing costs relate to general executive function
Louisa L. Smith[1], Naomi P. Friedman[1,2], Marie T. Banich[1]; [1]Department of Psychology and Neuroscience, University of Colorado Boulder, [2]Institute for Behavioral Genetics, University of Colorado Boulder
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D39 Causal evidence for learning-dependent frontal lobe contributions to cognitive control
Paul Muhle-Karbe[1], Jiefeng Jiang[1,2], Tobias Egner[1]; [1]Duke University, [2]Stanford University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D40 Dynamics of hippocampal-prefrontal cortex interactions supporting event segmentation
Anna Jafarpour[1], Sandon Griffin[1], Jack J. Lin[2], Robert T. Knight[1]; [1]University of California, Berkeley, California, [2]University of California, Irvine, California
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D41 Correlations between Gray-White Matter Blurring in Prefrontal Lobe Regions and Cognitive Set-Shifting in Healthy Adults
Carl Kim[1], Joehyun Kim[2], Sanford Kim[3]; [1]St. Paul's School, [2]Academy for Medical Science Technology, [3]Horace Mann School
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D42 Acute stress alters specific elements of cognitive flexibility in chronic cannabis users
Amy T Nusbaum[1], Paul Whitney[1], Carrie Cuttler[1], Alexander Spradlin[1], Ryan J McLaughlin[1], John Hinson[1]; [1]Washington State University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D43 Effect of a dopaminergic antagonist on the drives to perform extraordinary roles
Tim Hadjis[1,3], Gifty Asare[1,3], Ana Fernandez-Cruz[4], Ola Mohamed Ali[1,3], Ishan Walpolla[1,3], Julia Segal[1,3], Bruno Debruille[1,2,3]; [1]Department of Psychiatry, McGill University, Montreal, QC, Canada, [2]Department of Neurology and Neurosurgery, McGill University, Montreal, QC, Canada, [3]Douglas Mental Health University Institute, Montreal, QC, Canada, [4]McGill University Integrated Program in Neuroscience, Montréal, QC, Canada
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D44 The Neural Correlates of Proactive and Reactive Control in Bilingual Word Production
Junjie Wu[1], Yongben Fu[1], Chunyan Kang[1], Shuhua Li[1], Taomei Guo[1]; [1]Beijing Normal University
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D45 Investigation of the changes in oscillatory power during rule switching after mild traumatic brain injury
Stephanie Barlow[1], Paolo Medrano[1], Daniel Seichepine[2], Robert Ross[1]; [1]University of New Hampshire, [2]University of New Hampshire-Manchester
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D46 Decoding rule modality in the human left inferior frontal gyrus
Michele Furlan[1], Laura Babcock[2], Antonino Vallesi[1]; [1]Department of Neuroscience, University of Padua, Padua, Italy, [2]Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden
Topic Area: EXECUTIVE PROCESSES: Goal maintenance & switching

Poster D47 Visual field maps limit working memory precision
Xingyu Ding[1,2], Wayne E. Mackey[1], Clayton E. Curtis[1], Xiao-Jing Wang[1,2], Jonathan Winawer[1]; [1]NYU, [2]NYU Shanghai
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D48 Dynamic coding in PFC, FEF and LIP during a change localization working memory task
Dante Wasmuht[1], Eelke Spaak[1], Timothy J. Buschman[2], Earl K. Miller[3], Mark Stokes[1]; [1]Oxford University, [2]Princeton University, [3]Massachusetts Institute of Technology
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D49 Electrophysiological Correlates of Time-Based Prospective Memory in Individuals Across the Lifespan
Erin E. Aisenberg[1], Christy C. Chan[1], Sarah A. Raskin, Ph.D.[1]; [1]Trinity College
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D50 sFROST: a Spiking Model of Working Memory Maintenance
Zachary Hutchinson[1], Sebastien Helie[2], Shawn W. Ell[1]; [1]University of Maine, [2]Purdue University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D51 Retroactive attention can protect multiple working memory contents from perceptual interference. Evidence by event-related EEG parameters in a retro-cuing paradigm
Anna Magdalena Barth[1], Edmund Wascher[2], Daniel Schneider[3]; [1]Leibniz Research Centre for Working Environment and Human Factors #1, 2, 3
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D52 The effects of individual variations in Contrast Sensitivity on Working Memory: An ERP study.
Cristina Filannino[1], Elliot Freeman[1], Andrew Parton[2], Corinna Haenschel[1]; [1]City, University of London, [2]Brunel University London
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D53 rTMS stimulation on right frontal and parietal reduces the impairment of object location changes on object identity change detection
PING YANG[1,2,3,4], LING LI[1,2,3,4]; [1]Key Laboratory for NeuroInformation of Ministry of Education, [2]High-Field Magnetic Resonance Brain Imaging Key Laboratory of Sichuan Province, [3]Center for Information in Medicine, [4]University of Electronic Science and Technology of China
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D54 Variability in attentional control explains working memory impairments in ADHD
Sarah L. Karalunas[1], Brittany Alperin[1], Christiana Smith[1]; [1]Oregon Health & Science University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster D55 The N170 ERP component differs in laterality, distribution, and association with continuous reading measures for deaf and hearing readers
Karen Emmorey[1], Katherine J. Midgley[1], Phillip J. Holcomb[1]; [1]San Diego State University
Topic Area: LANGUAGE: Lexicon

Poster D56 When Script met Sally: An ERP study on the impact of lexical processing during the early encoding of handwritten words
Marta Vergara-Martinez[1], Manuel Carreiras[2], Eva Gutierrez-Sigut[1], Cristina Gil[2], Manuel Perea[1,2]; [1]Universitat de Valencia, [2]Basque Center on Cognition, Brain and Language (BCBL)
Topic Area: LANGUAGE: Lexicon

Poster D57 An ERP Investigation of Repetition Priming Effects in American Sign Language: Time-locking to Dynamic Stimuli
Katherine J. Midgley[1], Phillip J. Holcomb[1], Karen Emmorey[1]; [1]San Diego State University
Topic Area: LANGUAGE: Lexicon

Poster D58 Word Frequency Effects During Ambient Language Processing
Laurel Lawyer[1], Andrew Kessler[1], Lee Miller[1], David Corina[1]; [1]University of California, Davis
Topic Area: LANGUAGE: Lexicon

Poster D59 Orthographic and phonological sensitivity in the reading network in skilled deaf readers.
Laurie S. Glezer[1], Jill Weisberg[1], Cindy O'Grady[1], Stephen McCullough[1], Katherine J. Midgley[1], Phillip J. Holcomb[1], Karen Emmorey[1]; [1]San Diego State University
Topic Area: LANGUAGE: Lexicon

Poster D60 Bilingual lexical access is triggered by the intention to speak: behavioral and ERP/EEG evidence.
Francesca Martina Branzi[1], Emmanuel Biau[2], Clara Martin[3], Albert Costa[4]; [1]University of Manchester, [2]Maastricht University, [3]Basque Center on Cognition, Brain and Language (BCBL), [4]Pompeu Fabra University; ICREA, Institució Catalana de Recerca i Estudis Avançats
Topic Area: LANGUAGE: Lexicon

Poster D61 Investigating the Temporal Dynamics of Word Processing Using Multiband fMRI
Stephen Bailey[1], Laurie Cutting[1,2]; [1]Vanderbilt Brain Institute, Vanderbilt University, [2]Vanderbilt Kennedy Center, Vanderbilt University
Topic Area: LANGUAGE: Lexicon

Poster D62 Primary motor cortex is involved in online word learning: A combined TMS-MRI study
Nikola Vukovic[1], Yury Shtyrov[1]; [1]Center of Functionally Integrative Neuroscience, Institute for Clinical Medicine, Aarhus University, Denmark
Topic Area: LANGUAGE: Lexicon

Poster D63 No escape from morphological parsing in Semitic languages: The case of proper nouns in Arabic
Sami Boudelaa[1]; [1]Department of Linguistics, United Arab Emirates University
Topic Area: LANGUAGE: Lexicon

Poster D64 Decoding phonology and lexicality from MEG data
Keith Doelling[1], Bijan Pesaran[1], David Poeppel[2]; [1]New York University, New York, NY, [2]Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany
Topic Area: LANGUAGE: Lexicon

Poster D65 Electrophysiological evidence of lexical competition from masked neighbor priming
Gabriela Meade[1,2], Katherine J. Midgley[1], Jonathan Grainger[3], Phillip J. Holcomb[1], Karen Emmorey[1]; [1]San Diego State University, [2]University of California, San Diego, [3]Aix-Marseille University & CNRS
Topic Area: LANGUAGE: Lexicon

Poster D66 High Definition-transcranial Direct Current Stimulation Enhances Statistical Learning
Julie Fratantoni[1], John Hart[1,2], Julia Evans[1]; [1]The University of Texas at Dallas, [2]The University of Texas Southwestern Medical Center
Topic Area: LANGUAGE: Lexicon

Poster D67 Phonological rules affect natural speech processing
Miriam Munoz[1], Michael Key[2], Ahren B. Fitzroy[1], Lisa D. Sanders[1]; [1]University of Massachusetts, [2]University of Maryland
Topic Area: LANGUAGE: Other

Poster D68 Electrophysiological effects of orthographic neighborhood in a letter detection task
Stephanie Osmond[1], Phillip J. Holcomb[1], Gabriela Meade[1,2]; [1]San Diego State University, [2]University of California, San Diego
Topic Area: LANGUAGE: Other

Poster D69 Action representations depicted in gesture are modulated by motion-content in Parkinson's disease.
Stacey Humphries[1,2], Judith Holler[3], Trevor Crawford[4], Ellen Poliakoff[2]; [1]University of Pennsylvania, [2]University of Manchester, [3]Max Planck Institute for Psycholinguistics, [4]University of Lancaster
Topic Area: LANGUAGE: Other

Poster D70 Categorization of Mandarin lexical tones in native and naïve non-native listeners: ERP evidence
Yang Gao[1], Darren Tanner[1], Jerome Packard[1], Chilin Shih[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Other

Poster D71 Asymmetric associations between GABA and intrinsic auditory network activity
Samika Kumar[1], Srikantan Nagarajan[1], Fumiko Hoeft[1], Roeland Hancock[1]; [1]University of California, San Francisco
Topic Area: LANGUAGE: Other

Poster D72 Individual Differences in Language Processing: A Hybrid ERP/SPR Investigation
Amalia Reyes[1], Darren S. Tanner[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Other

Poster D73 The Ad hoc Perceptual Grouping of Speech Sounds in the Varying Standards Oddball Paradigm
Chao Han[1], Ryan Rhodes[1], Arild Hestvik[1]; [1]University of Delaware
Topic Area: LANGUAGE: Other

Poster D74 Development of Language and Social Behaviors in School-Age Children with Autism
Nicholas Woo-VonHoogenstyn[1,2], Philip Lai[3]; [1]Salk Institute, [2]UC San Diego, [3]Wisconsin-Madison
Topic Area: LANGUAGE: Other

Poster D75 Neural changes following short-term visual word recognition training
Sophia van Hees[1,2], Penny M Pexman[1,2], Sage Brown[1], Andrea B Protzner[1,2]; [1]University of Calgary, Department of Psychology, [2]Hotchkiss Brain Institute, University of Calgary
Topic Area: LANGUAGE: Other

Poster D76 Audiovisual speech intelligibility decays under adverse listening conditions
Jess R. Kerlin[1], Antoine J. Shahin; [1]UC Davis, Center for Mind and Brain
Topic Area: LANGUAGE: Other

Poster D77 Double dissociation of structure-function relationships between memory and fluid intelligence using magnetic resonance elastography
Hillary Schwarb[1], Curtis L. Johnson[2], Charles H. Hillman[3], Arthur F. Kramer[3], Neal J. Cohen[1], Aron K. Barbey[1]; [1]Beckman Institute, University of Illinois, [2]University of Delaware, [3]Northeastern University
Topic Area: LONG-TERM MEMORY: Episodic

Poster D78 The neural correlates of successful source encoding and recognition
Louis Renoult[1], Carolin Sievers[1], Matthew Spriggs[1], Andrew P. Bayliss[1]; [1]University of East Anglia, UK
Topic Area: LONG-TERM MEMORY: Episodic

Poster D79 Memory consolidation reconfigures neural pathways involved in the suppression of emotional memories
Peter Bayley[1,2], Yunzhe Liu[3], Wanjun Lin[3], Chao Liu[3], Yuejia Luo[4], Jianhui Wu[5], Shaozheng Qin[2]; [1]Department of Veterans Affairs, [2]Stanford University, [3]McGovern institute for Brian Research, Beijing Normal University, [4]Shenzhen University, [5]Chinese Academy of Sciences
Topic Area: LONG-TERM MEMORY: Episodic

Poster D80 Investigating semantic and episodic representations for concepts
Wei-Chun Wang[1], Simon W Davis[1], Roberto Cabeza[1]; [1]Duke University
Topic Area: LONG-TERM MEMORY: Episodic

Poster D81 Modulation of regional activity and inter-regional connectivity during recollection of visual and auditory information
Danielle King[1], MIchael Rugg[1]; [1]University of Texas at Dallas
Topic Area: LONG-TERM MEMORY: Episodic

Poster D82 Multivoxel pattern analysis reveals task-general representation of decision criterion
Benjamin Turner[1], Evan Layher[1], Nicole Marinsek[1], Puneeth Chakravarthula[1], Anjali Dixit[1], Amir Meghdadi[1], Barry Giesbrecht[1], Miguel Eckstein[1], Michael Miller[1]; [1]University of California, Santa Barbara
Topic Area: LONG-TERM MEMORY: Episodic

Poster D83 MDMA diminishes the recollection of emotional information.
Manoj Doss[1], Jessica Weafer[1], David Gallo[1], Harriet de Wit[1]; [1]University of Chicago
Topic Area: LONG-TERM MEMORY: Episodic

Poster D84 Interactions between parietal and striatal systems contribute to subjective recollection and decision-making
Yana Fandakova[1], Elliott Johnson[1], Simona Ghetti[1]; [1]University of California Davis
Topic Area: LONG-TERM MEMORY: Episodic

Poster D85 Effects of Depression in Episodic Memory Updating
Bhaktee Dongaonkar[1], Sumantra Chattarji[1]; [1]National Center for Biological Sciences, Tata Institute of Fundamental Research, Bangalore, India
Topic Area: LONG-TERM MEMORY: Episodic

Poster D86 Neurocognitive mechanisms of functional and dysfunctional socio-emotional prospection
Jessica Andrews-Hanna[1,2], Emily Lane[1], Lindsay Ives[1], Aylah Sroloff[1], Leonie Koban[1], Michelle Ferris[1], Jessica Green[1], Donna Rose Addis[3], Joanna Arch[1]; [1]University of Colorado Boulder, [2]University of Arizona, [3]University of Auckland
Topic Area: LONG-TERM MEMORY: Episodic

Poster D87 Exemplar repetition at encoding alters the specificity of retrieval-related mnemonic information
Erik Wing[1], Wei-Chun Wang[1], Mark Hatcher[1], Roberto Cabeza[1]; [1]Duke University
Topic Area: LONG-TERM MEMORY: Episodic

Poster D88 Lateral occipital complex activation associated with response confidence during forced-choice recognition of novel abstract kaleidoscope images
Michael S. Cohen[1], Larry Y. Cheng[1], Ken A. Paller[1], Paul J. Reber[1]; [1]Northwestern University
Topic Area: LONG-TERM MEMORY: Episodic

Poster D89 THETA OSCILLATORY ACTIVITY IN SENSORY CORTEX IS ASSOCIATED WITH REACTIVATION AND ACCURACY AT SUBSEQUENT TEST
John Walker[1], Kathy Low[1], Neal Cohen[1], Gabriele Gratton[1], Monica Fabiani[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LONG-TERM MEMORY: Episodic

Poster D90 How does pre-existing person knowledge affect source memory? Event-Related Potentials dissociate effects of person knowledge and recollection.
Graham MacKenzie[1], Peter J.B. Hancock[1], David I. Donaldson[1]; [1]University of Stirling
Topic Area: LONG-TERM MEMORY: Episodic

Poster D91 Mechanisms of targeted memory reactivation during sleep
James Antony[1], Luis Piloto[1], Margaret Wang[1], Ken Norman[1], Ken Paller[2]; [1]Princeton University, [2]Northwestern University
Topic Area: LONG-TERM MEMORY: Episodic

Poster D92 Organization of object representations across different medial temporal lobe structures
Anna Blumenthal[1], Bobby Stojanoski[1], Chris Martin[1,2], Rhodri Cusack[1], Stefan Köhler[1,2,3]; [1]University of Western Ontario, [2]University of Toronto, [3]Rotman Research Institute
Topic Area: LONG-TERM MEMORY: Other

Poster D93 A novel account of developmental math disability: The procedural deficit hypothesis
Michael Ullman[1], Tanya Evans[2]; [1]Georgetown University, [2]Stanford University
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D94 The role of DLPFC in statistical learning: Evidence from Bilateral Transcranial Magnetic Stimulation
Dezso Nemeth[1,2], Geza Ambrus[3], Karolina Janacsek[1,2], Anna Triborn[3], Gyula Kovacs[3]; [1]Eötvös Loránd University, Budapest, Hungary, [2]Hungarian Academy of Sciences, Budapest, Hungary, [3]Friedrich Schiller University, Jena, Germany
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D95 Resting state connectivity before and after visuo-motor skill learning
Aurélie L Manuel[1], Adrian G Guggisberg[1,2], Francesco Turri[2], Armin Schnider[1,2]; [1]Laboratory of Cognitive Neurorehabilitation, University of Geneva and University Hospital of Geneva , Switzerland, [2]Division of Neurorehabilitation, University Hospital of Geneva, Switzerland
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D96 Post-practice resting-state functional connectivity predicts the benefit of contextual interference on motor learning
Chien-Ho Lin[1], Ho-Ching Yang[1], Barbara Knowlton[2], Shin-Leh Huang[1], Ming-Chang Chiang[1]; [1]1National Yang-Ming University, Taiwan, [2]UCLA
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D97 Age-related differences in implicit skill consolidation across the human lifespan: Dissociation between general skill and sequence-specific knowledge
Karolina Janacsek[1,2], Dora Juhasz[3], Dezso Nemeth[1,2]; [1]Hungarian Academy of Sciences, [2]Eotvos Lorand University, [3]University of Szeged
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D98 Neuroimaging context-dependent perceptual classification
Matthew Crossley[1], Jessica Roeder[2], Lauren Vucovich[2], F. Gregory Ashby[2]; [1]SRI International, [2]UC Santa Barbara
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D99 Lateral Occipital and Prefrontal Activation Reflect Distinct Cognitive Mechanisms Involved in Classification of Real-World Stimuli
Kyle Morgan[1,2], Dagmar Zeithamova[1]; [1]University of Oregon, [2]Electrical Geodesics, Inc.
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D100 Investigating Individual Differences in Implicit Sequence Learning
Kelsey R. Thompson[1], Paul J. Reber[1]; [1]Northwestern University
Topic Area: LONG-TERM MEMORY: Skill learning

Poster D101 Associations between neurochemistry and oscillatory speech coding
Roeland Hancock[1], Srikantan Nagarajan[1], Fumiko Hoeft[1]; [1]University of California, San Francisco
Topic Area: PERCEPTION & ACTION: Audition

Poster D102 Categorical perception of Mandarin lexical tone at age 8 can predict children's reading ability at age 10 in Chinese children: a longitudinal auditory ERP investigation.
Han Wu[1], Pengfei Qu[2], Linjun Zhang[3], Hua Shu[4], Bruce McCandliss[5], Jingming Liu[1]; [1]Tsinghua University, [2]Chinese Academy of Governance, [3]Beijing Language and Culture University, [4]Beijing Normal University, [5]Standford University
Topic Area: PERCEPTION & ACTION: Audition

Poster D103 Effects of a tinnitus percept on tone discrimination learning in Mongolian Gerbils
Achim Schilling[1], Patrick Krauss[1], Konstantin Tziridis[1], Ilona Strohmeyer[1], Holger Schulze[1]; [1]University of Erlangen-Nuremberg
Topic Area: PERCEPTION & ACTION: Audition

Poster D104 Altered speech production in response to transient mid-utterance formant perturbation
Inez Raharjo[1,2], Hardik Kothare[1], John F. Houde[1], Srikantan S. Nagarajan[1]; [1]University of California, San Francisco, [2]University of California, Berkeley
Topic Area: PERCEPTION & ACTION: Audition

Poster D105 Brain structural changes in chronic bilateral tinnitus: subtypes and effects of co-morbidity
Bianca Besteher[1], Daniela Ivansic[1], Christian Gaser[1], Igor Nenadic[1,2], Orlando Guntinas-Lichius[1], Christian Dobel[1]; [1]Jena University Hospital, Jena, Germany, [2]Philipps-University Marburg / Marburg University Hospital - UKGM, Marburg, Germany
Topic Area: PERCEPTION & ACTION: Audition

Poster D106 Increased Structural and Functional Connectivity in Jazz Improvising Musicians
Tima Zeng[1], Emily Przysinda[1], Psyche Loui[1]; [1]Wesleyan University
Topic Area: PERCEPTION & ACTION: Audition

Poster D107 Structural Brain Differences in Jazz Improvising Musicians
Cameron Arkin[1], Charles Pfeifer[1], Emily Przysinda[1], Psyche Loui[1]; [1]1Department of Psychology and Program in Neuroscience and Behavior, Wesleyan University, Middletown, CT, USA
Topic Area: PERCEPTION & ACTION: Audition

Poster D108 Post-Stimulus Target Detection Modulation as Evidence for the Oscillatory Entrainment Model
Moran Aharoni[1], Matthias M. Müller[1], Erich Schröger[1]; [1]Leipzig University, Germany
Topic Area: PERCEPTION & ACTION: Audition

Poster D109 Improving visuo-spatial abilities in blind youngsters using programmable tactile displays
Fabrizio Leo[1], Carla Tinti[2], Silvia Chiesa[2], Roberta Cavaglià[2], Susanna Schmidt[2], Luca Brayda[1]; [1]Istituto Italiano di Tecnologia, [2]Università di Torino
Topic Area: PERCEPTION & ACTION: Other

Poster D110 A tool to cooperate: dissociating peri- and interpersonal space
Ivan Patané[1,2,3], Alessandro Farnè[2,3,4], Frassinetti Francesca[1,5]; [1]Department of Psychology, University of Bologna, Bologna, Italy, [2]ImpAct Team, Lyon Neuroscience Research Centre, INSERM U1028, CNRS UMR5292, Lyon, France, [3]UCBL, Lyon I University, Lyon, France, [4]Hospices Civiles de Lyon, Neuro-immersion & Mouvement and Handicap, Lyon, France, [5]Fondazione Salvatore Maugeri, Clinica del Lavoro e della Riabilitazione, IRCCS – Istituto Scientifico di Castel Goffredo, Mantua, Italy
Topic Area: PERCEPTION & ACTION: Other

Poster D111 Strategic adaptation to non-reward prediction error qualities and contextual volatility in fMRI
Daniel S. Kluger[1,2], Ricarda I. Schubotz[1,2,3]; [1]University of Muenster, Germany, [2]Otto-Creutzfeldt-Center for Cognitive and Behavioral Neuroscience, University of Muenster, Germany, [3]University Hospital Cologne, Germany
Topic Area: PERCEPTION & ACTION: Other

Poster D112 Central olfactory mechanisms underlying sleep-dependent changes in food processing
Surabhi Bhutani[1], Jay A Gottfried[1], Thorsten Kahnt[1]; [1]Northwestern University Feinberg School of Medicine
Topic Area: PERCEPTION & ACTION: Other

Poster D113 Use of Temporal Information in 6-Month-Old Infants' Expectations.
Kyle Comishen[1], Scott A. Adler[1]; [1]York University
Topic Area: PERCEPTION & ACTION: Other

Poster D114 External Control of the Stream of Consciousness: An EEG Study
Wei Dou[1], Sabrina Bhangal[1], Hyein Cho[2], Allison K. Allen[3], Zaviera Reyes[1], Ezequiel Morsella[1,4], Mark W. Geisler[1]; [1]Department of Psychology, San Francisco State University, [2]Department of Psychology, The Graduate Center, The City University of New York, [3]Department of Psychology, University of California, Santa Cruz, [4]Department of Neurology, University of California, San Francisco
Topic Area: PERCEPTION & ACTION: Other

Poster D115 Mapping the acoustical and categorical features of sounds in the occipital cortex of blind and sighted people
Stefania Mattioni[1,2], Rezk Mohamed[2], Karen Cuculiza[1], Ceren Battal[1], Roberto Bottini[1], Markus Van Ackeren[1], Nick Oosterhof[1], Olivier Collignon[1,2]; [1]University of Trento, Italy, [2]Université catholique de Louvain, Louvain-la-Neuve, Belgium
Topic Area: PERCEPTION & ACTION: Other

Poster D116 The search for the putative number form area: A meta-analysis
Darren J. Yeo[1,2], Eric D. Wilkey[1], Gavin R. Price[1]; [1]Peabody College, Vanderbilt University, USA, [2]Nanyang Technological University, Singapore
Topic Area: PERCEPTION & ACTION: Vision

Poster D117 Visual-Field Specific Category Learning
Luke Rosedahl[1], Miguel Eckstein[1], Greg Ashby[1]; [1]University of California Santa Barbara
Topic Area: PERCEPTION & ACTION: Vision

Poster D118 Reward Associations Modify Neural Representations: An Event-related Potentials Study
Huan Wang[1,2], Killian Kleffner[1], Patrick Carolan[1], Mario Liotti[1]; [1]Simon Fraser University, [2]UC Davis
Topic Area: PERCEPTION & ACTION: Vision

Poster D119 Cortical and subcortical contributions to passive perception of visuospatial changes
Maximilian Hauser[1,2], Stefanie Heba[3], Tobias Schmidt-Wilcke[3], Martin Tegenthoff[3], Christian Bellebaum[4], Denise Manahan-Vaughan[1,2]; [1]Ruhr-University Bochum, Bochum, Germany, [2]International Graduate School of Neuroscience, Bochum, Germany, [3]University Hospital Bergmannsheil, Bochum, Germany, [4]Heinrich Heine University, Düsseldorf, Germany
Topic Area: PERCEPTION & ACTION: Vision

Poster D120 Electrophysiological Evidence for Temporally Distinct Effects of Encoding, Maintenance, and Perceptual Fidelity in Object-Substitution Masking
Christine Salahub[1], Stephen Emrich[1]; [1]Brock University
Topic Area: PERCEPTION & ACTION: Vision

Poster D121 Lower visual field advantage as a default setting for processing facial and non-facial stimuli : evidence from a combined EEG and Eye-tracking study.
Sandra Guerreiro Jacinto[1,2], Edwige Taniga[1], Anthony Hosein[1], Boutheina Jemel[1,2]; [1]Hôpital Rivière des Prairies, [2]Université de Montréal
Topic Area: PERCEPTION & ACTION: Vision

Poster D122 Threat adaptation in human visual cortex: neuronal orientation tuning in a two-phase conditioning paradigm
L. Forest Gruss[1], Nathan M. Petro[1], Andreas Keil[1]; [1]University of Florida
Topic Area: PERCEPTION & ACTION: Vision

Poster D123 Temporal evolution of visual representation: From physical to perceived numerosity
Michele Fornaciai[1], Joonkoo Park[1]; [1]University of Massachusetts Amherst
Topic Area: PERCEPTION & ACTION: Vision

Poster D124 Exploring network connectivity during visual aesthetic experiences
Ilkay Isik[1], Edward A. Vessel[1]; [1]Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Germany
Topic Area: PERCEPTION & ACTION: Vision

Poster D125 The ventral and dorsal visual pathways exchange information during configural face processing.
Valentinos Zachariou[1], Nicole Mlynaryk[1], Christine Gou[1], Leslie Ungerleider[1]; [1]Laboratory of brain and cognition, NIMH, NIH
Topic Area: PERCEPTION & ACTION: Vision

Poster D126 An integrated view of visual lateralization: Correlations and modulating factors
Sanne Brederoo[1], Mark R. Nieuwenstein[1], Frans W. Cornelissen[1], Monicque M. Lorist[1]; [1]University of Groningen
Topic Area: PERCEPTION & ACTION: Vision

Poster D127 The role of the structural connectome in literacy and numeracy development in children
Joe Bathelt[1], Susan Gathercole[1], Sally Butterfield[1], Duncan Astle[1]; [1]MRC Cognition & Brain Sciences Unit
Topic Area: THINKING: Development & aging

Poster D128 Skill-related structural brain changes over the first years of math acquisition.
Janosch Linkersdörfer[1,2,3], Fumiko Hoeft[3,4], Sven Lindberg[2,5], Marcus Hasselhorn[1,2,6], Christian J. Fiebach[2,6], Jan Lonnemann[1,2]; [1]German Institute for International Educational Research, Frankfurt am Main, Germany, [2]Center for Research on Individual Development and Adaptive Education of Children at Risk (IDeA), Frankfurt am Main, Germany, [3]University of California, San Francisco, USA, [4]Haskins Laboratories, Yale University, [5]Paderborn University, Paderborn, Germany, [6]Goethe-University Frankfurt am Main, Germany
Topic Area: THINKING: Development & aging

Poster D129 Relationships between ANS, intelligence and young children's ability to solve non-symbolic division problems
Nayun Kwon[1], So-Yeon Kim[1]; [1]Department of Psychology, Duksung Women's University
Topic Area: THINKING: Development & aging

Poster D130 The Relationship of Intraoperative EEG Measures with Pre & Postoperative Cognitive Function
Jacob E. Gardner[1], Charlie M. Giattino[1], Kenneth C. Roberts[1], Faris M. Sbahi[1], Miles Berger[1], Marty G. Woldorff[1]; [1]Duke University
Topic Area: THINKING: Development & aging

Poster D131 Assessing hierarchical self-similarity processing with univariate and multivariate analysis approaches
Florian Ph.S Fischmeister[1,2], Georg Langs[3], Mauricio Martins[4,5,6], W. Tecumseh Fitch[4], Roland Beisteiner[2]; [1]High Field Magnetic Resonance Centre, Department of Biomedical Imaging and Image-guided Therapy, Medical University of Vienna, Austria, [2]Department of Neurology, Medical University of Vienna, Vienna, Austria, [3]Computational Imaging Research Lab, Department of Biomedical Imaging and Image-guided Therapy, Medical University of Vienna, Vienna, Austria, [4]Department of Cognitive Biology, University of Vienna, Vienna, Austria, [5]Berlin School of Mind and Brain, Humboldt Universität zu Berlin, Berlin, Germany, [6]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
Topic Area: THINKING: Other

Poster D132 Understanding the Unique NeuroCognitive Architectures of Individuals: A Resting State Functional Connectivity Analysis (rsFC) of the Multiple intelligences
Branton Shearer[1]; [1]MI Research and Consulting
Topic Area: THINKING: Other

Poster D133 Diurnal Rhythms in Freedom of Thought: An Experience Sampling Study
Caitlin Mills[1], Dylan Stan[1], Quentin Raffaelli[1], Kalina Christoff[1]; [1]University of British Columbia
Topic Area: THINKING: Other

Poster D134 The Brain on Tylenol: Acetaminophen Amplifies Disengagement from External Stimuli During Internally Directed Thought
Sumeet Mutti[1], Daniel Randles[2], Diana Pricop[1], Julia W. Y. Kam[3], Steven J. Heine[1], Todd C. Handy[1]; [1]University of British Columbia, [2]University of Toronto, [3]UC Berkeley
Topic Area: THINKING: Other

Poster D135 Individual differences in grey matter structure predict frequency of certain types of stimulus-independent thoughts
Sneha Sheth[1], Kieran Fox[1], Michael Jarrett[1], Manesh Girn[1], Mara Puertolas Lopez[2], Matthew dixon[1], Alexander Rauscher[1], Kalina Christoff[1]; [1]University of British Columbia, [2]National Institute on Deafness and Other Communication Disorders
Topic Area: THINKING: Other

Poster D136 Sleep On It – The Impact of Problem Reactivation during Sleep on Problem Solving
Kristin Grunewald[1], Samuel Osburn[1], Katherine George[1], Ken Paller[1], Mark Beeman[1]; [1]Northwestern University
Topic Area: THINKING: Problem solving

Poster D137 Electrocorticography reveals the neural mechanisms of the arithmetic problem-size effect
Pedro Pinheiro-Chagas[1], Amy L. Daitch[2], Josef Parvizi[2], Stanislas Dehaene[1]; [1]Collège de France, Paris, [2]Stanford University
Topic Area: THINKING: Problem solving

Poster D138 Selective Attention to Global Stimuli Induces Analytic Problem Solving
Tiffani Ng[1], Mark Beeman[1]; [1]Northwestern University
Topic Area: THINKING: Problem solving

Poster D139 Creative Cognition under Performance Pressure: Investigating How Anxiety Affects Attentional Styles and Creativity
Kyle Nolla[1], Mark Beeman[1]; [1]Northwestern University
Topic Area: THINKING: Problem solving

Poster Session E

Poster E1 Polarity-dependent effects of biparietal tDCS on the interplay between top-down and bottom-up processes in visual attention
Magdalena Chechlacz[1,2], Dario Cazzoli[3], Joy J Geng[4], Peter C Hansen[2]; [1]University of Oxford, [2]University of Birmingham, [3]University of Bern, [4]UC Davis
Topic Area: ATTENTION: Spatial

Poster E2 Alpha oscillations during exogenous and endogenous attention in touch
Alexander Jones[1], Bettina Forster[2]; [1]Middlesex University London, [2]City University London
Topic Area: ATTENTION: Spatial

Poster E3 Cerebellar contributions to reflexive and voluntary covert visual attention
Christopher Striemer[1,2], Brandon Craig[1], Britt Anderson[3], James Danckert[3]; [1]MacEwan University, Edmonton, Alberta, Canada, [2]University of Alberta, Edmonton, Alberta, Canada, [3]University of Waterloo, Waterloo, Ontario, Canada
Topic Area: ATTENTION: Spatial

Poster E4 Males and Females use different spatial strategies when navigating a novel tabletop navigation task
Mashal Fida[1], Erin L. Zelinski[2], Sean G. Lacoursiere[1], Robert J. Sutherland[1]; [1]Canadian Centre of Behavioural Neuroscience, University of Lethbridge, [2]Cumming School of Medicine, University of Calgary
Topic Area: ATTENTION: Spatial

Poster E5 Neural Activation Patterns of Binge Drinking Young-Adults When Performing a Mental Rotation Task: A Functional Magnetic Resonance Imaging (fMRI) Study
Karl Kashfi[1], Peter Syapin[1], Michael O'Boyle[1,2]; [1]Texas Tech University Health Sciences Center, [2]Texas Tech University
Topic Area: ATTENTION: Spatial

Poster E6 Cortical Expression of the Magnitude of Inhibition of Return
Grace Whitaker[1], Ellen Poliakoff[1], Joanna Neill[1], Wael El-Deredy[1]; [1]The University of Manchester
Topic Area: ATTENTION: Spatial

Poster E7 Involuntary Mental Rotation and Visuospatial Imagery from External Control: Implications for Frontal Control Mechanisms
Donish Cushing[1], Ezequiel Morsella[1,2]; [1]Department of Psychology, San Francisco State University, [2]Department of Neurology, University of California, San Francisco
Topic Area: ATTENTION: Spatial

Poster E8 Distractor suppression varies with expectation
MaryAnn Noonan[1], Yannik Bauer[2], Alex Von Lautz[3], Christopher Summerfield[1], Mark Stokes[1]; [1]Department of Experimental Psychology, University of Oxford, Oxford, UK, [2]International Max Planck Research School, University of Tübingen, Germany, [3]Bernstein Center for Computational Neuroscience, Berlin, Germany.
Topic Area: ATTENTION: Spatial

Poster E9 Spatial selectivity and attentional modulation reflect coordinated processing of high frequency broadband and alpha signals in the human visual system
Anne Martin[1], Liang Wang[1,2], Yuri B. Saalmann[1,3], Avgusta Shestyuk[4], Nathan E. Crone[5], Josef Parvizi[6], Robert T. Knight[4], Sabine Kastner[1]; [1]Princeton University, [2]Chinese Academy of Sciences, [3]University of Wisconsin – Madison, [4]University of California Berkeley, [5]The Johns Hopkins Hospital, [6]Stanford University School of Medicine
Topic Area: ATTENTION: Spatial

Poster E10 Internal consistency of spatial information in a cognitive map
Yuri Dabaghian[1]; [1]Baylor College of Medicine, Houston, TX 77019 USA
Topic Area: ATTENTION: Spatial

Poster E11 Aberrant expression of proteins with possible role in cognitive impairment in SCA12 patients
Rajeswari Moganty[1]; [1]All India Institute of Medical Sciences, New Delhi ,INDIA
Topic Area: EMOTION & SOCIAL: Emotion-cognition interactions

Poster E12 Emotional mimicry beyond the face: Rapid face and body responses to facial expressions
Catherine Reed[1], Eric Moody[2], Tara Van Bommel[3], Betsy App[3], Daniel McIntosh[3]; [1]Claremont McKenna College, [2]University of Colorado Anschutz Medical Campus, [3]University of Denver
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E13 ERPs to the Military Affective Picture Set (MAPS)
Marianna Eddy[1,2], Mary Boomhower[1], Breanne Hawes[1], Jennifer Rourke[1], Caroline Mahoney[1,2]; [1]U.S. Army Natick Soldier Research, Development, and Engineering Center, [2]Center for Applied Brain and Cognitive Sciences
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E14 Context-dependent neural responses in insula and amygdala when viewing affective animal videos
Christine A. Godwin[1], Sunya A. Fareed[1], J.C. Mizelle[2], Eric H. Schumacher[1]; [1]Georgia Institute of Technology, [2]East Carolina University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E15 The late positive potential (LPP) as a novel method for assessing fear conditioning in humans
Felix Bacigalupo[1], Steven J. Luck[1]; [1]Center for Mind and Brain, University of California - Davis
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E16 Transient versus sustained neural responses to pleasurable aesthetic experiences
Amy Belfi[1], Edward A. Vessel[2], Denis G. Pelli[1], Anjan Chatterjee[3], Helmut Leder[4], G. Gabrielle Starr[1]; [1]New York University, [2]Max Planck Institute for Empirical Aesthetics, [3]University of Pennsylvania, [4]University of Vienna
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E17 Taking hyperscanning out of the lab: Evidence from EEG recordings on 1400 dyads during face-to-face interaction
Suzanne Dikker[1,2], Georgios Michalareas[3], Matthias Oostrik, Hasibe Melda Kahraman[4,2], Imke Kruitwagen[1], Shaista Dhanesar[5], Marijn Struiksma[1], David Poeppel[2,3]; [1]Utrecht University, [2]New York University, [3]Max Planck Institute for Empirical Aesthetics, [4]Hunter College, [5]Washington University in St. Louis
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E18 EEG frontal alpha power asymmetry can evaluate temporal dynamics of our emotion
Motoyuki Sanada[1], Kohei Fuseda[1], Jun'ichi Katayama[1,2]; [1]Department of Integrated Psychological Sciences, Kwansei Gakuin University, [2]Center for Applied Psychological Science (CAPS)
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E19 The effect of narrative context on persuasive message processing
Matthew Bezdek[1], Richard Gerrig[2], Tiffany Nguyen[1], William Wenzel[2], Eric Schumacher[1]; [1]Georgia Institute of Technology, [2]Stony Brook University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E20 The association between residual cannabis use and the P300 event related potential on emotion processing in subclinical depression
Robert Torrence[1], Joseph Davis[1], Lucy Troup[1]; [1]Colorado State University

Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E21 Individual differences in reactivity to reward partly account for variability in resilience to stress
Polina Zozulinsky[1], Roee Admon[1], Tomer Shechner[1], Rachel Tomer[1]; [1]University of Haifa, Israel
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster E22 The brain network for emotional body language reading: Combined structural and effective connectivity
Arseny SOKOLOV[1,2], Peter ZEIDMAN[2], Michael ERB[3], Frank POLLICK[4], Wolfgang GRODD[5], Richard FRACKOWIAK[1,6], Karl FRISTON[2], Marina PAVLOVA[3]; [1]Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland, [2]University College London (UCL), UK, [3]University of Tübingen Medical School, Germany, [4]University of Glasgow, UK, [5]Max Planck Institute for Biological Cybernetics, Tübingen, Germany, [6]Ecole Normale Supérieure DEC, Paris, France
Topic Area: EMOTION & SOCIAL: Person perception

Poster E23 Reconsidering the face inversion effect: A state-strength approach
Robin I. Goodrich[1], Andrew P. Yonelinas[1]; [1]University of California, Davis
Topic Area: EMOTION & SOCIAL: Person perception

Poster E24 Preconscious and conscious stages of stimulus processing depend on whom we are with.
J. Bruno Debruille[1,2], Shahin Tavakol[1,2], Maud Haffar[1,2], Sheila Bouten[1], Hugo Pantecouteau[3]; [1]Douglas Institute Research Center, Montreal, Canada, [2]McGIll University' Montreal, Canada, [3]École Normale Supérieure de Lyon, France
Topic Area: EMOTION & SOCIAL: Person perception

Poster E25 Physical attraction to reliable, low variability nervous systems: Reaction time variability predicts attractiveness.
Richard Ramsey[1], Emily Butler[1], Chris Saville[1], Rob Ward[1]; [1]Bangor University, UK
Topic Area: EMOTION & SOCIAL: Person perception

Poster E26 Investigating the Familiar Face Processing Network with Multivoxel Pattern Analysis
Matteo Visconti di Oleggio Castello[1], Yaroslav O. Halchenko[1], J. Swaroop Guntupalli[1], Jason D. Gors[1], M. Ida Gobbini[1,2]; [1]Dartmouth College, [2]University of Bologna, Italy
Topic Area: EMOTION & SOCIAL: Person perception

Poster E27 Semantic and episodic memory impairments for faces in frontotemporal dementia and Alzheimer's disease
Jessica A. Collins[1,2], Bradford C. Dickerson[1,2]; [1]Massachusetts General Hospital, [2]Harvard Medical School
Topic Area: EMOTION & SOCIAL: Person perception

Poster E28 Activation of left temporoparietal junction during mentalizing is directly related to performance in social interactions
Abdulaziz Abubshait[1], George A. Buzzell[1,2], Paul J. Beatty[1], Eva Wiese[1,2]; [1]George Mason University, [2]Center of Excellence in Neuroergonomics, Technology, and Cognition (CENTEC)
Topic Area: EMOTION & SOCIAL: Person perception

Poster E29 Bilingualism interacts with cognitive control to predict parietal grey matter volume
Kelly A. Vaughn[1], Pilar Archila-Suerte[1], Arturo E. Hernandez[1]; [1]University of Houston
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E30 Impact of dopamine depletion on N-40, a marker of the electrophysiological response selection
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Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E31 Dissociable late and early error monitoring processes: Error positivity in the absence of an error-related negativity.
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Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E32 Error-Induced Blindness: Error Detection Leads to Impaired Sensory Processing and Lower Accuracy at Short Response-Stimulus Intervals
Paul Beatty[1], George Buzzell[2], Natalie Paquette[1], Daniel Roberts[1], Craig McDonald[1]; [1]George Mason University, [2]University of Maryland
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E33 Behavioral and Electrophysiological Measures of Conflict Monitoring
Peter Egeto[1], Tisha J Ornstein[1], Eleenor H Abraham[1]; [1]Ryerson University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E34 Effect of language proficiency and age of acquisition on executive function in bilinguals
Vickie Yu[1], Emma Aleksanyan[1], Kathryn Balina[1], Bernice Briones[1], Katya Gomez[1]; [1]Department of Communication Disorders and Sciences, California State University, Northridge
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E35 Monitoring In Second Language Reading: Evidence From ERPs
Marieke Engbrenghof[1,2], Nan van de Meerendonk[3], Megan Zirnstein[4], Judith F. Kroll[4,5], Dorothee J. Chwilla[1]; [1]Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, The Netherlands, [2]University of Groningen, Groningen, The Netherlands, [3]Thebe, The Netherlands, [4]University of California, Riverside, [5]Pennsylvania State University
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E36 Adolescents and Young Adults with Autism Spectrum Disorder Show Differences in Dynamics and Recruitment of Cognitive Control Networks
Matthew V. Elliott[1], Marie K. Krug[1], Cory C. Coleman[1], Jennifer E. Farren[1], Andria J. Farrens[1], J. Daniel Ragland[1], Tara A. Niendam[1], Cameron S. Carter[1], Marjorie Solomon[1]; [1]University of California at Davis
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E37 Neurophysiological differences in deliberate and spontaneous mind-wandering
Adrien Martel[1], Mahnaz Arvaneh[2], Paul Dockree[1], Ian Robertson[1]; [1]Trinity Institute of Neuroscience, [2]The University of Sheffield
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E38 Interactions between oscillatory dynamics support adjustment of stimulus representations during reinforcement learning
Irene van de Vijver[1,2], Joram van Driel[2,3], Arjan Hillebrand[4], K Richard Ridderinkhof[2]; [1]Radboud University, [2]University of Amsterdam, [3]VU University, [4]VU University Medical Center
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E39 Markers of Early Adversity Associated with Reduced Error-Related Negativity in Early Childhood
Oliver Medak[1], Ryan J. Giuliano[1], Leslie E. Roos[1], Kathryn G. Beauchamp[1], Elliot T. Berkman[1], Philip A. Fisher[1]; [1]University of Oregon
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E40 The feedback-related negativity indicates different use of feedback in two spontaneous strategies for handling changing values
Sucheta Chakravarty[1], Isha Ober[1], Christopher R. Madan[1,2], Yvonne Y. Chen[1], Esther Fujiwara[1], Jeremy B. Caplan[1]; [1]University of Alberta, [2]Boston College
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E41 Electrophysiological Correlates of Reward Processing, Error Monitoring and Preferences
James Germi[1], Bradley Lega[1]; [1]UT Southwestern Medical Center
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E42 Clinical perfectionism and associated traits: implications for error processing
Sarah T Loew[1], Ronnie J Lockington[1], Kelsey A Rolefson[1], Samuel J Becker[1], A'Lea M Yonker[1], Simon M Moe[1], David S Leland[1]; [1]University of Wisconsin - Eau Claire
Topic Area: EXECUTIVE PROCESSES: Monitoring & inhibitory control

Poster E43 The role of the frontoparietal cortex in attentional guidance by working memory: a TMS study
min wang[1,2,3,4], Ling Li[1,2,3,4]; [1]Key Laboratory for NeuroInformation of Ministry of Education, [2]High-Field Magnetic Resonance Brain Imaging Key Laboratory of Sichuan Province, [3]Center for Information in Medicine, [4]University of Electronic Science and Technology of China
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E44 Examining the Functional Network Structure of the Frontal Lobes Across Domains of Cognition
Jordan Garrett[1], Robert Blumenfeld[1]; [1]California State Polytechnic University, Pomona
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E45 The Causal Role of Prefrontal Cortex and Somatosensory Cortex in Tactile Working Memory
Di Zhao[1], Yixuan Ku[1,2]; [1]The Key Lab of Brain Functional Genomics, MOE & STCSM, School of Psychology and Cognitive Science, East China Normal University, Shanghai, China, [2]NYU-ECNU Institute of Brain and Cognitive Science, NYU Shanghai and Collaborative Innovation Center for Brain Science, Shanghai, China
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E46 Dissociable neural and behavioral patterns of proactive interference for Emotion and Neutral Information in Working Memory
Eda Mizrak[1,2], Henrik Singmann[3], Ilke Oztekin[1]; [1]Koc University, [2]UC Davis, [3]University of Zurich
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E47 Delayed enhancement in rule-based category learning following acute psychosocial stress
David B. Smith[1], Steve Hutchinson[1], Shannon K. McCoy[1], Shawn W. Ell[1,2]; [1]University of Maine, [2]Maine Graduate School of Biomedical Sciences & Engineering
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E48 Encoding induced alpha EEG activity tracks changes in working memory manipulations
Joel Robitaille[1], Stephen M. Emrich[1]; [1]Brock University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E49 ALPHA AND THETA BANDS RESTING EEG PREDICT DIFFERENT LEARNING PATTERNS IN VISUAL WORKING MEMORY
Mara Golemme[1], Elisa Tatti[1,2], Giulia Grande[1], Caroline Di Bernardi Luft[3], Joydeep Bhattacharya[1], Marinella Cappelletti[1]; [1]Department of Psychology. Goldsmiths, University of London, United Kingdom., [2]Brain Investigation and Neuromodulation laboratory, Department of Medicine, Surgery and Neuroscience, University of Siena, Italy., [3]School of Biological and Chemical Sciences, Queen Mary University of London, United Kingdom
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E50 Reducing Available Working Memory Capacity Affects DRM False Memory
Lilian Cabrera[1], Jianjian Qin[2]; [1]University of Michigan, Ann Arbor, [2]California State University, Sacramento
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster E51 Single-word ERPs reveal age-related changes in incremental context processing
Brennan Payne[1], Kara Federmeier[1]; [1]University of Illinois
Topic Area: LANGUAGE: Development & aging

Poster E52 Better maternal reading fluency is related to stronger functional connectivity in future reading networks in preschool children
Tzipi Horowitz-Kraus[1], John Hutton[2], K. J Philean[2], Scott Holland[2]; [1]Technion, [2]Cincinnati Childre's Hospital Medical Center
Topic Area: LANGUAGE: Development & aging

Poster E53 Functional deficit of EEG brain network in adult who stutter
Amir Hossein Ghaderi[1], Bahar Barani[2], Soroush Haghparasti[3], Hossein Shiravi[4], Fatemeh Akrami[5]; [1]Cognitive Neuroscience Lab., Department of psychology, University of Tabriz, Tabriz, Iran, [2]MD. Student at University of Kansas Medical Center, Kansas city, USA, [3]Department of engineering, University of Kashan, Kashan, Iran, [4]Department of engineering, University of Shahid Beheshti, Tehran, Iran, [5]School of Health Management and Information Sciences و Iran University of Medical Sciences, Tehran, Iran
Topic Area: LANGUAGE: Development & aging

Poster E54 Speech encoding in quiet and background noise in 2 year olds
Sree Rajendran[1], Cynthia Roesler[1], Julie Morgan-Byrne[1], Silvia Ortiz-Mantilla[1], Gabriella Musacchia[2,3], April Benasich[1]; [1]Center for Molecular and Behavioral Neuroscience, Rutgers University - Newark, NJ, [2]Department of Speech-Language Pathology and Audiology, University of the Pacific, [3]Department of Otolaryngology Head and Neck Surgery, Stanford University Medical School
Topic Area: LANGUAGE: Development & aging

Poster E55 A comprehensive examination of language in Parkinson's disease: Evidence from syntax, morphology, and lexical processing
Jana Reifegerste[1], Karim Johari[2], Matthew Walenski[3], Farzad Ashrafi[4], Roozbeh Behroozmand[2], Michael Ullman[5]; [1]University of Potsdam, Germany, [2]University of South Carolina, [3]Northwestern University, [4]Shahid Beheshti University of Medical Sciences, Iran, [5]Georgetown University
Topic Area: LANGUAGE: Development & aging

Poster E56 Left Anterior-Posterior Aging effect for lexical production. Functional MRI assessment.
Elena Hoyau[1,2], Emilie Cousin[1,2,3], Cédric Pichat[1,2], Assia Jaillard[3], Monica Baciu[1,2]; [1]Univ. Grenoble Alpes, LPNC, F-38040 Grenoble, France, [2]CNRS, LPNC UMR 5105, F-38040 Grenoble, France, [3]UMS IRMaGe, IRM 3T, CHU Grenoble, Univ. Grenoble Alpes, F-38043 Grenoble, France
Topic Area: LANGUAGE: Development & aging

Poster E57 Tones as predictors of suffixes in L2 processing
Anna Hed[1], Andrea Schremm[1], Merle Horne[1], Mikael Roll[1]; [1]Lund University
Topic Area: LANGUAGE: Development & aging

Poster E58 Brain mechanisms underlying visuo-orthographic deficits in children with developmental dyslexia
Gregory Spray[1], Xin Yan[1], Yanni Liu[2], Fan Cao[1]; [1]Michigan State University, [2]University of Michigan
Topic Area: LANGUAGE: Development & aging

Poster E59 Language-modulated perceptual compensation: Functional connectivity analysis of L1 and L2 reading impairments in Chinese-English bilingual children
Manli Zhang[1], Xiaoxia Feng[2], Yue Gao[2], Xiujie Yang[1], Weiyi Xie[1], Feng Ai[1], Hehui Li[2], Xingnan Zhao[1], Chi Zhang[1], Li Liu[2], Guosheng Ding[2], Xiangzhi Meng[1]; [1]Peking University, China, [2]Beijing Normal University, China
Topic Area: LANGUAGE: Development & aging

Poster E60 Neural mechanisms of speech versus non-speech detection in children with autism spectrum disorders
Alena Galilee[1], Chrysi Stefanidou[2], Joseph P. McCleery[3]; [1]Dalhousie University, Nova Scotia, B3H 4R2, Canada, [2]University of Birmingham, Birmingham, West Midlands, B15 2TT, United Kingdom, [3]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, 19104, USA
Topic Area: LANGUAGE: Development & aging

Poster E61 Phonics Instruction Mediates the Relationship between Brain Structural Development and Reading Performances
Tin Nguyen[1], Stephanie Del Tufo[1], Laurie Cutting[1]; [1]Vanderbilt University
Topic Area: LANGUAGE: Development & aging

Poster E62 EEG Evidence for Differences in Audiovisual Speech Processing in Apraxia of Speech
Melissa Randazzo[1], Karen Froud[2]; [1]Adelphi University, [2]Teachers College, Columbia University
Topic Area: LANGUAGE: Development & aging

Poster E63 Phonetic representations in young children with dyslexia
Maaike Vandermosten[1,2,3], Joao Correia[2], Jolijn Vanderauwera[1], Jan Wouters[1], Pol Ghesquiere[1], Milene Bonte[2]; [1]KU Leuven, [2]Maastricht University, [3]Uuniversity of California San Francisco (UCSF)
Topic Area: LANGUAGE: Development & aging

Poster E64 The Effect of Instruction on People's Ability to Learn Simultaneous Statistical Inputs
Tess Allegra Forest[1], Taraz Lee[2], Ashkan Kiyomarsi[1], Amy Finn[1]; [1]The University of Toronto, [2]The University of Michigan
Topic Area: LANGUAGE: Other

Poster E65 Differences in Foreign Vocabulary Learning Outcomes Between Virtual Environment Immersion-based, Text-based, and Picture-based Learning
Brandin Munson[1], Arturo Hernandez; [1]University of Houston
Topic Area: LANGUAGE: Other

Poster E66 A sensorimotor network for voluntary oculomotor function in skilled reading: From cortex to brainstem
Benjamin Schloss[1], Chun-Ting Hsu[1], Ping Li[1]; [1]Pennsylvania State University
Topic Area: LANGUAGE: Other

Poster E67 A cross-sectional and longitudinal study of white matter pathways affected by literacy training
Alastair Smith[1], Mark Bastin[2], Uttam Kumar[3], Ramesh K. Mishra[4], Viveka N. Tripathi[5], Anupam Guleria[3], Jay P. Singh[5], Falk Huettig[1]; [1]Max Planck Institute for Psycholinguistics, [2]University of Edinburgh, [3]Centre of Biomedical Research (CBMR), Lucknow, [4]University of Hyderabad, [5]University of Allahabad
Topic Area: LANGUAGE: Other

Poster E68 Electrophysiological Language Processing Signals Over Time: A Study of the Retest Reliability of the N400 and P600 Event-Related Potential Components
Erin Kohnke[1], Mandy Faretta-Stutenberg[2], Darren Tanner[3], Kara Morgan-Short[1]; [1]University of Illinois at Chicago, [2]Northern Illinois University, [3]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Other

Poster E69 Orthographic codes in the ventral visual system and the reading network revealed by complex grapheme manipulation
Florence Bouhali[1,2], Zoé Bézagu[1], Stanislas Dehaene[3,4], Laurent Cohen[1,5]; [1]Inserm U 1127, CNRS UMR 7225, Sorbonne Universités, UPMC Univ Paris 06 UMR S 1127, Institut du Cerveau et de la Moelle épinière, ICM, [2]Université Paris Descartes, [3]Collège de France, [4]INSERM, CEA, NeuroSpin, U992, Gif-sur-Yvette, France, [5]AP-HP Hôpital de la Pitié Salpêtrière
Topic Area: LANGUAGE: Other

Poster E70 Classification of neural responses to contextually constrained sentence endings using single trial EEG data
James J. S. Norton[1], Ryan J. Hubbard[1], Cybelle Smith[1], Timothy Bretl[1]; [1]University of Illinois
Topic Area: LANGUAGE: Other

Poster E71 Electrocorticographic changes at different cortical regions in sentence production
Johnathan Wu[1,2], Toshimune Kambara[1,3], Yasuo Nakai[1], Eishi Asano[1]; [1]Children's Hospital of Michigan, [2]Wayne State University School of Medicine, [3]Postdoctoral Fellowship for Research Abroad, Japan Society for the Promotion of Science
Topic Area: LANGUAGE: Syntax

Poster E72 Compounds emerge from the merge operation in human language syntax
Tomomi Hida[1], Hiroaki Mizuhara[1]; [1]Kyoto University
Topic Area: LANGUAGE: Syntax

Poster E73 Anticipating morphological and syntactic structures – investigating the pre-activation negativity
Pelle Söderström[1], Merle Horne[1], Mikael Roll[1]; [1]Lund University
Topic Area: LANGUAGE: Syntax

Poster E74 Native language proficiency modulates spatial characteristics and magnitude of neural responses to phrase-structure violations: An MEG study
Lyam Bailey[1], Lisa J. Beck[1], Morgan Johnson[1], Tim Bardouille[1], Aaron J. Newman[1]; [1]Dalhousie University
Topic Area: LANGUAGE: Syntax

Poster E75 A cognitive impairment for sentence planning after focal damage to the Frontal Aslant Tract
Benjamin Chernoff[1], Alex Teghipco[1], Frank Garcea[1,2], Susan Smith[3], Webster Pilcher[3], Bradford Mahon[1,2,3]; [1]University of Rochester, [2]Center For Visual Science, [3]University of Rochester Medical Center
Topic Area: LANGUAGE: Syntax

Poster E76 Investigating with Finger Tracking the Acquisition of Semantic and Syntactic Symbols in an Artificial Mini-language
Fosca Al Roumi[1], Dror Dotan[1,2], Stanislas Dehaene[1,3]; [1]Cognitive Neuroimaging Unit, CEA DSV/I2BM, INSERM, Université Paris-Sud, Université Paris-Saclay, NeuroSpin center, 91191 Gif/Yvette, France, [2]Language and Brain Lab, School of Education and Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel, [3]College de France, 11 Place Marcelin Berthelot, 75005 Paris, France
Topic Area: LANGUAGE: Syntax

Poster E77 The Effect of the Clause Boundary on Sentence Processing Costs
Ryan Rhodes[1]; [1]University of Delaware
Topic Area: LANGUAGE: Syntax

Poster E78 The effects of L1 morphology on subject-verb agreement processing in English
Andrew Armstrong[1], Nyssa Bulkes[1], Darren Tanner[1]; [1]University of Illinois at Urbana-Champaign
Topic Area: LANGUAGE: Syntax

Poster E79 Event-related potentials at study and test explain individual memory-performance differences in associative recognition
Yvonne Y Chen[1], Jeremy B Caplan[1]; [1]University of Alberta, Edmonton, Alberta, Canada
Topic Area: LONG-TERM MEMORY: Episodic

Poster E80 Hippocampal theta oscillations differentiate recognition with and without correct source retrieval.
Kamin Kim[1], Arne Ekstrom[2], Nitin Tandon[1]; [1]Department of Neurosurgery, University of Texas Medical School at Houston, [2]Center for Neuroscience and Department of Psychology, University of California Davis
Topic Area: LONG-TERM MEMORY: Episodic

Poster E81 To The Neural Mechanism Supporting Episodic Retrieval is Sensitive to the Quality of Information in both Younger and Older Adults.
Jamie Murray[1], David Donaldson[1]; [1]University of Stirling
Topic Area: LONG-TERM MEMORY: Episodic

Poster E82 Implicit memory for content and speaker of messages heard during slow-wave sleep
Simon Ruch[1,2], Romi Zäske[3,4], Marc Alain Züst[1,2], Stefan R. Schweinberger[3], Katharina Henke[1,2]; [1]Department of Psychology, University of Bern, Bern, Switzerland, [2]Center for Cognition, Learning and Memory, University of Bern, Bern, Switzerland, [3]Department for General Psychology and Cognitive Neuroscience, Institute of Psychology, Friedrich Schiller University of Jena, Jena, Germany, [4]Department of Otorhinolaryngology, Jena University Hospital, Jena, Germany
Topic Area: LONG-TERM MEMORY: Episodic

Poster E83 The hippocampus promotes effective saccadic information gathering in humans
Heather D. Lucas[1], Melissa C. Duff[2], Neal J. Cohen[1]; [1]University of Illinois Urbana-Champaign, [2]Vanderbilt University
Topic Area: LONG-TERM MEMORY: Episodic

Poster E84 The Truth is Out There: Recall of Verifiable Naturalistic Events is Highly Accurate
Michael J. Armson[1,2], Nicholas Diamond[1,2], Daniela J. Palombo[3], Margaret C. McKinnon[4], Anthony Nazarov[4], Brian Levine[1,2]; [1]Baycrest, [2]University of Toronto, [3]Boston University, [4]McMaster University
Topic Area: LONG-TERM MEMORY: Episodic

Poster E85 Overlap between fMRI novelty and recollection effects
Marianne de Chastelaine[1], Julia Mattson[1], Tracy Wang[1], Brian Donely[1], Michael Rugg[1]; [1]The University of Texas at Dallas, USA
Topic Area: LONG-TERM MEMORY: Episodic

Poster E86 Reactivation of Emotional Context during Successful Recollection: A Partial Least Squares Analysis
Holly Bowen[1], Elizabeth Kensinger[1]; [1]Boston College
Topic Area: LONG-TERM MEMORY: Episodic

Poster E87 The primacy of 'place' in neural representations of events containing people, places and objects
Jessica Robin[1,2], Sigal Gat Lazer[2], Bradley R. Buchsbaum[1,2], Morris Moscovitch[1,2]; [1]University of Toronto, [2]Rotman Research Institute, Baycrest Health Sciences
Topic Area: LONG-TERM MEMORY: Episodic

Poster E88 False memory for context and true memory for context similarly activate the parahippocampal cortex
Jessica M. Karanian[1], Scott D. Slotnick[1]; [1]Boston College
Topic Area: LONG-TERM MEMORY: Episodic

Poster E89 How does the timing of acute stress modulate hippocampal connectivity following associative encoding?
Alexa Tompary[1], Elizabeth V. Goldfarb[1], Elizabeth A. Phelps[1], Lila Davachi[1]; [1]New York University
Topic Area: LONG-TERM MEMORY: Episodic

Poster E90 Long-term retention of vocabulary in two phonetically similar foreign languages is aided when learning occurs in highly distinctive virtual reality environments
Joey Ka-Yee Essoe[1], Niccolo Reggente[1], Younji Hera Baek[1], Ai Aileen Ohno[1], Priyanka Mehta[1], Alvin Vuong[1], Jesse Rissman[1]; [1]University of California, Los Angeles
Topic Area: LONG-TERM MEMORY: Episodic

Poster E91 Ecological assessment of retrospective and prospective memory in early Alzheimer's disease: validity of a virtual reality task
Valentina La Corte[1,2,4], Valentine Facque[1,2], Maria Abram[1,2], Agnès Michon[4], Aurélie Funkiewiez[4], Bruno Dubois[4,5], Pascale Piolino[1,2,3]; [1]Institute of Psychology, University Paris Descartes, Sorbonne Paris Cite, France, [2]Inserm UMR 894, Center of Psychiatry and Neurosciences, Memory and Cognition Laboratory, Paris, France, [3]University Institute of France, Paris, France, [4]Institut de la Mémoire et de la Maladie d'Alzheimer (IM2A), Département de Neurologie, Hôpital Pitié-Salpêtrière, AP-HP, Paris, France, [5]Institut du Cerveau et de la Moelle Epinière (ICM), CNRS UMR 7225-INSERM U1127 Paris, France; Sorbonne Universités, Université Pierre et Marie Curie-Paris 6, Paris, France
Topic Area: LONG-TERM MEMORY: Episodic

Poster E92 Memory replay during sleep in human intracranial recordings
Jessica Creery[1], David Brang[2], Vernon Towle[3], James Tao[3], Shasha Wu[3], Ken A. Paller[1]; [1]Northwestern University, [2]University of Michigan, [3]University of Chicago
Topic Area: LONG-TERM MEMORY: Episodic

Poster E93 Long-Term Effects of Concussion and Contact History on Cognitive Function in Middle-Adulthood
Eleanna Varangis[1], Kelly Giovanello[1], Neil Mulligan[1], Kathleen Gates[1], Jessica Cohen[1], Kevin Guskiewicz[1]; [1]The University of North Carolina at Chapel Hill
Topic Area: LONG-TERM MEMORY: Episodic

Poster E94 Multimodal Investigation of Neurobehavioral Dynamics – MINDs – in Emotional Distraction
Florin Dolcos[1], Matthew Moore[1], Alexandru Iordan[2], Yuta Katsumi[1], Ryan Larsen[1], Edward Maclin[1], Andrea Shafer[3], Anthony Singhal[4], Brad Sutton[1], Andrew Bagshaw[5], Monica Fabiani[1], Gabriele Gratton[1]; [1]University of Illinois at Urbana-Champaign, [2]University of Michigan, [3]National Institutes of Health, [4]University of Alberta, [5]University of Birmingham
Topic Area: METHODS: Neuroimaging

Poster E95 Whole brain mapping of functional connectivity pattern dissimilarity reveals focal changes in task-dependent coupling across reasoning, memory, and perception
Xiaoye Zuo[1], Andrew J. Westphal[1], Jesse Rissman[1]; [1]University of California, Los Angeles
Topic Area: METHODS: Neuroimaging

Poster E96 Localizing Event-Related Potentials using New Approaches to Multi-source Minimum Variance Beamforming
Anthony Herdman[1], Alexander Moiseev[2], Urs Ribary[2]; [1]University of British Columbia, Canada, [2]Simon Fraser University, Canada
Topic Area: METHODS: Neuroimaging

Poster E97 Quantification for spatial variability of white matter hyperintensities
Jin-Ju Yang[1], Jong-Min Lee*[1], Hee Jin Kim[2], Sang Won Seo[2]; [1]Hanyang University, Seoul, Korea, [2]Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea
Topic Area: METHODS: Neuroimaging

Poster E98 fMRI Task Comparison for Pre-surgical Language Mapping in Neurosurgical Patients
Prashin Unadkat[1], Luca Fumagalli[1], Laura Rigolo[1], Alexandra Golby[1], Yanmei Tie[1]; [1]Brigham and Women's Hospital, Harvard Medical School
Topic Area: METHODS: Neuroimaging

Poster E99 Distinct spatiotemporal patterns of resting state neuronal synchrony in Alzheimer's disease spectrum
Kamalini G Ranasinghe[1], Leighton B Hinkley[2], Alexander J Beagle[1], Alice La[1], Danielle Mizuiri[2], Susanne Honma[2], John F Houde[3], Bruce L Miller[1], Keith A Vossel[1,4], Srikantan Nagarajan[2]; [1]University of California San Francisco, Memory and Aging Center, [2]University of California San Francisco, Biomagnetic Imaging Laboratory, [3]University of California San Francisco, Speech Neuroscience Laboratory, [4]Gladstone Institute of Neurological Disease
Topic Area: METHODS: Neuroimaging

Poster E100 Residual relationships between motion and BOLD activity remain after preprocessing and can inflate functional connectivity estimates
Lisa Byrge[1], Daniel P. Kennedy[1]; [1]Indiana University
Topic Area: METHODS: Neuroimaging

Poster E101 NITRC's Triad of Services: Software, Data, Compute
Christian Haselgrove[1], David Kenney[2], Nina Preuss[3], Robert Buccigrossi[3], Matt Travers[3], Albert Crowley[3], Giorgio Ascoli[1], Steven Bressler[1], Arnaud Delorme[1], Karl Helmer[1], Li Shen[1]; [1]Neuromorphometrics, Inc, [2]David N Kennedy Consulting, [3]Turner Consulting Group
Topic Area: METHODS: Neuroimaging

Poster E102 Spread of Activity Following TMS is correlated with Intrinsic Resting Connectivity with the Target Region: A concurrent TMS-fMRI study
Colin Hawco[1], Aristotle Voineskos[1], Jennifer Steeves[2], Erin Dickie[1], Joseph Viviano[1], Jeff Daskalakis[1]; [1]Centre for Addiction and Mental Health, [2]York University
Topic Area: METHODS: Neuroimaging

Poster E103 Dopamine D2/3 receptor binding with [11C]raclopride in extrastriatal regions show good to excellent six month test-retest reliability
Lars Jonasson[1], Nina Karalija[1], Jan Axelsson[1], Katrine Riklund[1], Lars Nyberg[1], CJ Boraxbekk[1,2]; [1]Umeå University, Sweden, [2]Copenhagen University Hospital Hvidovre, Denmark
Topic Area: METHODS: Neuroimaging

Poster E104 Face and place selectivity develop in tandem with the visual field representations along the VTC in children
Golijeh Golarai[1], Alina Liberman[1], Kalanit Grill-Spector[1]; [1]Stanford University
Topic Area: PERCEPTION & ACTION: Development & aging

Poster E105 Rapid visual categorization reveals disrupted ventral stream processing in early Alzheimer's disease
Leslie Y. Lai[1], Elena K. Festa[1], Thomas Serre[1], Brian R. Ott[2], William C. Heindel[1]; [1]Brown University, [2]Alpert Medical School of Brown University
Topic Area: PERCEPTION & ACTION: Development & aging

Poster E106 Discrimination of Magnitudes within Different Dimensions: A Developmental Trajectory Outline
Shai Itamar[1], Avishai Henik[1,2]; [1]Department of Psychology and the Zlotowski Center for Neuroscience, Ben-Gurion University of the Negev, Beer-Sheva, Israel, [2]Department of Cognitive and Brain Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel
Topic Area: PERCEPTION & ACTION: Development & aging

Poster E107 Intercultural differences in the acquisition of cognitive skills related to reading readiness
Pilar Sellés[1], Liz C. Ysla[2], Vicenta Avila[3], Tomás Martinez[3], Eva Rosa[1]; [1]Universidad Católica de Valencia, [2]IESPP CREA, Perú, [3]Universidad de Valencia
Topic Area: PERCEPTION & ACTION: Development & aging

Poster E108 The "temporal synchrony" method for identifying multisensory brain regions using fMRI
W. Dale Stevens[1], Stephanie M. Lavoie[1], Ryan A. Stevenson[2], Morgan D. Barense[3], Mark T. Wallace[4], James M. Bebko[1]; [1]York University, [2]University of Western Ontario, [3]University of Toronto, [4]Vanderbilt University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E109 Changes in EEG and movement kinematics accompany sensorimotor learning in immersive virtual reality
Greg Appelbaum[1], Jillian Clements[2], Hrishikesh Rao[2], Rajan Khanna[1], David Zielinski[2], Yvonne Lu[1], Kelly Vittetoe[1], Nicholas Potter[2], Regis Kopper[2], Marc Sommer[2]; [1]Duke University School of Medicine, [2]Duke University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E110 Locus of hunger and amygdala activation to a sweet taste in Hispanic young adults
Jacquelyn Szajer[1], Aaron Jacobson[2], Claire Murphy[1,2]; [1]SDSU/UC San Diego Joint Doctoral Program in Clinical Psychology, [2]San Diego State University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E111 Exploring the synchronization features of the sensorimotor integration of speech
M Florencia Assaneo[1], David Poeppel[1,2]; [1]New York University, Psychology Department, [2]Max Planck Institute
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E112 A Colorful Advantage in Iconic Memory
Radhika Gosavi[1], Edward Hubbard[1]; [1]University of Wisconsin-Madison
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E113 The influence of interoceptive and exteroceptive attention on somatosensory alpha power and tactile perception
Matt Craddock[1], Ellen Poliakoff[2], Wael El-deredy[2], Ekaterini Klepousniotou[1], Donna Lloyd[1]; [1]School of Psychology, University of Leeds, [2]School of Psychologogical Sciences, University of Manchester
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E114 The effect of cue-evoked expectation on different pain sensations
Emily Hird[1,3], Deborah Talmi[1,2], Anthony Jones[1,3], Wael El-Deredy[1,3,4]; [1]University of Manchester, [2]University of Princeton, [3]Salford Royal NHS Foundation Trust, [4]Valparaiso University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E115 Redefining Color in Synesthesia
Madeleine Gorges[1], Arturo Hernandez[1], David Eagleman[2]; [1]University of Houston, [2]Stanford University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E116 Integration of visual and motor object features in human cortex
Ariana M. Familiar[1], Heath Matheson[1], Sharon L. Thompson-Schill[1]; [1]University of Pennsylvania
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E117 The Race May Be Over: Behavior and Neurophysiology Show Modality "Switch-Costs" Give Rise to Apparent Redundant Target Effect
Luke Shaw[1], Eric Nicholas[1], Matthew Braiman[1], Kamy Wakim[1], Ciara Molloy[1], Sophie Molholm[2], John Foxe[1,2]; [1]University of Rochester, [2]Albert Einstein College of Medicine
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E118 Oscillatory brain correlates of the hypnotically-induced out-of-body experience
Abraham Goldstein[1], Maor Zeev-Wolf[1], Yair Dor-Ziderman[1], Eitan G Abramowitz[2]; [1]Bar-Ilan University, [2]Hadassah Medical Center and Hebrew University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E119 How we transmit memories to other brains: constructing shared neural representations via communication
Asieh Zadbood[1,2], Janice Chen[1,2], Yuan Chang Leong[3], Kenneth Norman[1,2], Uri Hasson[1,2]; [1]Princeton Neuroscience Institute, Princeton University, Princeton, NJ, 08544, USA., [2]Department of Psychology, Princeton University, Princeton, NJ, 08544, USA., [3]Department of Psychology, Stanford University, Stanford, CA, 94305, USA.
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E120 The human brain's navigation network when navigating without vision
Shachar Maidenbaum[1], Daniel-Robert Chebat[2], Amir Amedi[1]; [1]Hebrew University of Jerusalem, [2]Ariel University
Topic Area: PERCEPTION & ACTION: Multisensory

Poster E121 Perceptual uncertainty of long-range apparent motion and the neural correlates underlying the resolution of this uncertainty in favor of the motion interpretation.
Yasuhiro Sakamoto[1], Yoshihito Shigihara[2], Michael Wibral[3], Hideyuki Hoshi[1], David Poeppel[1,4], Winfried Menninghaus[1]; [1]Max Planck Institute for Empirical Aesthetics, [2]University College London, [3]Goethe University Frankfurt, [4]New York University
Topic Area: PERCEPTION & ACTION: Vision

Poster E122 The Conversion across Magnitude and Rank Forms of Numerical Representation
Mei-Jing Lin[1], Erik Chihhung Chang[1]; [1]National Central University, Taiwan
Topic Area: PERCEPTION & ACTION: Vision

Poster E123 Tagging the neurophysiological mechanisms of competition between task-relevant and concurrent emotionally arousing task-irrelevant visual information using simultaneously recorded electrocortical and hemodynamic signals
Nathan Petro[1], L. Forest Gruss[1], Siyang Yin[1], Mingzhou Ding[1], Andreas Keil[1]; [1]University of Florida
Topic Area: PERCEPTION & ACTION: Vision

Poster E124 Hemifield-split fMRI repetition effects using chimeric faces
Matthew Harrison[1], Zhiheng Zhou[1], Lars Strother[1]; [1]University of Nevada, Reno
Topic Area: PERCEPTION & ACTION: Vision

Poster E125 Repetition enhancement for partially repeated words in left occipitotemporal cortex
Zhiheng Zhou[1], Carol Whitney[2], Lars Strother[1]; [1]Department of Psychology, University of Nevada, Reno, [2]Independent Researcher
Topic Area: PERCEPTION & ACTION: Vision

Poster E126 Representation of object affordances in the posterior parietal lobe
Chenxiao Guan[1], Quanjing Chen[1], Colleen L. Schneider[1], Bradford Z. Mahon[1]; [1]University of Rochester, USA
Topic Area: PERCEPTION & ACTION: Vision

Poster E127 Using EEG markers to investigate relations between negotiation styles and cognitive workload
Suzana Daher[1], Jadielson Moura[1], Ana Paula Costa[1]; [1]Universidade Federal de Pernambuco
Topic Area: THINKING: Decision making

Poster E128 Do adolescents take more risks? It might depend on the development of statistical learning
Noémi Éltető[1], Karolina Janacsek[1,2], Andrea Kóbor[3], Ádám Takács[1], Dezső Nemeth[1,2]; [1]Eötvos Loránd University, Budapest, Hungary, [2]Brain, Memory and Language Lab, Hungarian Academy of Sciences, Budapest, Hungary, [3]Brain Imaging Centre, Hungarian Academy of Sciences, Budapest, Hungary
Topic Area: THINKING: Decision making

Poster E129 Goal-directed decision making incidentally recruits reinforcement learning mechanisms
Nora C Harhen[1], Anne GE Collins[1]; [1]University of California, Berkeley
Topic Area: THINKING: Decision making

Poster E130 Oxytocinergic modulation of human adaptive communication and broadband neuronal dynamics
Arjen Stolk[1], Idil Kokal[2], Miriam de Boer[2], Robert Oostenveld[2], Ivan Toni[2]; [1]Helen Wills Neuroscience Institute, UC Berkeley, [2]Donders Institute, Radboud University Nijmegen
Topic Area: THINKING: Decision making

Poster E131 Influence of other's choice behavior on observational learning
Nadège Bault[1], Tobias Larsen[1], Mehdi Khamassi[2], Luca Polonio[1], Alexander Vostroknutov[1], Giorgio Coricelli[1,3]; [1]Center for Mind/Brain Sciences (Cimec), Trento, Italy, [2]Institute for Intelligent Systems and Robotics, CNRS, Paris, France, [3]University of Southern California, Los Angeles, USA
Topic Area: THINKING: Decision making

Poster E132 Anxiety differences in reducing reliance on pre-existing biases by learning from outcome feedback
Cristina G. Wilson[1], Paul M. Whitney[1], John Hinson[1]; [1]Washington State University
Topic Area: THINKING: Decision making

Poster E133 Pupillometry and Frontal Theta Reflect Decision Threshold Increases During Evidence Accumulation
Daniel Barto[1], James F. Cavanagh[1]; [1]University of New Mexico
Topic Area: THINKING: Decision making

Poster E134 Feedback blunting due to sleep deprivation is affected by dopaminergic genotype
Hans Van Dongen[1], John Hinson[1], Paul Whitney[1], Brieann Satterfield[1], Michelle Schmidt[1], Jonathan Wisor[1]; [1]Washington State University
Topic Area: THINKING: Decision making

Poster E135 Arousal-induced changes in functional brain networks during exploration and exploitation
Nathan Tardiff[1], Danielle S. Bassett[1], Sharon L. Thompson-Schill[1]; [1]University of Pennsylvania
Topic Area: THINKING: Decision making

Poster E136 An event-related potential and time-frequency study of cognitive dissonance-elicited attitude change
Adam Burnett[1], Mario Liotti[1]; [1]Simon Fraser University
Topic Area: THINKING: Decision making

Poster E137 Mechanisms of Information Accumulation across Speed-Accuracy Tradeoff
Christina M Merrick[1], Kate T Duberg[1], Anne GE Collins[1], Richard B Ivry[1]; [1]University of California Berkeley
Topic Area: THINKING: Decision making

Poster E138 Funding Opportunities at the National Science Foundation
Alumit Ishai[1]; [1]National Science Foundation
Topic Area: OTHER

Poster Session F

Poster F1 Reconstructing Changes in the Spatial Deployment of Attention According to Environmental Statistical Structure
Anthony W. Sali[1], Tobias Egner[1]; [1]Duke University
Topic Area: ATTENTION: Spatial

Poster F2 Spatial attention reduces visual cortical 1/f neural noise
Tam Tran[1], Adam Gazzaley[2], Bradley Voytek[1]; [1]University of California, San Diego, [2]University of California, San Francisco
Topic Area: ATTENTION: Spatial

Poster F3 The effects of alpha-band electrical stimulation of a fronto-parietal network on spatial attention.
Martine R. van Schouwenburg[1], Lynn Sörensen[1], Raza de Klerk[1], Leon C. Reteig[1], Heleen A. Slagter[1]; [1]Brain & Cognition, Department of Psychology, University of Amsterdam
Topic Area: ATTENTION: Spatial

Poster F4 Attentional bias to rapid affective picture presentations at 4 and 6 Hz
Valeria Bekhtereva[1], Matthias M. Müller[1]; [1]University of Leipzig
Topic Area: ATTENTION: Spatial

Poster F5 Eye Movement Patterns During Scene Viewing Predict Clinical Individual Difference Measures
Taylor R. Hayes[1], John M. Henderson[1,2]; [1]Center for Mind and Brain, University of California, Davis, [2]Department of Psychology, University of California, Davis
Topic Area: ATTENTION: Spatial

Poster F6 The size of the focus of attention in touch: evidence from event related potentials
Elena Gherri[1]; [1]University of Edinburgh
Topic Area: ATTENTION: Spatial

Poster F7 Alpha-Band Activity Tracks Updates to the Content of Spatial Working Memory
Eren Gunseli[1], Joshua J. Foster[1], David W. Sutterer[1], Edward K. Vogel[1], Edward Awh[1]; [1]University of Chicago
Topic Area: ATTENTION: Spatial

Poster F8 Towards a unified model of spatial neglect and its anatomical constituents
Radek Ptak[1,2,3], Armin Schnider[1,2], Elena Pedrazzini[1]; [1]Medical school, Geneva University, Switzerland, [2]Division of neurorehabilitation, University Hospitals Geneva, Switzerland, [3]Faculty of psychology and educational sciences, Geneva University, Switzerland
Topic Area: ATTENTION: Spatial

Poster F9 Spatial expressions in German, English, Italian, Polish, and Persian
Katarzyna Stoltmann[1,2], Fereshteh Modarresi[1]; [1]Zentrum für Allgemeine Sprachwissenschaft (ZAS), Berlin, Germany, [2]Humboldt-Universität zu Berlin, Germany
Topic Area: ATTENTION: Spatial

Poster F10 The Modulation of Attentional Emotion Processing on the P300 Event-Related Potential in High-Anxiety and Low-Anxiety Individuals
Jeremy Andrzejewski[1], Trenton Tulloss[1], Robert Torrence[1], Lucy Troup[1]; [1]Colorado State University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F11 The Role of THC Concentration on the Processing of Emotional Faces
Jacob Braunwalder[1], Julia Metlay[1], Robert Torrence[1], Lucy J Troup[1]; [1]Colorado State University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F12 Select Surface-Based Morphometry Predicts Autism Symptom Severity
Hakeem Brooks[1], Taylor Wilson[1], David Anderson[1], Tracey A. Knaus[2], Helen Tager-Flusberg[3], Jeremy D. Cohen[1]; [1]Xavier University of Louisiana, [2]Louisiana State University Health Sciences Center-New Orleans, [3]Boston University School of Medicine
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F13 Empathy and psychological pain: The influence of First-hand Experience
Paria Yaghoubi Jami[1], Behzad Mansouri[1], Steve Thoma[1]; [1]The University of Alabama
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F14 Does Prefrontal Cortex Activity Underlie Gender Differences in Emotion Regulation? Evidence from Transcranial Direct Current Stimulation
K. Elise Goubet[1], Evangelia G. Chrysikou[1]; [1]University of Kansas
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F15 Does immediate versus diffuse threat evoke dissociable high-resolution functional imaging activation profiles from amygdala and bed-nucleus of the stria terminalis?
Lindsay Knight[1], Farah Naaz[1], Brooke Siers[1], Brendan Depue[1]; [1]University of Louisville
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F16 Watching joint actions in dance synchronizes brain activity in expert and novice spectators
Guido Orgs[1], Adrian Williams[2], Staci Vicary[1]; [1]Department of Psychology, Goldsmiths, University of London, [2]Division of Psychology, Department of Life Sciences, Brunel University London
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F17 Tracing the neural carryover effects of anger and their relation to chronic-stress symptoms
Gadi Gilam[1,2], Adi Maron-Katz[3], Tamar Lin[1], Efrat Kliper[1], Eyal Fruchter[4], Ron Shamir[5,6], Talma Hendler[1,2,6,7]; [1]Tel Aviv Center for Brain Function, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Weizmann 6, Tel Aviv, 64239, Israel, [2]School of Psychological Sciences, Tel-Aviv University, P.O. Box 39040, Tel Aviv 69978, Israel, [3]Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, [4]Division of Mental Health, Israeli Defense Force Medical Corp, Tel Hashomer, Military Mail 02149, Israel, [5]Blavatnik School of Computer Science, Tel-Aviv University, P.O. Box 39040, Tel Aviv 69978, Israel, [6]Sagol School of Neuroscience, Tel-Aviv University, P.O. Box 39040, Tel Aviv 69978, Israel, [7]Sackler Faculty of Medicine, Tel-Aviv University, P.O. Box 39040, Tel Aviv 69978, Israel
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F18 Boosting Self-Esteem Through Remembering Relaxed Experience Suppresses Envy and Resultant Schadenfreude as Measured with Fmri
Shohei Yamazaki[1], Motoaki Sugiura[1], Kelssy H dos S Kawata[1], Yukako Sasaki[1], Rui Nouchi[1], Kohei Sakaki[1], Shigeyuki Ikeda[1], Ryuta Kawashima[1]; [1]Tohoku University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F19 Resting-state functional connectivity in large-scale brain networks predicts neuroticism and extraversion in novel individuals
Wei-Ting Hsu[1], Monica D. Rosenberg[1], Dustin Scheinost[1], Emily S. Finn[1], R. Todd Constable[1], Marvin M. Chun[1]; [1]Yale University
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F20 The Sound and the Fury: Late Positive Potential is Sensitive to Sound Affect
Darin Brown[1], James Cavanagh[1]; [1]University of New Mexico
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F21 Sadness can be related to the approach motivation: Evidence from frontal alpha power asymmetry
Kohei Fuseda[1], Ayano Matsubara[1], Jun'ichi Katayama[1,2]; [1]Kwansei Gakuin University, [2]Center for Applied Psychological Science (CAPS)
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F22 Resting connectivity between the amygdala and the ventral anterior cingulate cortex is associated with sympathetic reactivity to a trauma reminder
Olena Kleshchova[1,2], Jenna Rieder[1,2], Mariann Weierich[1,2]; [1]Hunter College, The City University of New York, [2]The Graduate Center, The City University of New York
Topic Area: EMOTION & SOCIAL: Emotional responding

Poster F23 Face Processing at 100 ms: the Effects of Race and Configuration
Clara Colombatto[1], Gregory McCarthy[1]; [1]Yale University, New Haven, CT, 06511, USA
Topic Area: EMOTION & SOCIAL: Person perception

Poster F24 Implicit Associations Between Different Body Types and Foods in Women
Rebecca Lopas[1], Natalie Ceballos[1], Roger Samson[1], Reiko Graham[1]; [1]Texas State University
Topic Area: EMOTION & SOCIAL: Person perception

Poster F25 Rhesus monkeys are able to discriminate facial identity and expression
Molly Flessert[1], Jessica Taubert[1], Ning Liu[1], Leslie Ungerleider[1]; [1]Laboratory of Brain and Cognition, NIMH/NIH
Topic Area: EMOTION & SOCIAL: Person perception

Poster F26 Race, Facial Expression, and Weapon Identification: An Associative Priming Study
Arthur Barrera[1], Yesenia Padilla[1], Reiko Graham[1]; [1]Texas State University
Topic Area: EMOTION & SOCIAL: Person perception

Poster F27 Modulating vicarious tactile perception: Performance-specific outcomes of transcranial current stimulation of primary somatosensory cortex on empathy for touch
Natalie Bowling[1], Michael Banissy[1]; [1]Goldsmiths College, University of London
Topic Area: EMOTION & SOCIAL: Person perception

Poster F28 Contextual self-relevance and valence modulate face processing differently in those with high versus low subclinical social anxiety
Sarah McCrackin[1], Roxane Itier[1]; [1]University of Waterloo
Topic Area: EMOTION & SOCIAL: Person perception

Poster F29 Investigating the Neural Basis of Shared Preferences and Affiliation
Harry Farmer[1], Antonia Hamilton[1]; [1]University College London
Topic Area: EMOTION & SOCIAL: Person perception

Poster F30 Neural representations of person types overlap with Theory of Mind regions
Connor Lane[1], Giulia V Elli[1], Marina Bedny[1]; [1]Johns Hopkins University
Topic Area: EMOTION & SOCIAL: Person perception

Poster F31 Neural representations of face identity across photos, line drawings, and caricatures
Constantin Rezlescu[1,2], Stefano Anzellotti[3], Alfonso Caramazza[1]; [1]Harvard University, [2]University College London, [3]MIT
Topic Area: EMOTION & SOCIAL: Person perception

Poster F32 Into the Dogs' Brain: How Do Their Brains Process Emotional Human Faces?
Laura V. Cuaya[1], Raúl Hernández-Pérez[1], Luis Concha[1]; [1]Institute of

Neurobiology, National Autonomous University of México
Topic Area: EMOTION & SOCIAL: Person perception

Poster F33 Source Localization Indicates Anterior Superior Temporal Gyrus Involvement in Nonlinguistic Structured Sequence Processing and Natural Language Processing
Gretchen N.L. Smith[1], Gerardo E. Valdez[1], Anne M. Walk[2], John D. Purdy[3], Christopher M. Conway[1]; [1]Georgia State University, [2]University of Illinois, [3]Saint Louis University
Topic Area: EXECUTIVE PROCESSES: Other

Poster F34 The Reliability of Brain State Properties
Derek M. Smith[1], Yiran Zhao[1], Behnaz Yousefi[1], Shella D. Keilholz[2], Eric H. Schumacher[1]; [1]Georgia Institute of Technology, [2]Emory University
Topic Area: EXECUTIVE PROCESSES: Other

Poster F35 A role for the striatum in feedback contingency estimation during perceptual category learning
Lauren E. Vucovich[1], F. Gregory Ashby[1]; [1]University of California, Santa Barbara
Topic Area: EXECUTIVE PROCESSES: Other

Poster F36 Effect of deep brain stimulaton of the subthalamic nucleus in Parkinson's disease on verbal fluency
Friederike Leimbach[1], Socorro Pieters[1], Catherine Cheung[1], Leonora Wilkinson[1], Donna Page[1], Catherine Jones[1], Ludwig Zinzro[1], Marwan Hariz[1], Tom Foltynie[1], Patricia Limousin[1], Marjan Jahanshahi[1]; [1]UCL Institute of Neurology
Topic Area: EXECUTIVE PROCESSES: Other

Poster F37 Inhibition and Updating Abilities Predict Dyslexia and Comorbid Dyslexia- Attention Deficit Hyperactivity Disorder in Children
Caoilainn Doyle[1], Lorraine Boran[1], Alan Smeaton[1], Geraldine Scanlon[1]; [1]Dublin City University
Topic Area: EXECUTIVE PROCESSES: Other

Poster F38 The unique neural signatures of cognitive flexibility and inhibitory control across various task contexts
Raluca Petrican[1], Cheryl Grady[1,2]; [1]Rotman Research Institute, [2]University of Toronto
Topic Area: EXECUTIVE PROCESSES: Other

Poster F39 Placebo Brain Stimulation Affects Feelings of Agency and Neural Responses to Errors
Michiel van Elk[1], Suzanne Hoogeveen[2], Uffe Schjoedt[3]; [1]University of Amsterdam, [2]University of Amsterdam, [3]University of Arhus
Topic Area: EXECUTIVE PROCESSES: Other

Poster F40 The influence of different feature repetition conditions on the sequential modulation of the Simon effect: An EEG study
Katharina Hoppe[1], Kristina Küper[1], Edmund Wascher[1]; [1]Leibniz Research Centre for Working Environment and Human Factors (IfADo)
Topic Area: EXECUTIVE PROCESSES: Other

Poster F41 Decoding Free Choices: Influences of Unconscious Priming on Voluntary Actions
Martyn Teuchies[1], Jelle Demanet[1], Nura Sidarus[2], Patrick Haggard[2], Michaël Stevens[1], David Wisniewski[1], Marcel Brass[1]; [1]Ghent University, [2]University College London
Topic Area: EXECUTIVE PROCESSES: Other

Poster F42 Learning of Adjacent and Non-adjacent Regularities in a Visuo-Syllabic Sequential Learning Task Using Event-Related fMRI
Leyla Eghbalzad[1], Joanne Deocampo[1], Gretchen Smith[1], Gerardo Valdez[1], Sabrina Na[1], Tricia King[1], Christopher Conway[1]; [1]Georgia State University
Topic Area: EXECUTIVE PROCESSES: Other

Poster F43, Neuroanatomical Substrates Underlying the Relationship Between Body Mass and Cognitive Functioning
Leonard Faul[1], Kathryn M. Mattingly[1], Brendan E. Depue[1]; [1]University of Louisville
Topic Area: EXECUTIVE PROCESSES: Other

Poster F44 Impulsivity and the Reward System: Negative and Positive Urgency are Associated with Neural Reward Sensitivity
Michelle Rogers[1], Heather Soder[1], Geoffrey Potts[1]; [1]University of South Florida
Topic Area: EXECUTIVE PROCESSES: Other

Poster F45 Pre- and Post-treatment Effects on Resting-State Functional Connectivity in Women Diagnosed with Breast Cancer
Omid Kardan[1], Scott Peltier[2], Bratislav Misic[3], Mary Askren[4], Misook Jung[5], Nathan Churchill[6], Patricia Reuter-Lorentz[2], Bernadine Cimprich[2], Marc Berman[1]; [1]University of Chicago, [2]University of Michigan, [3]Montreal Neurological Institute, [4]University of Washington Seattle, [5]Chungnam National University, [6]Keenan Research Centre of the Li Ka Shing Knowledge Institute, St. Michael's Hospital
Topic Area: EXECUTIVE PROCESSES: Other

Poster F46 Alpha-Band Power: Relevance to Visual Short-Term Memory Maintenance and Ongoing Visual Sensory Processing.
Andrew Heinz[1], Jeffrey Johnson[1]; [1]North Dakota State University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F47 Rapid synaptic plasticity as a substrate for working memory maintenance
Eelke Spaak[1], Christos Constantinidis[2], John Duncan[1,5], Timothy Buschman[3], Earl Miller[4], Mark Stokes[1]; [1]University of Oxford, [2]Wake Forest University, [3]Princeton University, [4]Massachusetts Institute of Technology, [5]University of Cambridge
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F48 Synchronous Beta Rhythms of Frontoparietal Networks Support Only Behaviorally Relevant Representations
Evan G. Antzoulatos[1,2], Earl K. Miller[1]; [1]Massachusetts Institute of Technology, [2]University of California, Davis
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F49 Exploring Grey and White Matter Correlates of Verbal Working Memory Using Structural Imaging
Maria Ivanova[1,2], Olga Dragoy[1,3], Svetlana Kuptsova[1,4], Akinina Yulia[1,5], Petryshevskii Alexey[4], Fedina Oksana[4], Dronkers Nina[1,2,6]; [1]National Research University Higher School of Economics, Moscow, Russia, [2]Center for Aphasia and Related Disorders, VA Northern California Health Care System, Martinez, California, USA, [3]Moscow Research Institute of Psychiatry, Moscow, Russia, [4]Center for Speech Pathology and Neurorehabilitation, Moscow, Russia, [5]University of Groningen, Groningen, The Netherlands, [6]University of California, Davis, California, USA
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F50 Superior Longitudinal Fasciculus and Working Memory Functions Post Stroke: A Diffusion Tensor Imaging Study
Parminder Kaur[1], Alexandra L. Borstad[1], Petra Schmalbrock[2], Nick Hohman[1], Deborah S. Nichols-Larsen[1]; [1]School of Health and Rehabilitation Sciences, The Ohio State University, [2]Department of Radiology, College of Medicine, The Ohio State University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F51 Corticostriatal activity during task-free fMRI to predict cognitive control performance
Alan Ceaser[1], Jong Yoon[1]; [1]Stanford University
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F52 Neural Mechanisms underlying the Precision of Visual Working Memory Representation
Yijie Zhao[1], Yixuan Ku[1]; [1]East China Normal University, Shanghai, China
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F53 Delay-period functional connectivity between IPS and occipital cortex relates to the precision of visual working memory
Qing Yu[1], Olivia Gosseries[1,2], Bradley Postle[1]; [1]University of Wisconsin-Madison, [2]University of Liege, Belgium
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F54 Does the binding of a feature into a multidimensional object protect it from inferference in visual working memory?
Muhammet Ikbal Sahan[1,2], Andrew Douglas Sheldon[1], Bradley Postle[1]; [1]Dept. of Psychiatry, University of Wisconsin-Madison, USA, [2]Dept. of Experimental Psychology, Ghent University, Belgium
Topic Area: EXECUTIVE PROCESSES: Working memory

Poster F55 Oscillatory dynamics differ between nonverbal/minimally-verbal children with ASD and controls during processing of a picture-word matching paradigm.
Silvia Ortiz-Mantilla[1], Chiara Cantiani[2], Valerie L. Shafer[3], April A. Benasich[1]; [1]Center for Molecular and Behavioral Neuroscience, Rutgers University-Newark, NJ, USA, [2]Scientific Institute IRCCS Eugenio Medea, Bosisio Parini, Lecco, Italy, [3]The Graduate Center, City University of New York, New York, USA
Topic Area: LANGUAGE: Development & aging

Poster F56 Disrupted Language Networks Following Childhood Poverty
Suzanne Perkins[1], Shaun Ho[2], James Swain[2]; [1]University of Michigan, [2]Stony Brook University
Topic Area: LANGUAGE: Development & aging

Poster F57 Speech-evoked complex Auditory Brain Response (cABR) and Frequency Following Response (FFR) in the Neonatal Intensive Care Unit (NICU)
Gabriella Musacchia[1,2], Jiong Hu[1], Matthew Fitzgerald[2], Meiling Tong[3]; [1]University of the Pacific, [2]Stanford Medical School, [3]Nanjing Maternity and Child Health Care Hospital
Topic Area: LANGUAGE: Development & aging

Poster F58 Investigating the relationship between socioeconomic status, reading ability and white matter: A longitudinal investigation
Stephanie Del Tufo[1], Laurie Cutting[1]; [1]Vanderbilt University
Topic Area: LANGUAGE: Development & aging

Poster F59 Biomarkers of Children's Standardized Academic Achievement Using Neuroelectric Measures of Language Processing
Mark Scudder[1], Kara Federmeier[2], Eric Drollette[2], Lauren Raine[3], Shih-Chun Kao[2], Naiman Khan[2], Arthur Kramer[3], Charles Hillman[3]; [1]University of Pittsburgh, [2]University of Illinois at Urbana-Champaign, [3]Northeastern University, Boston, MA
Topic Area: LANGUAGE: Development & aging

Poster F60 Speeded phonological processing in children with Tourette syndrome
Cristina Dye[1], Matthew Walenski[2], Stewart H. Mostofsky[3], Michael T. Ullman[4]; [1]Newcastle University, [2]Northwestern University, [3]Johns Hopkins University, [4]Georgetown University
Topic Area: LANGUAGE: Development & aging

Poster F61 Induced oscillations during speaking distinguish variants of primary progressive aphasia
Leighton Hinkley[1], Megan Cahill-Thompson[1], Zachary Miller[2], Kamalini Ranasinghe[2], Bruce Miller[2], Keith Vossel[2], John Houde[1], Marilu Gorno-Tempini[2], Srikantan Nagarajan[1]; [1]University of California, San Francisco, Department of Radiology and Biomedical Imaging, [2]University of California, San Francisco, Memory and Aging Center
Topic Area: LANGUAGE: Development & aging

Poster F62 Comprehension of code-mixed sentences in bilingual elders: An event-related potentials (ERP) study
Chia-Hsuan Liao[1,2], Shiao-Hui Chan[2]; [1]University of Maryland, [2]National Taiwan Normal University
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Poster F63 Text type matters during reading development: informational texts require specialized brain networks compared to stories
Katherine Aboud[1], Stephen Bailey[1], Jonathan Scheff[1], Laurie Cutting[1]; [1]Vanderbilt University
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Poster F64 Advance Paternal Age Effects on Offspring Academic Ability: The Role of Thalamic Maturation Links APA and Reading
Zhichao Xia[1,2], Cheng Wang[1], Maaike Vandermosten[1,3], Roeland Hancock[1], Fumiko Hoeft[1,4,5]; [1]University of California, San Francisco, [2]Beijing Normal University, [3]University of Leuven, [4]Yale University, [5]Keio University
Topic Area: LANGUAGE: Development & aging

Poster F65 Frontal and Central Sleep Spindles are Correlated with Cognition and Language in Napping Infants
Sue E. Peters[1], April A. Benasich[2]; [1]Behavioral and Neural Science Graduate Program, Rutgers University - Newark, NJ, [2]Center for Molecular and Behavioral Neuroscience, Rutgers University - Newark, NJ
Topic Area: LANGUAGE: Development & aging

Poster F66 Bilingual Proficiency is Associated with Cortical Responses During Language Processing
Rebecca Marks[1], Zhichao Xia[2], Roeland Hancock[2], Yuuko Uchikoshi[3], Ioulia Kovelman[1], Fumiko Hoeft[2]; [1]University of Michigan, [2]University of California, San Francisco, [3]University of California, Davis
Topic Area: LANGUAGE: Other

Poster F67 An electrophysiological investigation of noisy channel sentences
Veena Dwivedi[1], Victoria Witte[1], Janahan Selvanayagam[1], Edward Gibson[2]; [1]Brock University, [2]MIT
Topic Area: LANGUAGE: Syntax

Poster F68 Tracing the interplay between syntactic and lexical features: fMRI evidence from agreement comprehension.
Ileana Quinones[1], Nicola Molinaro[1,2], Horacio Barber[3], Manuel Carreiras[1,2,4]; [1]Basque Center on Cognition, Brain and Language, Donostia, Spain, [2]IKERBASQUE. Basque Foundation for Science. Bilbao, Spain, [3]Universidad de La Laguna, Tenerife, Spain, [4]University of the Basque Country, UPV/EHU. Bilbao, Spain
Topic Area: LANGUAGE: Syntax

Poster F69 An fMRI investigation of argument structure and syntactic selection
William Matchin[1], Chia-Hsuan Liao[2], Phoebe Gaston[2], Ellen Lau[2]; [1]UC San Diego, [2]University of Maryland
Topic Area: LANGUAGE: Syntax

Poster F70 A mechanism for the cortical computation of hierarchical linguistic structure
Andrea E. Martin[1,2], Leonidas A. A. Doumas[1]; [1]University of Edinburgh, [2]Max Planck Institute for Psycholinguistics
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Poster F71 The spatio-temporal dynamics of language processing: combining computational linguistics and RSA with MEG data
Barry Devereux[1], Billi Randall[1], William Marslen-Wilson[1], Lorraine Tyler[1]; [1]University of Cambridge
Topic Area: LANGUAGE: Syntax

Poster F72 Neural Consequences of Syntactic Surprisal during Reading
Trevor Brothers[1], Matthew W. Lowder[1], John M. Henderson[1], Fernanda Ferreira[1], Matthew J. Traxler[1], Tamara Y. Swaab[1]; [1]University of California, Davis
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Poster F73 Behavioral and Neural Evidence for the Effects of Verb Bias and Syntactic Surprisal on Sentence Processing
Kathryn Bousquet[1], Tamara Swaab[1], Debra Long[1]; [1]University of California, Davis
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Poster F74 Low expectations: An ERP investigation of cue-based anticipatory processing in low constraint sentences
Kailen Shantz[1], Darren Tanner[1]; [1]University of Illinois at Urbana-Champaign
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Poster F75 The neurobiology of prosody and sentence structure: a functional MRI study
Arianna LaCroix[1], Lisa Johnson[1], Nicole Blumenstein[1], Sharmeen Maze[2], Leslie C. Baxter[2], Corianne Rogalsky[1]; [1]Arizona State University, [2]Keller Center for Imaging Innovation, Barrow Neurological Institute & St. Joseph's Hospital and Medical Center
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Poster F76 Electrophysiology of Prosodic and Lexical Influences on Sentence Processing in Broca's Aphasia
Shannon Sheppard[1], Tracy Love[1,2], Katherine J. Midgley[1], Phillip J. Holcomb[1], Lewis P. Shapiro[1]; [1]San Diego State University, [2]University of California, San Diego
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Poster F77 Age differences in event-related potential effects associated with strong and weak recollection
Erin Horne[1], Joshua Koen[1], Nedra Hauck[1], Michael Rugg[1]; [1]University of Texas at Dallas
Topic Area: LONG-TERM MEMORY: Episodic

Poster F78 Sequencing Effects on the Retention of Generalized Knowledge and Source Memory
Sharon Noh[1], Alison Preston[1]; [1]University of Texas at Austin
Topic Area: LONG-TERM MEMORY: Episodic

Poster F79 Relative order judgements of the past and the future
Inder Singh[1], Marc Howard[1]; [1]Boston University
Topic Area: LONG-TERM MEMORY: Episodic

Poster F80 Improving Memory by Biasing Awake Memory Reactivation
Kylie H. Alm[1], Chi T. Ngo[1], Ingrid R. Olson[1]; [1]Temple University
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Enmanuelle Pardilla Delgado[1], Cecilia Forcato[2], Jessica D. Payne[1]; [1]University of Notre Dame, [2]Universidad de Quilmes
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Poster F82 Dynamic functional connectivity of overt and covert autobiographical memory retrieval
Charles Ferris[1], Cory Inman[1], Andrew James[2], Stephan Hamann[1]; [1]Emory University, [2]University of Arkansas for Medical Sciences
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Sarah Kark[1], Stephanie Sherman[1], Ryan Daley[1], Scott Slotnick[1], Elizabeth Kensinger[1]; [1]Boston College
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Poster F84 Functional connectivity between the dorsomedial thalamus and the medial temporal lobe supports familiarity memory
Alex Kafkas[1], Elizabeth Keene[1], Andrew Mayes[1], Daniela Montaldi[1]; [1]Memory Research Unit, Division of Neuroscience & Experimental Psychology, School of Biological Sciences, University of Manchester
Topic Area: LONG-TERM MEMORY: Episodic

Poster F85 Functional dissociation and specialization of dentate gyrus and CA3 hippocampal subfields during episodic future thinking
Paul F. Hill[1], Tobias Sweeney[1], Gabriel A. Devenyi[2,3], Mallar Chakravarty[2,3], Rachel A. Diana[1]; [1]Virginia Tech, [2]Douglas Mental Health University Institute, [3]McGill University
Topic Area: LONG-TERM MEMORY: Episodic

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Oded Bein[1], Katherine Duncan[2], Lila Davachi[1]; [1]New York University, [2]University of Toronto
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Benjamin R Geib[1], Roberto Cabeza[1], Marty G Woldorff[1]; [1]Duke University
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Emily Cowan[1], Anli Liu[2], Sanjeev Kothare[2], Orrin Devinsky[2], Lila Davachi[1]; [1]New York University, [2]NYU Langone School of Medicine
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Brittany M. Jeye[1], Jessica M. Karanian[1], Scott D. Slotnick[1]; [1]Boston College
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Poster F90 Signed reward prediction errors drive declarative learning
Esther De Loof[1], Kate Ergo[1], Lien Naert[1], Clio Janssens[1], Filip Van Opstal[2,3], Tom Verguts[1]; [1]Ghent University, Belgium, [2]Université Libre de Bruxelles, Belgium, [3]University of Amsterdam, Netherlands
Topic Area: LONG-TERM MEMORY: Episodic

Poster F91 Impact of preparatory attention on subsequent memory: individual differences in cortical oscillations
Anna Khazenzon[1], Shao Fang Wang[1], Stephanie Zhang[1], Alex Gonzalez[1], Stephanie Gagnon[1], Monica Thieu[1], Melina Uncapher[2], Anthony Wagner[1]; [1]Stanford University, [2]University of California, San Francisco
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Poster F92 Stress Effects on Memory are Context Dependent
Matthew Sazma[1], Andrew McCullough[1], Andy Yonelinas[1]; [1]UC Davis
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Else Schneider[1,2], Roland Wiest[3], Katharina Henke[1,2]; [1]University of Bern, Bern, Switzerland, [2]Centre for Cognition, Learning and Memory, University of Bern, Bern, Switzerland, [3]Institute of Diagnostic and Interventional Neuroradiology, University Hospital Bern, Bern, Switzerland
Topic Area: LONG-TERM MEMORY: Episodic

Poster F94 Episodic cueing reduces temporal discounting in individuals with damage to the ventromedial prefrontal cortex
Flavia De Luca[1,2], Donna Kwan[3], Francesca Bianconi[2], Violetta Knyagnytska[2,3], Carl Craver[4], Elisa Ciaramelli[1,2], R. Shayna Rosenbaum[3,5]; [1]Università di Bologna, Italia, [2]Centro studi e ricerche in Neuroscienze Cognitive, Università di Bologna, Cesena, Italia, [3]York University, Toronto, Ontario, Canada, [4]Washington University, St. Louis, USA, [5]Rotman Research Institute, Baycrest, Toronto, Canada
Topic Area: LONG-TERM MEMORY: Episodic

Poster F95 Modulation of oscillatory power and connectivity in the human posterior cingulate cortex supports the encoding and retrieval of episodic memories
Bradley Lega[1], Michael Rugg[2], James Germi[1]; [1]University of Texas-Southwestern Medical Center, [2]Universwity of Texas at Dallas
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Andrew Quinn[1], Eva Patai[1,4], Diego Vidarre[1,3], Anna Nobre[1,2], Mark Woolrich[1,3]; [1]Oxford Centre for Human Brain Activity, University of Oxford, [2]Department of Experimental Psychology, University of Oxford, [3]Oxford Centre for Functional MRI of the Brain,University of Oxford, [4]Institute of Behavioural Neuroscience, University College London.
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Poster F97 Defining the Human Olfactory Network: A Functional Connectome Analysis
Thomas Arnold[1], Yuqi You[1], Ivan de Araujo[2], Mingzhou Ding[3], Wen Li[1]; [1]Florida State University, [2]Yale University, [3]University of Florida
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Chaeyeon Kim[1], Justin Jangyoon Choi[1], Richard Lee[1]; [1]New York University
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Francesco Usai[1], Antoine Tremblay[1,2], Kiera O'Neil[1], Aaron J. Newman[1]; [1]Dalhousie University, [2]Saint Mary's University
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Claire Sexton[1], Kai Spiegelhalder[2], Stephen Smith[1], Heidi Johansen-Berg[1], Debbie Lawlor[3], Martin Rutter[4], Simon Kyle[1]; [1]University of Oxford, [2]University of Freiburg, [3]University of Bristol, [4]University of Manchester
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Aliyah Jones[1], David Stephenson, M.S.[2], Allen L. Reiss, M.D.[3], Elliott Beaton, Ph.D.[2], Jeremy D. Cohen, Ph.D.[1]; [1]Xavier University of Louisiana, [2]University of New Orleans
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Christopher Muse-Fisher[1], Justin Riddle[1], Jason Scimeca[1], Mark D'Esposito[1]; [1]UC Berkeley
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Jennifer L. Crawford[1], Kendra L. Seaman[1], Aishwarya Vijay[1], David Matuskey[1], Evan D. Morris[1], Gregory R. Samanez-Larkin[1]; [1]Yale University
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Aaron M. Piccirilli[1], S.M. Hadi Hosseini[1], Joseph M. Baker[1], Jennifer L. Bruno[1], Andrew Gundran[1], Zachary Stuart[1], Lene K. Harbott[1], J. Christian Gerdes[1], Allan L. Reiss[1]; [1]Stanford University
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Elke De Witte[1], Leighton Hinkley[1], Danielle Mizuiri[1], Coleman Garrett[1], Susanne Honma[1], Heidi Kirsch[1], John Houde[1], Mitchel Berger[1], Sri Nagarajan[1]; [1]University of California, San Francisco
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Zachary Laborde[1], David Stephenson[2], Allan L. Reiss[3], Elliott Beaton[2], Jeremy D. Cohen[1]; [1]Xavier University of Louisiana, [2]University of New Orleans, [3]Stanford School of Medicine
Topic Area: METHODS: Neuroimaging

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Nina Sardesh[1], Lucia Bulubas[2], Tavish Traut[1], Danielle Mizuiri[1], Susanne Honma[1], Coleman Garrett[1], Avery Garrett[1], Mitchel Berger[1], Heidi Kersch[1], Phiroz Tarapore[1], Srikantan Nagarajan[1]; [1]University of California, San Francisco, [2]Technische Universitat Munchen, Munich, Germany
Topic Area: METHODS: Neuroimaging

Poster F108 Deep learning techniques for decoding EEG signatures of viewing or refreshing face, scene, and word stimuli
Jacob Williams[1], Ashok Samal[1], Matthew Johnson[1]; [1]University of Nebraska - Lincoln
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Peter Bright[1], Ian van der Linde[1]; [1]Anglia Ruskin University, Cambridge
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Marina Bedny[1], Judy Kim[1], Gabriela Cantarero[2,3], Pablo Celnik[2]; [1]Johns Hopkins University, [2]Johns Hopkins School of Medicine, [3]Walter Reed Army Institute of Research
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Christopher Madan[1,2], Christopher Donoff[2], Anthony Singhal[2]; [1]Boston College, [2]University of Alberta
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Sean McWhinney[1], Kaitlyn Tagarelli[1], Antoine Tremblay[1], Aaron Newman[1]; [1]Dalhousie University
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Taylor Hendershott[1], Delphine Zhu[1], Seoni Llanes[1], Kathleen Poston[1,2]; [1]Department of Neurology and Neurological Science, Stanford University School of Medicine, [2]Department of Neurosurgery, Stanford University School of Medicine
Topic Area: METHODS: Other

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Sarah Baisley[1], Thomas Campbell Arnold[1], Jaryd Hiser[2], Lucas Novak[1], Takuya Sato[3], Wen Li[1]; [1]Florida State University, [2]University of Wisconsin-Madison, [3]Kikkoman Singapore R&D Laboratory PTE LTD
Topic Area: PERCEPTION & ACTION: Multisensory

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Lauren Hendrickson[1], Ferrinne Spector[1]; [1]Edgewood College
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Laura Quante[1,2], Daniel S. Kluger[1,2], Ricarda I. Schubotz[1,2,3]; [1]Westfälische Wilhelms-Universität, Münster, Germany, [2]Otto Creutzfeldt Center for Cognitive and Behavioral Neuroscience, Germany, [3]University Hospital Cologne, Germany
Topic Area: PERCEPTION & ACTION: Multisensory

Poster F117 AudioVisual Integration and Training in Hemianopia: A Neurocomputational Study
Elisa Magosso[1], Caterina Bertini[1], Cristiano Cuppini[1], Mauro Ursino[1]; [1]University of Bologna, Italy
Topic Area: PERCEPTION & ACTION: Multisensory

Poster F118 Mechanisms for Bayesian inference maturation in a biologically inspired neurocomputational model
Mauro Ursino[1], Cristiano Cuppini[1], Elisa Magosso[1]; [1]University of Bologna, Italy
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Nika Kartvelishvili[1], Kevin Clancy[1], Sarah Baisley[1], Wen Li[1]; [1]Florida State University
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Anupama Nair[1,2], David Brang[1]; [1]University of Michigan, [2]University of Amsterdam
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Vijayachandra Ramachandra[1]; [1]Marywood University
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Daniel Comstock[1], Ramesh Balasubramaniam[1]; [1]University of California - Merced
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Jamie Renna[1], Wei Dou[1], Sabrina Bhangal[1], Mark W. Geisler[1], Ezequiel Morsella[1,2]; [1]San Francisco State University, [2]University of California, San Francisco
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Elisabetta Ambron[1], Nicole White[1], Jared Medina[2], Branch Coslett[1]; [1]Laboratory for Cognition and Neural Stimulation, Dept. of Neurology, Perelman School of Medicine at the University of Pennsylvania, [2]Department of Psychology, University of Delaware.
Topic Area: PERCEPTION & ACTION: Multisensory

Poster F125 Tactile and visual motion processing in congenitally deaf humans
Agnes K. Villwock[1,2], Davide Bottari[1], Brigitte Roeder[1]; [1]University of Hamburg, [2]University of California San Diego
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Raúl Hernández-Pérez[1], Laura V. Cuaya[1], Luis Concha[1], Victor De Lafuente[1]; [1]Instituto de Neurobiología, Universidad Nacional Autónoma de México
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Xingjie Chen[1], Youngbin Kwak[1]; [1]University of Massachusetts Amherst
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Kendra Seaman[1], Nicholas Brooks[1], Teresa M. Karrer[1,2], Linh Dang[3], Ming Hsu[4], David H. Zald[3], Gregory R. Samanez-Larkin[1]; [1]Yale University, [2]TU Dresden, [3]Vanderbilt, [4]University of California Berkeley
Topic Area: THINKING: Decision making

Poster F129 Altered feedback responses to negative gambling outcomes in combat PTSD
Matt Schalles[1,2], Nikki Honzel[3], Jary Larsen[1], Felix Bacigalupo[4], Carolyn Alderson[1], Diane Swick[1,4]; [1]VA Northern California Health Care System, [2]Mills College, [3]Carroll College, [4]UC Davis
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Pablo Morales[1], Atsushi Kikumoto[1], Ulrich Mayr[1]; [1]University of Oregon
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Maria Eckstein[1], Anne Collins[1]; [1]University of California at Berkeley
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Timothy Kelley[1], Jason Van Allen[1], Tyler Davis[1]; [1]Texas Tech University
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Ben Reuveni[1], Paul J. Reber[1]; [1]Northwestern University
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Tiffany Bell[1], Michael Lindner[1], Angela Langdon[2], Ying Zheng[1], Anastasia Christakou[1]; [1]University of Reading, UK, [2]Princeton University, USA
Topic Area: THINKING: Decision making

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Kimberly Morris[1], Sean O'Bryan[1], Evan Livesey[2], Darell Worthy[3], Tyler Davis[1]; [1]Texas Tech University, [2]University of Sydney, [3]Texas A&M University
Topic Area: THINKING: Decision making

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Evan Layher[1], Benjamin O. Turner[1], Nicole Marinsek[1], Puneeth Chakravarthula[1], Anjali Dixit[1], Amir H. Meghdadi[1], Barry Giesbrecht[1], Miguel Eckstein[1], Michael Miller[1]; [1]UCSB
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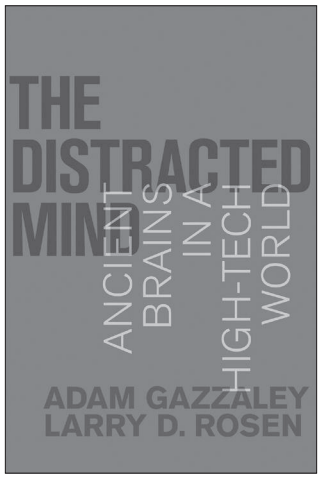

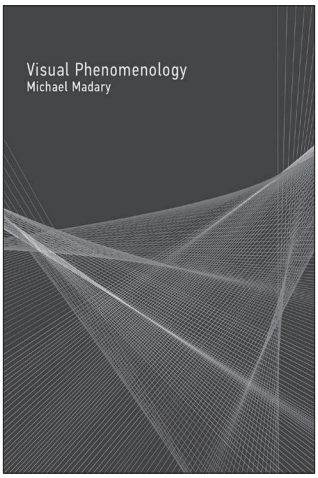

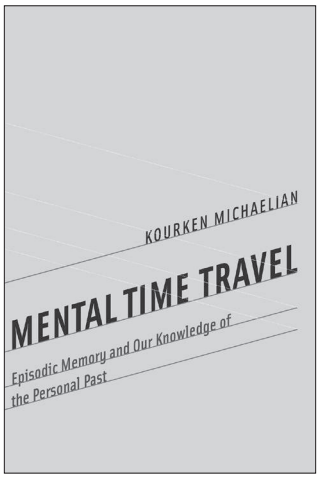

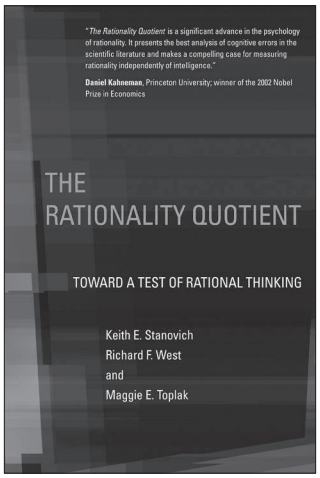

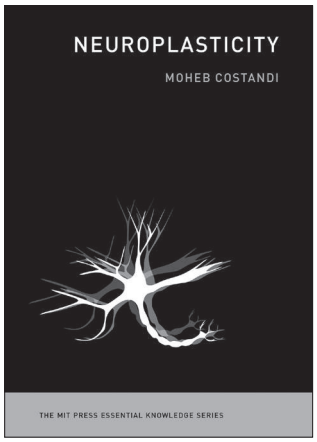

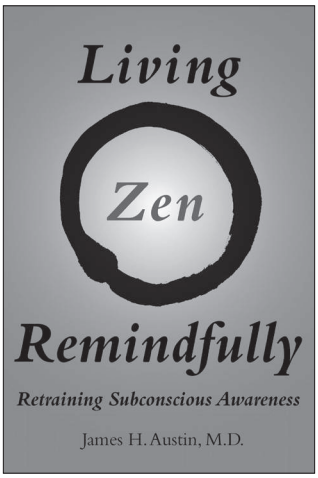

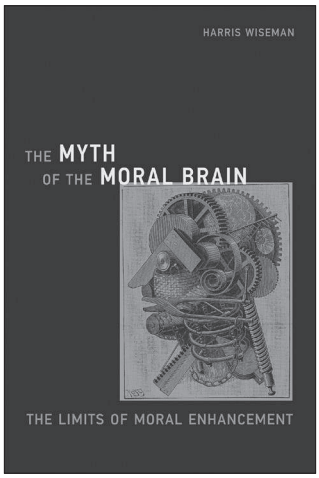

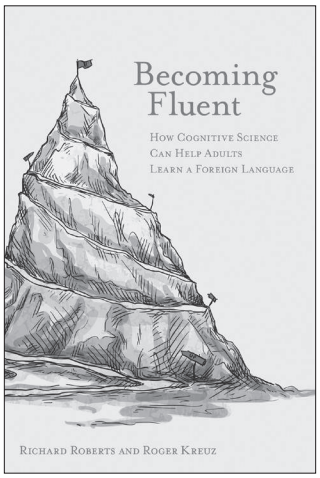

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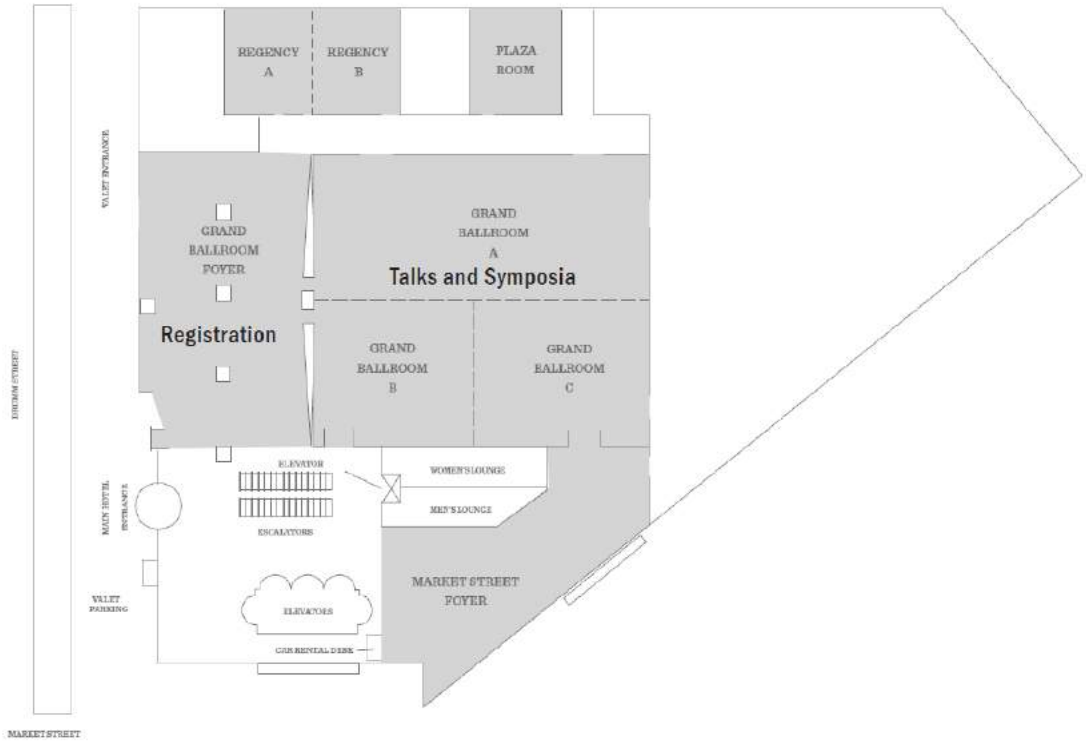

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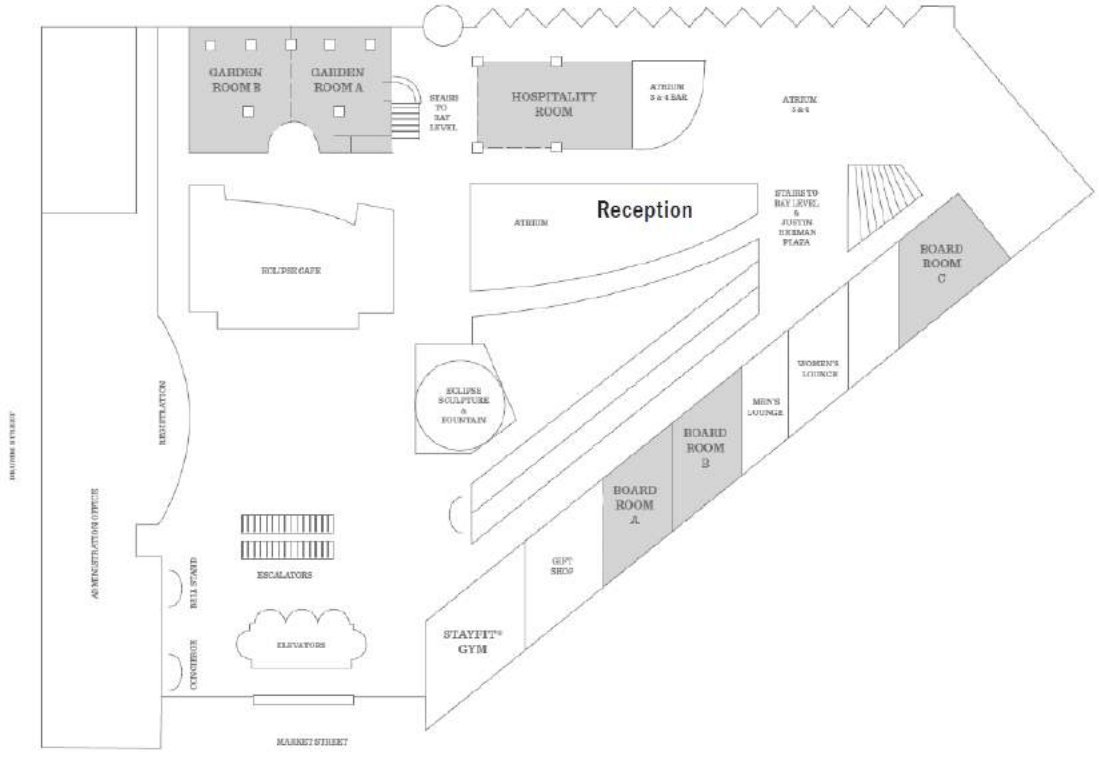

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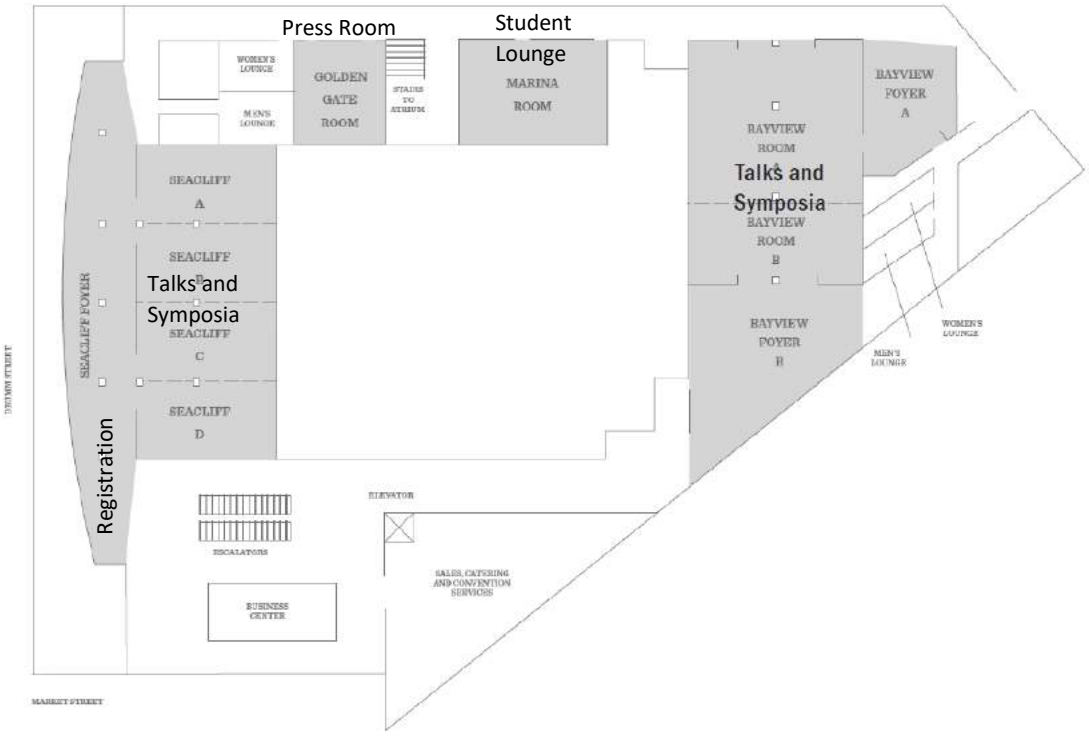

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