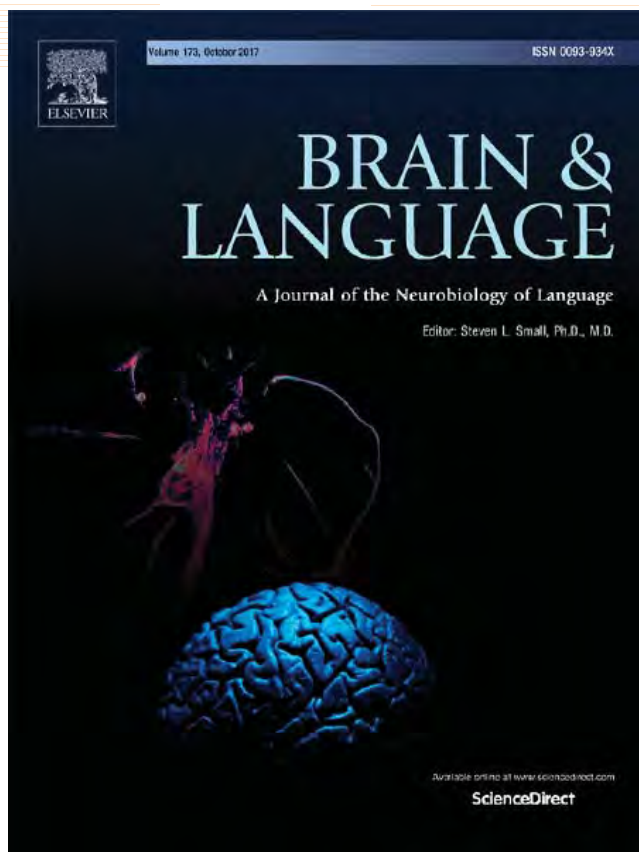


# SNL2017

November 8-10, Baltimore, Maryland



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# Brain and Language

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**Steven Small**

*University of California at Irvine, Irvine, California, USA*

## Aims & Scope

An interdisciplinary journal, Brain and Language focuses on the neurobiological mechanisms underlying human language. The journal covers the large variety of modern techniques in cognitive neuroscience, including lesion-based approaches as well as functional and structural brain imaging, electrophysiology, cellular and molecular neurobiology, genetics, and computational modeling. All articles must relate to human language and be relevant to an elaboration of its neurobiological basis. Along with an emphasis on neurobiology, journal articles are expected to take into account relevant data and theoretical perspectives from psychology and linguistics.

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# Welcome to the Ninth Annual Meeting of the Society for the Neurobiology of Language

On behalf of the SNL Board and the local organisers, I welcome you to Baltimore. This year we have organised an interesting and wide-ranging programme, using a variety of different formats. For those of you who like your thrills we have a new addition to the programme – the Poster SLAM – where, in ONE minute, presenters will whet our appetites by highlighting the most exciting findings of their research. We can follow these presentations up afterwards by chatting to presenters over their posters during the regular poster sessions.

We also have four distinguished keynote speakers who will present their cutting-edge research on a wide variety of key topics in the neurobiology of language, ranging from: recovery from acute stroke and how it relates to reorganisation of the neural networks involved in language functions (**Argye Hillis**), to ways in which we might bridge the gap between deep learning and neuroscience in order to better understand the neural computations involved in language and cognition (**Yoshua Bengio**), the emergence of language in infants, based on characterizing the properties of early brain organization and how this changes during development (**Ghislaine Dehaene-Lambertz**), and research using eCOGs to map the detailed functional organization of the encoding of speech sounds for speech perception and production (**Edward Chang**). We have also included a Symposium in which four speakers discuss their perspectives on how interdisciplinary research combining computational and data-driven methods with neuroimaging data provides new opportunities for understanding language and the brain.

We will also hear from **Carolyn McGettigan & Jason Yeatman** who are the first recipients of our new Early Career Award. This award was initiated to honour researchers in the early stages of their careers for their high quality research and academic citizenship. Carolyn and Jason are the first awardees. They will, before describing their research, each briefly tell us a little about how they became interested in the neurobiology of language.

The core of our programme, however, remains the poster sessions, giving plenty of opportunity for discussion on the very latest research in the neurobiology of language by researchers from 24 countries around the world. We also include two slide sessions which are always very popular.

We have arranged two social events. First, a reception to be held at the world-renowned National Aquarium immediately following our opening night talk by **Dr Diana Reiss** on marine mammal communication. This looks to be an experience no-one will want to miss, so be sure to be there early. We will also have a social hour during the posters on Thursday evening. These events should provide lots of opportunity to mingle with colleagues from around the world.

I would like to thank the SNL Programme Committee for putting together this exciting scientific programme: David Corina, Patti Adank, Matt Davis & Karen Emmorey, and our meeting planners, Shauney Wilson and Shawna Lampkin, for helping to organize this year's meeting. I would like to thank our abstract reviewers who always ensure the excellent quality of our presentations.

Steve Small, who founded SNL with Pascale Tremblay, also deserves our special thanks for continuing to obtain NIH funding to support our meetings. We also thank our sponsors (*Brain & Language; Language, Cognition & Neuroscience; and Rogue Research Inc.*) for their generous support for the meeting.

I look forward to seeing you all at this year's meeting.

Lorraine K Tyler

Chair, Society for the Neurobiology of Language

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## TABLE OF CONTENTS

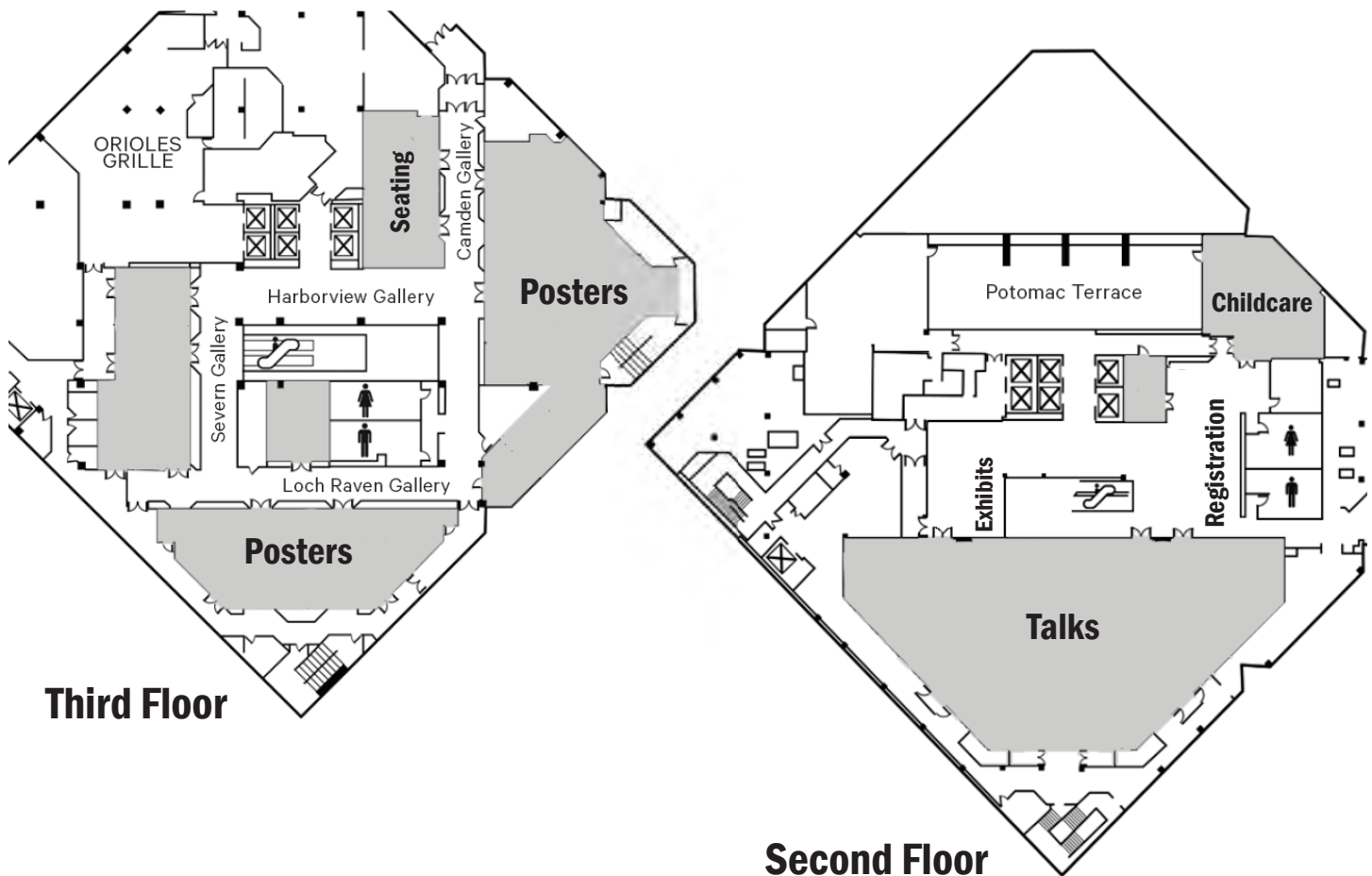
Welcome .....	1	Abstract Merit Awards .....	14
Review Committee .....	2	Travel Awards .....	14
Directors, Committees and Founders .....	3	Early Career Awards .....	15
Area and Venue Maps .....	4	Attendee Resources .....	16
Schedule of Events .....	5	Sponsors and Exhibitors .....	18
Keynote Lecture: Argye Hillis .....	6	Slide Sessions .....	19
Keynote Lecture: Yoshua Bengio .....	7	Poster Slam Schedule .....	20
Keynote Lecture: Ghislaine Dehaene-Lambertz ..	8	Poster Slam Sessions .....	20
Keynote Lecture: Edward Chang .....	9	Poster Schedule .....	23
Save The Date .....	9	National Science Foundation Funding .....	24
Opening Night Reception .....	10	Poster Session A .....	25
Reflecting on Dolphin Communication		Poster Session B .....	30
& Cognition .....	10	Poster Session C .....	35
Childcare at SNL .....	10	Poster Session D .....	40
Invited Symposium .....	11	Poster Session E .....	45
Thursday Evening Social Hour .....	13	Author Index .....	51

# Baltimore Inner Harbor Map

The Ninth Annual Meeting of the Society for the Neurobiology of Language will be held November 8-10, 2017 at the Sheraton Inner Harbor Hotel in Baltimore, Maryland.



## Sheraton Inner Harbor Hotel Floor Plans



# Schedule of Events

All events are held at the Sheraton Inner Harbor Hotel, except the Opening Night Reception, which is being held at the National Aquarium.

## Wednesday, November 8, 2017

7:00 am – 5:30 pm	Meeting Registration <i>Chesapeake Gallery</i>
8:15 – 9:00 am	Continental Breakfast <i>Harborview Gallery</i>
8:40 – 9:00 am	Opening Remarks: Lorraine Tyler, Chair <i>Chesapeake Ballroom</i>
9:00 – 10:00 am	<b>Keynote Lecture: Argye Hillis</b> <i>Chesapeake Ballroom</i>
10:00 – 10:30 am	Coffee Break <i>Harborview Gallery</i>
10:05 – 10:20 am	Poster Slam Session A <i>Chesapeake Ballroom</i>
10:30 – 11:45 am	Poster Session A <i>Harborview and Loch Raven Ballrooms</i>
11:45 am – 1:00 pm	Lunch <i>On Your Own</i>
1:10 – 2:30 pm	Slide Session A <i>Chesapeake Ballroom</i>
2:30 – 3:00 pm	Coffee Break <i>Harborview Gallery</i>
2:35 – 2:50 pm	Poster Slam Session B <i>Chesapeake Ballroom</i>
3:00 – 4:15 pm	Poster Session B <i>Harborview and Loch Raven Ballrooms</i>
4:30 – 5:30 pm	<b>Marine Communication Talk: Diana Reiss</b> <i>Chesapeake Ballroom</i>
7:00 – 10:30 pm	Opening Night Reception <i>Offsite at the National Aquarium</i>

## Thursday, November 9, 2017

7:00 am – 7:00 pm	Meeting Registration <i>Chesapeake Gallery</i>
7:30 – 8:15 am	Continental Breakfast <i>Harborview Gallery</i>
8:15 – 8:30 am	Announcements <i>Chesapeake Ballroom</i>
8:30 – 9:30 am	<b>Keynote Lecture: Yoshua Bengio</b> <i>Chesapeake Ballroom</i>
9:30 – 10:00 am	Coffee Break <i>Harborview Gallery</i>
9:35 – 9:50 am	Poster Slam Session C <i>Chesapeake Ballroom</i>

10:00 – 11:15 am	Poster Session C <i>Harborview and Loch Raven Ballrooms</i>
11:15 am – 12:00 pm	<b>Early Career Award Presentations: Carolyn McGettigan and Jason Yeatman</b> <i>Chesapeake Ballroom</i>
12:00 – 1:30 pm	Buffet Lunch Served <i>Various Locations</i>
1:30 – 3:30 pm	<b>Invited Symposium: Leila Wehbe, Odette Scharenborg, Barry Devereux, John Hale</b> <i>Chesapeake Ballroom</i>
3:30 – 4:00 pm	Coffee Break <i>Harborview Gallery</i>
4:00 – 5:00 pm	<b>Keynote Lecture: Ghislaine Dehaene-Lambertz</b> <i>Chesapeake Ballroom</i>
5:00 – 5:45 pm	Business Meeting <i>Chesapeake Ballroom</i>
5:50 – 6:05 pm	Poster Slam Session D <i>Chesapeake Ballroom</i>
6:15 – 7:30 pm	Poster Session D and Social Hour <i>Harborview and Loch Raven Ballrooms</i>

## Friday, November 10, 2017

7:30 am – 1:40 pm	Meeting Registration <i>Chesapeake Gallery</i>
7:30 – 8:15 am	Continental Breakfast <i>Harborview Gallery</i>
8:15 – 8:30 am	Announcements <i>Chesapeake Ballroom</i>
8:30 – 9:30 am	<b>Keynote Lecture: Edward Chang</b> <i>Chesapeake Ballroom</i>
9:30 – 10:00 am	Coffee Break <i>Harborview Gallery</i>
9:35 – 9:50 am	Poster Slam Session E <i>Chesapeake Ballroom</i>
10:00 – 11:15 am	Poster Session E <i>Harborview and Loch Raven Ballrooms</i>
11:20 am – 12:40 pm	Slide Session B <i>Chesapeake Ballroom</i>
12:40 – 1:30 pm	Future Planning and Closing Remarks: Karen Emmorey, Chair-Elect and Pascale Tremblay, 2018 Local Organizing Committee Chair <i>Chesapeake Ballroom</i>



# Keynote Lecture: Argye Hillis

## Argye Hillis

Professor of Neurology, Physical Medicine & Rehabilitation, and Cognitive Science, Johns Hopkins University



Professor Hillis serves as the Executive Vice Chair of Neurology, and Director of the Cerebrovascular Division. She began her career as a Speech-Language Pathologist and Director of Neurological Rehabilitation, focusing on studies of novel treatments of aphasia and

communication disorders after right hemisphere stroke. She also studied Cognitive Neuropsychology in the Cognitive Science Department at Johns Hopkins, where she later became a faculty member. Her research focused on identifying the cognitive processes underlying language and spatial representations through the study of aphasia and hemispatial neglect, and how these investigations might help focus rehabilitation. Dr. Hillis then completed medical training and neurology residency at Johns Hopkins, and integrated her training in the fields of Speech-Language Pathology and Cognitive Science with Neurology to continue her investigations of aphasia and right hemisphere cognitive and communicative impairments and how they recover. Her research combines longitudinal task-related and task-free functional imaging and structural imaging with detailed cognitive and language assessments to reveal the dynamic neural networks that underlie language and cognitive functions, such as empathy and prosody. Her lab studies changes from the acute stage of stroke through the first year of recovery, to improve our understanding how language and other cognitive functions recover after stroke and how to facilitate recovery.

## ROAD BLOCKS IN BRAIN MAPS: LEARNING ABOUT LANGUAGE FROM LESIONS

Wednesday, November 8, 9:00 – 10:00 am  
Chesapeake Ballroom

*Chair: Brenda Rapp, Cognitive Science Department, Johns Hopkins University*

Just as Google Maps can provide several ways of looking at routes between hubs or points of interest, various brain mapping techniques yield different ways of looking at structural and functional connections between processing areas critical for various language tasks. Lesions to the brain present road blocks, but there are generally alternative routes for information to flow from one critical area to another. These alternative routes may take longer, and errors can arise from “off roading”; but eventually the routes are made more efficient and effective as they are used more. I will discuss how various approaches to brain mapping of language at distinct times after “road blocks” can yield converging information about critical hubs and how one can get around them to recover language. I will illustrate with studies of task-related and resting state fMRI, connectome-symptom mapping, as well as structural and perfusion imaging studies of word comprehension and naming in stroke survivors at different stages of recovery. I will show that posterior superior temporal gyrus is one of the critical hubs for both word comprehension and naming early after stroke, but there important alternative routes that may be available depending on the size of the lesion.



# Keynote Lecture: Yoshua Bengio

## Yoshua Bengio

Professor, Director of MILA, Department of Computer Science and Operations Research and Canada Research Chair in Statistical Learning Algorithms, University of Montreal, Canada



Yoshua Bengio is the world-leader expert on Deep Learning and author of the best selling book on that topic. His research objective is to understand the mathematical and computational principles, which give rise to intelligence through learning. He contributed to a wide spectrum

of machine learning areas and is well known for his theoretical results on recurrent neural networks, kernel machines, distributed representations, depth of neural architectures, and the optimization challenge of deep learning. His work was crucial in advancing how deep networks are trained, how neural networks can learn vector embeddings for words, how to perform machine translation with deep learning by taking advantage of an attention mechanism, and how to perform unsupervised learning with deep generative models. He is the author of three books and more than 300 publications, is among the most cited Canadian computer scientists and is or has been associate editor of the top journals in machine learning and neural networks.

## BRIDGING THE GAP BETWEEN BRAINS, COGNITION AND DEEP LEARNING

Thursday, November 9, 8:30 – 9:30 am  
Chesapeake Ballroom

*Chair: Matt Davis, MRC Cognition and Brain Sciences Unit, Cambridge*

Connectionist ideas from three decades ago have fuelled a revolution in artificial intelligence with the rise of deep learning methods. Both the older connectionist ideas and the newer ones owe a lot to inspiration from the brain, but the gap between deep learning and neuroscience remains wide. We lay down some of these old ideas, based on learning distributed representations in order to jointly optimize by a gradient-based method all the modules of the system with respect to an objective function linked to a task or to capturing many aspects of the observed data. We also discuss the new ideas from deep learning, including a discussion of the newly acquired theoretical understanding of the advantages brought by jointly optimizing a deep architecture. Finally, we summarize some of the recent work aimed at bridging the remaining gap between deep learning and neuroscience, including approaches to implement functional equivalents to backpropagation in a more biologically plausible way, as well as ongoing work connecting language, cognition, reinforcement learning and the learning of abstract representations.

# Keynote Lecture: Ghislaine Dehaene-Lambertz

## Ghislaine Dehaene-Lambertz

Pediatrician, Director of the Developmental Brain Imaging Lab, INSERM U992, Neurospin/CEA, Paris-Saclay, France



Ghislaine Dehaene-Lambertz and her team investigate the development of cognitive functions in infants and children using brain imaging techniques. Their goal is to understand how complex cognitive functions, such as language, music, mathematics, etc... emerge in the human

brain, thanks to a thorough description of the brain initial structural and functional organization. She published pioneering work using high-density event-related potentials (Nature 1994), functional resonance magnetic imaging (Science 2002) or optical topography (PNAS 2003-2013) to study language acquisition, and the neural signatures of consciousness (Science 2013) in the infant brain. She is the recipient of several national and international awards (Prix Justine and Yves Sargent 2013, Grand Prix Scientifique de la Fondation de France, 2015, et de L'Institut de France, 2016).

## THE HUMAN INFANT BRAIN: A NEURAL ARCHITECTURE ABLE TO LEARN LANGUAGE

Thursday, November 9, 4:00 – 5:00 pm  
Chesapeake Ballroom

*Chair: Patti Adank, University College London*

Although different human languages use different sounds, words and syntax, most children acquire their native language without difficulties following the same developmental path. Once adults, they use the same specialized networks, located primarily in the left hemisphere around the sylvian fissure, to process speech. Thanks to the development of brain imaging, we can now study the early functional brain organization and examine on which cerebral resources, infants rely to learn their native language. Although these studies are still sparse, several characteristics are noticeable: first, parallel and hierarchical processing pathways are observed before intense exposure to speech with an efficient temporal coding in the left hemisphere and, second, frontal regions are involved from the start in infants' cognition. These observations are certainly not sufficient to explain language acquisition but illustrate a new approach that relies on a better description of infants' brain activity during linguistic tasks, which compared to results in animals and human adults should clarify the emergence of language in the human species.

# Keynote Lecture: Edward Chang

## Edward Chang

Professor of Neurosurgery, UC San Francisco



Dr. Chang specializes in functional neurosurgery, with particular expertise in brain mapping for the safe treatment of refractory epilepsy, cranial nerve disorders, and brain tumors. His research focuses on the discovery of higher-order neurological function in humans, such as speech and neuropsychiatric processing.

## DISSECTING THE FUNCTIONAL REPRESENTATIONS OF HUMAN SPEECH CORTEX

Friday, November 10, 8:30 – 9:30 am  
Chesapeake Ballroom

*Chair: Lorraine Tyler, University of Cambridge*

Our work seeks to understand the representations encoded by neural populations in the human speech cortex. In this presentation, I will cover new discoveries on speech sound encoding in the superior temporal plane/gyrus for speech perception, and vocal tract movement encoding in the ventral sensorimotor cortex for speech production. These findings advance new, highly-detailed models of functional organization (maps) of speech cortex, but more importantly, move us closer to an algorithmic understanding of speech-related cortical computations.





# Opening Night Reception

Wednesday, November 8, 7:00 – 10:30 pm  
National Aquarium

SNL invites you to our Opening Night Reception on Wednesday, November 8, 7:00 pm at the world-renowned National Aquarium, just steps away from this year's meeting venue. Join your colleagues for an elegant evening of food, drinks and stimulating conversation against the backdrop of a spectacular aquatic wonderland.

The National Aquarium is widely considered to be one of the world's greatest aquaria. Its mission is to inspire conservation of the world's aquatic treasures. With breathtaking views of the Baltimore Inner Harbor and five levels of award-winning exhibits, the reception at the National Aquarium promises to be a once-in-a-lifetime experience.

Don't miss this occasion to experience one of the world's greatest aquariums and an opportunity to socialize with colleagues and friends before the meeting commences.



## REFLECTING ON DOLPHIN COMMUNICATION & COGNITION

4:30 - 5:30 pm, Chesapeake Ballroom

*Speaker: Diana Reiss*

*Chair: Clara D. Martin, Basque Center on Cognition, Brain and Language (BCBL), Spain*



Diana Reiss is a cognitive psychologist, a marine mammal scientist, and a professor in the Department of Psychology at Hunter College and the Animal Behavior and Comparative Psychology Doctoral program at The Graduate Center, CUNY. Her research focuses on dolphin cognition and communication, comparative animal cognition, and the evolution of intelligence.

### CHILDCARE AT SNL

Thanks to generous funding from the National Institutes of Health, SNL is pleased to offer free onsite childcare as part of the 2017 meeting! Back by popular demand, childcare will allow you to enjoy time with colleagues, while the little ones create their own fun memories in Baltimore.

This year, we have contracted with *A Helping Hand*, an event childcare service. Activities will include age appropriate arts and crafts, educational activities, interactive games, skits, dancing, and much more! All *A Helping Hand* staff are Infant and Child CPR certified, First Aid certified, background checked, and trained to care for children from newborn and up.

Childcare will be offered free of charge for children 0-12 years of age. Space is limited and will be filled on a first-come, first-served basis. Childcare is in the Potomac Room on the third floor of the Sheraton Inner Harbor Hotel.

To reserve a spot, please see the Registration Desk in the Chesapeake Gallery on the third floor of the Sheraton Inner Harbor Hotel.

### Childcare Schedule

Wednesday, November 8, 8:15 am – 6:15 pm

Thursday, November 9, 7:45 am – 7:45 pm

Friday, November 10, 7:45 am – 2:15 pm

# Invited Symposium

## Computational and quantitative methods in understanding the neurobiology of language

Thursday, November 9, 1:30 – 3:30 pm, Chesapeake Ballroom

*Speakers: Leila Wehbe, University of California, Berkeley*

*Odette Scharenborg, Radboud University Nijmegen*

*Barry Devereux, Queen's University, Belfast and University of Cambridge*

*John Hale, Cornell University, New York*

*Chair: Lorraine Tyler, University of Cambridge*

Modern methods in computational and quantitative linguistics incorporate a wealth of data on language, from statistical information about the acoustic and phonological regularities of speech and syntactic structure, to distributed models of word semantics and utterance meaning. An emerging area of interest is the integration of computational linguistics, big data, computational modelling and neuroimaging methods to study the neurobiology of language. This approach is attractive because it allows theoretical claims about different properties of language function to be explicitly formulated and quantified, using statistical data about specific linguistic phenomena derived from the linguistic environment. In this symposium, the 4 speakers will discuss their perspective on how interdisciplinary approaches that combine computational and data-driven methods with cognitive theory provide new opportunities for understanding language and the brain.

### MODELING BRAIN RESPONSES TO NATURAL LANGUAGE STIMULI



**Leila Wehbe** works on studying language representations in the brain when subjects engage in naturalistic language tasks. She uses functional neuroimaging and natural language processing and machine learning tools to build predictive models of brain activity as a function of the stimulus language features. She completed her PhD in the Mitchell Lab in Carnegie Mellon

University where she focused on modeling the different processes engaged in natural reading.

#### Abstract

Due to the complexity of language processing, most neurobiology-of-language studies focus on answering a specific hypothesis by using highly controlled stimuli. While controlled experiments are often seen as hallmarks of good science, the natural interdependence of language properties such as syntax and semantics makes it nearly

impossible to vary only one of them in a controlled experiment. As a result, carefully handcrafted stimuli either fail to be “controls”, as they unintentionally vary many parameters simultaneously, or they can be highly artificial and run the risk of not generalizing beyond the experimental setting. For studying language, we argue that naturalistic experiments along with predictive modeling provide a promising alternative to the controlled approach. These studies sample the stimulus space broadly and then learn the relationship between stimulus features and brain activity. In this talk, I will outline some details of this approach using a specific example in which subjects read a complex natural text while their functional neuroimaging data was acquired. Different natural language processing tools were used to annotate the semantic, syntactic and narrative features of the stimulus text. Encoding models were then fit to predict brain activity as a function of the different language features. The performance of these models allows us to formulate and test hypotheses about the function of different brain regions. I will describe the spatio-temporal functional brain language maps we built using this approach. I will also present a new online engine ([boldpredictions.gallantlab.org](http://boldpredictions.gallantlab.org)) we have built which allows researchers to compare the results of our naturalistic language experiments with more traditional controlled experiments.

## INSIGHTS INTO THE COGNITIVE PROCESSES UNDERLYING SPEECH PROCESSING IN THE PRESENCE OF BACKGROUND NOISE



**Odette Scharenborg** is an associate professor at the Centre for Language Studies, Radboud University Nijmegen, The Netherlands, and a research fellow at the Donders Institute for Brain, Cognition and Behaviour at the same university. Her research interests focus on narrowing the gap between automatic and human spoken-word recognition. She did a

PhD, on the same topic, with Lou Boves and Anne Cutler in Nijmegen, the Netherlands. Odette is interested in the question where the difference between human and machine recognition performance originates, and whether it is possible to narrow this difference, and investigates these questions using a combination of computational modelling and behavioural experimentation. In 2008, she co-organised the Interspeech 2008 Consonant Challenge, which aimed at promoting comparisons of human and machine speech recognition in noise in order to investigate where the human advantage in word recognition originates. She was one of the initiators of the EU Marie Curie Initial Training Network "Investigating Speech Processing In Realistic Environments" (INSPIRE, 2012-2015). In 2017, she will be co-organising a 6-weeks Frederick Jelinek Memorial Summer Workshop on Speech and Language Technology on the topic of the automatic discovery of grounded linguistic units for languages without orthography. She is currently PI on a 5-year (Vidi) project funded by the Netherlands Organisation for Scientific Research on the topic of non-native spoken-word recognition in noise.

### Abstract

Most people will have noticed that communication in the presence of background noise is more difficult in a non-native than in the native language – even for those who have a high proficiency in the non-native language involved. Why is that? I will present results of several behavioural experiments and computational modelling studies investigating the effect of background noise on native and non-native spoken-word recognition, in particular, on the underlying processes of multiple word activation and the competition between candidate words. These results show that the effects of background noise on spoken-word recognition are remarkably similar in native and non-native listening. The presence of noise influences

both the multiple activation and competition processes: It reduces the phonological match between the input and stored words and consequently increases the set of candidate words considered for recognition during spoken-word recognition resulting in delayed and elongated phonological competition. Moreover, both native and non-native listeners flexibly adjust their reliance on word-initial and word-final information when a change in listening conditions demands it.

## THE SPATIO-TEMPORAL DYNAMICS OF LANGUAGE COMPREHENSION: COMBINING COMPUTATIONAL LINGUISTICS AND RSA WITH MEG DATA



**Barry Devereux** received a B.Sc. in Mathematics and Computer Science and a Ph.D. in Cognitive Science from University College Dublin, Ireland, before going on to do postdoctoral training in cognitive neuroscience and the neurobiology of language at the Centre for Speech, Language and the Brain, Dept. of Psychology, University of Cambridge. His work investigates spoken

language comprehension and object processing from a multidisciplinary perspective, combining computational modelling of language and object processing with cognitive theory and neuroimaging. From July 2017, he is an assistant professor in Cognitive Signal Processing at Queen's University, Belfast.

### Abstract

Spoken language comprehension involves cortical systems supporting several complex and dynamic processes, from acoustic analysis and word recognition, to building syntactic structure and representing sentence meaning. Recent advances in computational and quantitative linguistics have seen an explosion in the availability of language data and increasingly sophisticated language models relevant to these processes. In a series of MEG experiments where participants listened to natural sentences, we investigate how lexically-driven expectations and syntactic structure-building interact over time by analysing how corpus-derived statistical models of lexico-syntactic information influence the multivariate spatiotemporal dynamics of incremental language comprehension in the brain. The results of these experiments demonstrate how quantitative measures of specific linguistic properties can yield a detailed picture of processes of integration during sentence comprehension in the brain.



## WORD-BY-WORD NEURO-COMPUTATIONAL MODELS OF HUMAN SENTENCE PROCESSING



**John Hale** serves as Associate Professor of Linguistics at Cornell University. He received his PhD from Johns Hopkins University in 2003 under the direction of Paul Smolensky. His early work on information-theoretical complexity metrics was honored with awards such as the EW Beth dissertation prize. He is the author of *Automaton Theories of Human Sentence Comprehension*

and principal investigator in the NSF-ANR joint project “Neuro-computational models of natural language” in collaboration with Jonathan R. Brennan, Christophe Pallier and Éric de La Clergerie. For more information, browse <https://courses.cit.cornell.edu/jth99/>.

### Abstract

The “mapping problem” (Poeppel 2012) between language structures and brain mechanisms stands in the way of a truly computational neurobiology of language. This talk offers a candidate solution, rooted in time-series predictions about comprehension effort. Such predictions are derived by traversing representations such as syntactic phrase structure trees in the manner of an incremental parsing algorithm. The resulting values serve to predict, word-by-word, neural signals such as BOLD collected during naturalistic listening. Using multiple regression, one can model incremental comprehension at many different levels of structure simultaneously. The results point to a spatial division of labor, isolating specific types of comprehension work to specific anatomical regions.

## THURSDAY EVENING SOCIAL HOUR

**Thursday, November 9, 6:15 – 7:30 pm, Harborview and Loch Raven Ballrooms**

Join your colleagues for Social Hour during the Thursday evening poster session. Your first drink is on us! You’ll find a drink ticket in the back of your badge.



## Abstract Merit Awards

The Society for the Neurobiology of Language Abstract Merit Awards are given to the students and postdocs who submitted the highest ranked abstracts.

### Graduate Student Merit Award Winners

**Esti Blanco-Elorrieta**, New York University, USA

**Kiefer Forseth**, University of Texas Medical School at Houston, USA

### Post Doctoral Merit Award Winners

**Claudia Männel**, Max Planck Institute for Human Cognitive and Brain Sciences, University of Leipzig, Germany

**Dorian Pustina**, University of Pennsylvania, USA

## Travel Awards

This year, the Society for the Neurobiology of Language granted 24 Travel Awards. The awards, funded by the National Institutes of Health (NIH), help to cover travel and registration costs for the 2017 Society for the Neurobiology of Language Meeting in Baltimore.

Through the travel awards, SNL aims to encourage and foster the participation of junior scientists who are members of underrepresented groups.

The 2017 Travel Award winners are:

**Jane Aristia**, University of Lille, France

**Jose Ceballos**, University of Washington, USA

**Kulpreet Cheema**, University of Alberta, Canada

**Linda Drijvers**, Donders Institute, Radboud University, The Netherlands

**Giulia Elli**, Johns Hopkins University, USA

**Danielle Fahey**, University of South Carolina, USA

**Xiaoping Fang**, University of Pittsburgh, USA

**Emilia Fló Rama**, Universidad de la República, Uruguay

**Rachida Ganga**, Utrecht Institute of Language, The Netherlands

**Ezequiel Gleichgerricht**, Medical University of South Carolina, USA

**Jixing Li**, Cornell University, USA

**Linda Lönnqvist**, University of Helsinki, Finland

**Laura Morett**, University of Alabama, USA

**Emma Nguyen**, University of Connecticut, USA

**Andrea Olguin**, University of Cambridge, UK

**Claudia Peñaloza**, Boston University, USA

**Eleni Peristeri**, Aristotle University, Greece

**Yanina Prystauka**, University of Connecticut, USA

**Rachel Romeo**, Harvard University & MIT, USA

**Roy Seo**, University of Washington, USA

**Christine Tseng**, University of California, Berkeley, USA

**Robert Wiley**, Johns Hopkins University, USA

**Marina Zhukova**, Saint-Petersburg State University, Russia

**Naama Zur**, University of Haifa, Israel

# Early Career Awards

The Society for the Neurobiology of Language is pleased to announce the 2017 Early Career Award winners: Carolyn McGettigan and Jason Yeatman.

Thursday, November 9, 11:15 am - 12:00 pm, Chesapeake Ballroom

*Chair: Jonathan Peelle, Washington University in St. Louis*

## Carolyn McGettigan

Professor

Department of Psychology, Royal Holloway,  
University of London



### Carolyn McGettigan

started her career at Cambridge where she gained a first class honours degree in Natural Sciences in 2003 followed by a PhD from UCL in 2007. She then completed postdoctoral work in London and Leipzig before taking up a lectureship in 2012 at Royal Holloway, University of London, where she was promoted to Professor in 2017. Dr. McGettigan's

early research investigated the comprehension of degraded speech, and the wider role of the human voice in communication (including the perception of laughter, and the modulation of identity in speech production). Her current research focuses on the neurobiology of the human voice as a highly complex and flexible social signal, with which listeners can convey and perceive linguistic, emotional and indexical information. Dr. McGettigan has published 44 articles and chapters with an H index of 13 (WoS), and has won a number of awards, attesting to her cutting-edge research in the neurobiology of language. Moreover, she has an exceptional record as a science communicator and in public engagement.

## STUDYING THE SOCIAL LIFE OF VOICES

While it is readily accepted that the human face is a social stimulus, the wider cognitive neuroscience community tends to see the voice as a medium for language. In this talk, I will describe how my research programme attempts to forefront the para-linguistic and non-verbal roles of the voice, both in its production and perception. This will include examples from my recent studies of vocal flexibility in speech production, in which we have used functional MRI and vocal tract MR imaging to probe the processes of imitation. I will also describe the insights we have gained from studies of vocalizations such as laughter and crying. Throughout, I will highlight some of the people and experiences that have most influenced my career so far.

## Jason Yeatman

Assistant Professor

Institute for Learning & Brain Sciences (I-LABS),  
Department of Speech & Hearing Sciences,  
University of Washington



**Jason Yeatman** received his Ph.D. in 2014 from Stanford University, and after a one-year appointment as a research scientist at the Institute for Learning and Brain Sciences at the University of Washington (UW), Seattle, Dr. Yeatman was appointed Assistant Professor in the Department of Speech and Hearing Sciences at UW. Dr. Yeatman's research

on white matter and reading development has led to novel models of the biological mechanisms that drive changes in the white matter and to a better understanding of the relationship between principles of brain development and learning to read. Additionally, he has been at the forefront of developing new MRI methods for quantifying white matter tissue properties and algorithms for analyzing these data. Three years after having received his Ph.D., he has co-authored 33 peer reviewed journal articles (10 as lead author). Dr. Yeatman has clearly distinguished himself in productivity and creativity early in his career.

## WHITE MATTER PLASTICITY AND LEARNING TO READ

Reading instruction prompts the emergence of neural circuits that are specialized for rapidly translating printed symbols into sound and meaning. Understanding how these circuits differ in children with dyslexia, and change with learning, is an important scientific challenge that holds practical implications for education. In this talk I will present new data linking changes in the white matter to the process of learning to read. Combining intensive reading intervention programs, with longitudinal MRI measurements, we find that altering a child's educational environment can dramatically change white matter circuits and behavior over the timescale of weeks.



# Attendee Resources

## ATM

An ATM is located in the main lobby of the hotel.

## Abstracts

The full text of poster, slide, and symposium abstracts can be found in the SNL 2017 Abstracts book, which can be downloaded in PDF format from [www.neurolang.org](http://www.neurolang.org).

## Audio-Visual

An LCD projector (e.g., for PowerPoint presentations) will be provided in the ballroom; however, computers are NOT provided. Presenters must bring their own computers and set them up BEFORE the start of the session in which they are presenting. The stage is set with two lecterns which can be used for alternating between speakers. A switch box is provided to switch the projector display between lecterns. To avoid setup problems affecting your presentation, presenters are strongly encouraged to arrive at their scheduled room a minimum of 30 minutes before their talk.

## Baggage Check

A secure space will be allocated for luggage. Please contact a bellman for assistance.

## Certificate of Attendance

A Certificate of Attendance is included on the back of your official meeting badge. If you require any amendments, we will be happy to email/mail a copy after the meeting. Please contact us at [info@neurolang.org](mailto:info@neurolang.org).

## Childcare

Thanks to the funding from the National Institutes of Health, SNL is pleased to be able to offer onsite childcare at this year's meeting in Baltimore. See "Childcare at SNL" on page 10.

## Contact Us

To contact us onsite, visit the Registration Desk, or send an email to [info@neurolang.org](mailto:info@neurolang.org). We will respond to your email at our earliest opportunity.

## Copying, Printing and Office Supplies

A Business Center is located in the hotel lobby. Boarding passes and up to five pages may be printed free of charge.

## Disclaimer

The SNL Program Committee reserves the right to make changes to the meeting program at any time without notice. This program was correct at the time of printing.

## Food Service

Complimentary food and beverage service is available to all registered attendees at the following times:

### Wednesday

Continental Breakfast, 8:15 – 9:00 am *Harborview Gallery*

Coffee Break, 10:00 – 10:30 am *Harborview Gallery*

Afternoon Coffee, 2:30 – 3:00 pm *Harborview Gallery*

### Thursday

Continental Breakfast, 7:30 – 8:15 am *Harborview Gallery*

Coffee Break, 9:30 – 10:00 am *Harborview Gallery*

Buffet Lunch, 12:00 – 1:30 pm *Various locations on the 2nd and 3rd floors*

Afternoon Coffee, 3:30 – 4:00 pm *Harborview Gallery*

### Friday

Continental Breakfast, 7:30 – 8:15 am *Harborview Gallery*

Coffee Break, 9:30 – 10:00 am *Harborview Gallery*

## Future Meetings

SNL 2018 will be held August 16-18, 2018 in Québec City, Canada.

## Guest Policy

Guests are allowed complimentary entry into one SNL session (for the purposes of seeing the poster or slide of the person they are a guest of). Guests are welcome to attend the Opening Night Reception.

Guests must register at the SNL Registration Desk upon arrival and must be accompanied by the SNL attendee. Guests must wear a badge for entrance into the session they are attending and for social events as well.

## Internet Access

Internet access is complimentary in the guest rooms at the Sheraton Inner Harbor Hotel. Wifi in the meeting space is also available. See the Registration Desk for the login instructions.

## Lost & Found

Please check with the SNL Registration Desk for lost and found items.

## Meeting Rooms

All general sessions (Keynotes, Invited Symposium, Slides, and Poster Slams) are held in Chesapeake Ballroom.

## Messages

A bulletin board will be available for messages and job postings near the SNL Registration Desk.

## Mobile Phones

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

## Name Badges

For security purposes, all attendees must wear their name badges to all sessions and social functions. Entrance into sessions is restricted to registered attendees only. If you misplace your name badge, please go to the Registration Desk for a replacement.

## Parking

There is covered parking available at the Sheraton Inner Harbor Hotel. SNL attendees will receive the discounted price of \$18.00 per day for self parking.

## Phone Charging Station

For your convenience, a phone charging station is located at the Registration Desk.

## Poster Sessions

Posters are located in the Harborview and Loch Raven Ballrooms. See "Poster Schedule" on page 23.

Poster Slam Sessions are located in the Chesapeake Ballroom. See "Poster Slam Schedule" on page 20.

## Registration

The SNL Registration Desk is located in Chesapeake Gallery on the third floor of the Sheraton Inner Harbor Hotel. The Registration Desk hours are:

Wednesday, November 8, 7:00 am – 5:30 pm

Thursday, November 9, 7:00 am – 7:00 pm

Friday, November 10, 7:30 am – 1:40 pm

## Social Events

### Opening Night Reception at the National Aquarium

Join your colleagues on Wednesday, November 8 at 7:00 pm for an elegant evening of food, drinks and stimulating conversation against the backdrop of the world-renowned National Aquarium. The National Aquarium is a short, picturesque stroll from the Sheraton Inner Harbor Hotel. Directions to the National Aquarium are available at the VSS Registration Desk. For guests needing extra assistance getting to the event, please contact the VSS Registration Desk.

### Thursday Evening Social Hour

Attendees are invited to enjoy a special Social Hour in the Harborview and Loch Raven Ballrooms during the Thursday evening poster session. Your first drink is on us! You'll find a drink ticket in the back of your badge.

## Social Media

Join the SNL discussion on Twitter!

- Follow @SNLmtg for meeting information
- Follow SNL colleagues (like @kemmory1)
- Tag meeting-related tweets with #snlmtg17
- Join in the conversation by searching for tweets tagged #snlmtg17

## Smoking

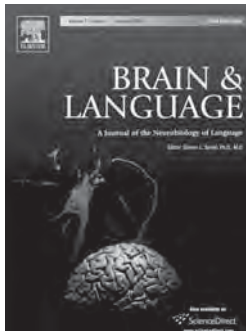
Smoking, including the use of e-cigarettes, is not permitted inside the the Sheraton Inner Harbor Hotel. Three designated outdoor smoking areas are available. These are located outside the main entrance to the hotel, on the second floor skywalk, and on the third floor terrace.

## Speakers

Please ensure that you are available at least thirty minutes before the start of the session. See "Audio-Visual" on page 16.

# Sponsors and Exhibitors

The Society for the Neurobiology of Language thanks the following companies for their support of our 2017 meeting. Please visit our exhibitors in the Chesapeake Gallery.



## Brain & Language (Elsevier) Gold Sponsor and Exhibitor

An interdisciplinary journal, *Brain & Language* focuses on the neurobiological mechanisms underlying human language. The journal covers the large variety of modern techniques in cognitive neuroscience, including lesion-based approaches as well as functional and structural brain imaging, electrophysiology, cellular and molecular neurobiology, genetics, and computational modeling. All articles must relate to human language and be relevant to an elaboration of its neurobiological basis. Along with an emphasis on neurobiology, journal articles are expected to take into account relevant data and theoretical perspectives from psychology and linguistics.

## Language, Cognition and Neuroscience (Routledge) Silver Sponsor

*Language, Cognition and Neuroscience* publishes high-quality papers taking an interdisciplinary approach to the study of brain and language, and promotes studies that integrate cognitive theoretical accounts of language and its neural bases. The Journal publishes both high quality, theoretically-motivated cognitive behavioural studies of language function, and papers which integrate cognitive theoretical accounts of language with its neurobiological foundations.



## Rogue Research Inc. Silver Sponsor and Exhibitor

Rogue Research develops the Brainsight® family of products, including Brainsight TMS. Our unique Brainsight NIRS system allows acquisition during TMS and simultaneous fNIRS along with EEG, fMRI or MEG. Brainsight cTMS provides unequalled control of the TMS pulse parameters. Brainsight Vet and surgical robot extends navigation to small animal surgery.

## ANT-NA Exhibitor

ANT-NA provides complete solutions for clinical neurodiagnostics and neuroscience research.

## Brain Vision, LLC Exhibitor

Brain Vision is the leader in innovation for EEG research. We offer full integration of EEG with many leading eye tracking and audiology systems. We provide flexible and robust solutions for high density, active EEG, wireless EEG, dry EEG, high-end ABR integration, and a wide range of bio-sensors like GSR, EKG, Respiration, and EMG. We integrate language research paradigms and EEG with other modalities such as fMRI, TMS, fNIRS, tES/HDtES and MEG. If you want to hear how our research solutions can improve your language paradigms, please talk to us. Let us help you push the edge of what is possible.

## Cortech Solutions, Inc. Exhibitor

Cortech Solutions is your source for EEG, NIRS, fMRI, TMS, and other functional neuroimaging tools. We are your sales and support contact in the US for leading brands from around the world, including Biosemi ActiveTwo EEG / ERP, Cambridge Research Systems vision science tools, including the BOLDscreen fMRI compatible display and LiveTrack eye-tracking, Mag and More PowerMAG TMS, Artinis Oxymon NIRS, and more. Leave the technology to us – you focus on the science!

## Rogue Resolutions Exhibitor

At Rogue Resolutions, we specialize in bringing together and combining technologies, techniques and services for neuroscience and in doing so, help our customers to conduct robust, credible, replicable and cutting edge research. We achieve this by offering state of the art equipment combined with unrivalled service and support from our experienced team of product and application specialists.



# Slide Sessions

## Slide Session A

Wednesday, November 8, 1:10 – 2:30 pm

Chesapeake Ballroom

*Chair: Karen Emmorey, San Diego State University*

*Speakers: Kiefer Forseth, Neal Fox, Esti Blanco-Elorrieta, Lotte Schoot*

1:10 pm

### **A1 Predictive Neural Instruments of Early Auditory Cortex**

*Kiefer Forseth<sup>1</sup>, Gregory Hickok<sup>3</sup>, Nitin Tandon<sup>1,2</sup>; <sup>1</sup>Vivian L Smith Department of Neurosurgery, University of Texas Medical School at Houston, <sup>2</sup>Memorial Hermann Hospital, Texas Medical Center, Houston, <sup>3</sup>Department of Cognitive Sciences, University of California, Irvine*

1:30 pm

### **A2 Transforming continuous temporal cues to a categorical spatial code in human speech cortex**

*Neal Fox<sup>1</sup>, Matthias Sjerps<sup>1,2,3</sup>, Matthew Leonard<sup>1</sup>, Edward Chang<sup>1</sup>; <sup>1</sup>University of California, San Francisco, <sup>2</sup>University of California, Berkeley, <sup>3</sup>Radboud University*

1:50 pm

### **A3 Turning a language “off” is cognitively effortful, but turning a language “on” is not: MEG evidence from bimodal language switching**

*Esti Blanco-Elorrieta<sup>1,4</sup>, Karen Emmorey<sup>2</sup>, Liina Pylkkanen<sup>1,3,4</sup>; <sup>1</sup>Department of Psychology, New York University, <sup>2</sup>School of Speech, Language and Hearing Sciences, San Diego State University, <sup>3</sup>Departments of Linguistics, New York University, <sup>4</sup>NYUAD Institute, Abu Dhabi, United Arab Emirates*

2:10 pm

### **A4 Spatiotemporal dissociations for fulfilling and violating predictions at multiple levels of representation: A multimodal approach**

*Lotte Schoot<sup>1,2</sup>, Lin Wang<sup>1,2</sup>, Nate Delaney-Busch<sup>1,2</sup>, Eddie Wlotko<sup>2,3</sup>, Edward Alexander<sup>1,2</sup>, Minjae Kim<sup>1,2</sup>, Lena Warnke<sup>1,2</sup>, Arim Choi Perrachione<sup>1,2</sup>, Sheraz Kahn<sup>1</sup>, Matti Hamalainen<sup>1</sup>, Gina Kuperberg<sup>1,2</sup>; <sup>1</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, <sup>2</sup>Department of Psychology, Tufts University, <sup>3</sup>Moss Rehabilitation Research Institute*

## Slide Session B

Friday, November 10, 11:20 am – 12:40 pm

Chesapeake Ballroom

*Chair: Michal Ben-Shachar, Bar Ilan University*

*Speakers: Laurel Buxbaum, Benjamin Gagl, Thomas M.H. Hope, Elissa L. Newport*

11:20 am

### **B1 The role of conflict and feedback in action error monitoring and correction: evidence from conduite d'approche**

*Laurel Buxbaum<sup>1</sup>, Cortney Howard<sup>1</sup>, Tamer Soliman<sup>1</sup>, Louisa Smith<sup>2</sup>; <sup>1</sup>Moss Rehabilitation Research Institute, <sup>2</sup>University of Colorado, Boulder*

11:40 am

### **B2 Visual word recognition relies on a sensory prediction error signal**

*Benjamin Gagl<sup>1,2</sup>, Jona Sassenhagen<sup>1</sup>, Sophia Haan<sup>1</sup>, Fabio Richlan<sup>3</sup>, Christian J. Fiebach<sup>1,2</sup>; <sup>1</sup>Department of Psychology, Goethe University Frankfurt, <sup>2</sup>Center for Individual Development and Adaptive Education of Children at Risk (IDEA), Frankfurt am Main, Germany, <sup>3</sup>Centre for Cognitive Neuroscience, University of Salzburg*

12:00 pm

### **B3 Predicting language outcomes after stroke: is structural connectomics necessary?**

*Thomas M.H. Hope<sup>1</sup>, Alex P. Leff<sup>1</sup>, Cathy J. Price<sup>1</sup>; <sup>1</sup>University College London*

12:20 pm

### **B4 Developmental plasticity and language reorganization after perinatal stroke**

*Elissa L. Newport<sup>1,2</sup>, Barbara Landau<sup>3</sup>, Anna Greenwald<sup>1,2</sup>, Catherine E. Chambers<sup>1</sup>, Peter E. Turkeltaub<sup>1,2</sup>, Alexander W. Dromerick<sup>1,2</sup>, Madison M. Ber<sup>1,4</sup>, Jessica Carpenter<sup>4</sup>, William D. Gaillard<sup>4</sup>; <sup>1</sup>Georgetown University Medical Center, <sup>2</sup>MedStar National Rehabilitation Network, <sup>3</sup>Johns Hopkins University, <sup>4</sup>Children's National Medical Network*

# Poster Slam Schedule

A Poster Slam is a new type of event that provides a fast-paced and entertaining showcase for posters. Sixty posters, twelve from each poster session, have been selected to present a one-minute, one-slide overview of their poster. A Poster Slam session will take place before each poster session. Participants will present their Slam on the main stage in the Chesapeake Ballroom. Presenters will highlight an exciting or provocative finding, highlight how their data or technique addresses current issues in the Neurobiology of Language, or challenges current dogma.

Session	Date	Time	Room
Session A	Wednesday, November 8	10:05 – 10:20 am	Chesapeake Ballroom
Session B	Wednesday, November 8	2:35 – 2:50 pm	Chesapeake Ballroom
Session C	Thursday, November 9	9:35 – 9:50 am	Chesapeake Ballroom
Session D	Thursday, November 9	5:50 – 6:05 pm	Chesapeake Ballroom
Session E	Friday, November 10	9:35 – 9:50 am	Chesapeake Ballroom

## Information for Presenters

SNL staff will be present in the main auditorium for an Information Session during which we will explain logistics and information about your Poster Slam session. We will provide you with details about where to line up, use of the microphone, timing, and so on. It is highly recommended that you attend your Information Session.

You must arrive no later than your Speaker Arrival Time shown below. This is 15 minutes prior to your session start time. Proceed to the stage and identify yourself. SNL staff will line you up and provide last minute instructions as necessary.

Session	Date	Information Session	Speaker Arrival Time
Session A	Wednesday, November 8	7:15-7:45 am	9:50 am
Session B	Wednesday, November 8	12:00-12:30 pm	2:20 pm
Session C	Thursday, November 9	7:15-7:45 am	9:20 am
Session D	Thursday, November 9	12:00-12:30 pm	5:35 pm
Session E	Friday, November 10	7:15-7:45 am	9:20 am

## Poster Slam Sessions

For poster details, see “Poster Sessions” on page 25.

### Poster Slam Session A

Wednesday, November 8, 10:05 – 10:20 am

Chesapeake Ballroom

*Chair: David Corina, University of California, Davis*

**A9** Auditory attention and predictive processing co-modulate speech comprehension in middle-aged adults *Sarah Tune*

**A10** Semantic context reverses the polarity of P200 effects during word planning *Daniel Kleinman*

**A11** Transcranial 10-Hz stimulation but also eye closure modulate auditory attention *Malte Wöstmann*

**A23** Impact of aging and aphasia on incremental sentence production: eye-tracking while speaking *Jiyeon Lee*

**A34** White Matter Connectivity and Lexical Access in Aphasia *William Hula*

**A43** Dissociating the roles of ventral versus dorsal pathways in language production: an awake language mapping study *Stephanie Ries*

**A44** Different contextual effects modulate the representation of word meaning in the human brain *Christine Tseng*

**A54** Gliosis+ for continuous lesion quantification in VLSM to map brain-language relationships *Lisa Krishnamurthy*

**A67** Spontaneous fluctuations of dorsal and ventral reading networks in bilinguals *Jaione Arnaez-Telleria*

**A69** Processing of contrastive pitch accent in native and L2 English speakers *Aleuna Lee*

**A73** Stress-timing via Oscillatory Phase-locking in Naturalistic Language *Phillip M. Alday*

**A77** A tDCS study of the implicit learning of foreign cognate and non-cognate words *Joshua Payne*

## Poster Slam Session B

Wednesday, November 8, 2:35 – 2:50 pm

Chesapeake Ballroom

*Chair: Clara D. Martin, Basque Center on Cognition, Brain and Language (BCBL), Spain*

**B12** Mental Self-Government of Brain's Multi-Leveled Reading and Writing Systems: Before and After Multi-Leveled Language Instruction *Todd Richards*

**B24** Investigating the neural mechanisms of syntactic expectations *Leon O. H. Kroczeck*

**B33** The neural representation of concrete and abstract verb processing in aphasia *Reem S. W. Alyahya*

**B34** Left hemisphere frontotemporal effective connectivity during semantic feature judgments: Differences between patients with aphasia and healthy controls *Erin Meier*

**B36** Changes in neural activity during a semantic verification task as a result of treatment in persons with aphasia *Shreya Chaturvedi*

**B50** Representations of amplitude modulations in auditory onsets, ramp tones, and speech in the human superior temporal gyrus *Yulia Oganian*

**B58** Enhancing Speech Motor Learning With Noninvasive Brain Stimulation *Adam Buchwald*

**B59** Orthographic priming for tactile Braille alphabet in the ventral Occipito-Temporal cortex of congenitally blind *Katarzyna Rączy*

**B66** Areas predicting tDCS effects in primary progressive aphasia (PPA) *Kyran Tsapkini*

**B69** Ventral occipito-temporal responses to written texts and fingerspelling in congenitally deaf adults *Tae Twomey*

**B73** The visual representation of lipread words in posterior temporal cortex studied using an fMRI-rapid adaptation paradigm, functional localizers, and behavior *Lynne E. Bernstein*

**B75** Inferior frontal gyrus activation is modulated by phonetic competition: An fMRI study of clear and conversational speech *Xin Xie*

## Poster Slam Session C

Thursday, November 9, 9:35 – 9:50 am

Chesapeake Ballroom

*Chair: Matt Davis, MRC Cognition and Brain Sciences Unit, Cambridge*

**C11** The time-course of statistical learning in patients with left hemisphere stroke *Kathryn D. Schuler*

**C13** The cortical organization of syntactic processing in American Sign Language: Evidence from a parametric manipulation of constituent structure in fMRI and MEG *William Matchin*

**C24** Speeded grammatical processing in Tourette syndrome *Cristina Dye*

**C32** Morpho-lexical Recognition Ability and Related Brain Regions in Individuals with Mild Cognitive Impairment, Alzheimer's Dementia, and Cognitively Normal Elderly *JungMoon Hyun*

**C34** Mapping Both Lesion and Behaviour Structures in Stroke Aphasia *Ying Zhao*

**C41** Language and multiple demand regions jointly predict individual differences in sentence comprehension: Evidence from a network approach *Qiuhai Yue*

**C42** Extracting Single Word Voxel Patterns from Self-Paced Reading using Simultaneous Eye-Tracking and Multiband fMRI *Benjamin Schloss*

**C48** Cognitive Control Mediates Age-Related Reductions in Adaptation to Speaker-Specific Predictability *Shruti Dave*

**C57** The intensity of sensory-perceptual features regulates conceptual processing in the anterior temporal lobe's semantic hub *Jet M. J. Vonk*

**C66** Speech processing and plasticity in the right hemisphere predict real-world foreign language learning in adults *Zhengan Qi*

**C68** The language network of polyglots *Olessia Jouravlev*

**C76** Cortical entrainment depends on temporal predictability, not periodicity *Geoffrey Brookshire*



## Poster Slam Session D

Thursday, November 9, 5:50 – 6:05 pm

Chesapeake Ballroom

*Chair: James Magnuson, University of Connecticut*

**D12** Decoding the P600: late ERP positivities to syntactic mismatch share neural patterns with nonlinguistic oddballs, but not face or semantic manipulation patterns *Jona Sassenhagen*

**D20** Frontal Shift of the Imageability Effect on N400 in Elders *Chih-Ting Chang*

**D21** Developmental change in cerebellar white matter pathways is associated with reading proficiency in children *Lauren R. Borchers*

**D22** Can microstructural properties of cerebellar pathways improve prediction of reading skills in children? *Lisa Bruckert*

**D23** Language pathway development requires childhood language acquisition: Effects of sensorimotor modality and language deprivation on brain connectivity for language *Qi Cheng*

**D32** Using background connectivity to index recovery of function in acquired language impairments *Yuan Tao*

**D49** The fate of the unexpected: Downstream repetition effects for prediction violations *Melinh K. Lai*

**D51** Regions that preferentially respond to verbs or nouns are more sensitive to semantic differences among words in their preferred grammatical class: An MVPA fMRI study. *Giulia V. Elli*

**D61** Cross-linguistic differences in MMN asymmetry: Voicing underspecification in Japanese *Yasuaki Shinohara*

**D62** Tracking phoneme processing during continuous speech perception with MEG *Christian Brodbeck*

**D74** Manual directional gestures facilitate learning of Mandarin tones *Anna Zhen*

**D76** Investigating voice imitation using fMRI and real-time anatomical MRI of the vocal tract *Carolyn McGettigan*

## Poster Slam Session E

Friday, November 10, 9:35 – 9:50 am

Chesapeake Ballroom

*Chair: Patti Adank, University College London*

**E9** Language exposure is associated with the cortical thickness of young, low-SES children *Rachel Romeo*

**E10** Becoming a balanced, proficient bilingual: Predictions from age of acquisition & genetic background *Kelly A. Vaughn*

**E20** Functional subspecialization of Broca's area in the controlled selection of verbal and nonverbal representations and fluent sentence production. *Denise Y. Harvey*

**E21** Lower axon density in residual temporal white matter is related to semantic paraphasia prevalence *Emilie McKinnon*

**E23** Interventions for Primary Progressive Aphasia: A scoping review *Yara Inuy*

**E24** Decoding the cortical sensitivity of spoken acoustic variability in persons with aphasia *Caroline Niziolek*

**E28** Robust Electrophysiological Indices of Semantic Surprisal during Natural, Ongoing Speech Processing. *Michael Broderick*

**E34** Electrophysiological Evidence for Memory Retrieval during Referential Processing *Hossein Karimi*

**E52** Investigating brain mechanisms of natural reading by combining EEG, MEG and eye-tracking *Olaf Hauk*

**E56** Multimodal MRI converging evidence on the role of ventro-occipito-temporal cortex in reading: Integrating opposing views *Garikoitz Lerma-Usabiaga*

**E78** Phase entrainment of neural oscillations with tACS causally modulates fMRI responses to intelligible speech *Benedikt Zoefel*

**E80** Enhanced accuracy of lesion to symptom mapping with multivariate sparse canonical correlations *Dorian Pustina*

# Poster Schedule

Poster sessions are scheduled on Wednesday, November 8 through Friday, November 10. Poster sessions are one hour and fifteen minutes long. Presenting authors are expected to be present the entire time. Posters are located in Harborview and Loch Raven Ballrooms. You may post your materials on the board assigned to you starting at the scheduled "Set-up Begins" time shown below. Please note that any posters not removed by "Teardown Complete" time will be discarded. Do not leave personal items in the poster room.

Date & Time	Posters	Topics
<b>Poster Session A</b>	A1, A46 - A47, A57	Computational Approaches
Wednesday, November 8	A2 - A11	Control, Selection, and Executive Processes
10:30 - 11:45 am	A12 - A13	Grammar: Morphology
Harborview and	A14 - A22	Grammar: Syntax
Loch Raven Ballrooms	A23, A35, A56	Language Therapy
	A24 - A34, A53	Language Disorders
	A36 - A44	Meaning: Lexical Semantics
	A45, A69	Meaning: Prosody, Social and Emotional Processes
	A48 - A52, A54	Methods
	A58	Perception: Orthographic and Other Visual Processes
	A59 - A68	Multilingualism
	A70 - A73	Perception: Auditory
	A75 - A78	Phonology and Phonological Working Memory
Setup Begins: 8:00 am	A79	Speech Motor Control and Sensorimotor Integration
Teardown Complete: 12:15 pm	A80	Writing and Spelling
<b>Poster Session B</b>	B1 - B10	Control, Selection, and Executive Processes
Wednesday, November 8	B11 - B12, B68 - B69	Writing and Spelling
3:00 - 4:15 pm	B13 - B14, B45	Grammar: Morphology
Harborview and	B15 - B24	Grammar: Syntax
Loch Raven Ballrooms	B25, B35 - B36, B66	Language Therapy
	B26 - B34	Language Disorders
	B37 - B44	Meaning: Lexical Semantics
	B46, B59 - B65	Perception: Orthographic and Other Visual Processes
	B47 - B50	Perception: Auditory
	B51	Language Genetics
	B52 - B54, B56 - B57	Phonology and Phonological Working Memory
	B55, B70 - B77	Perception: Speech Perception and Audiovisual Integration
	B58	Speech Motor Control and Sensorimotor Integration
	B67	Meaning: Prosody, Social and Emotional Processes
Setup Begins: 12:30 pm	B78	Signed Language and Gesture
Teardown Complete: 4:45 pm	B79	Computational Approaches
<b>Poster Session C</b>	C1, C14	Computational Approaches
Thursday, November 9	C2 - C11	Grammar: Syntax
10:00 - 11:15 am	C13, C70	Signed Language and Gesture
Harborview and	C15 - C25	Language Development
Loch Raven Ballrooms	C26 - C34, C37	Language Disorders
	C35, C59	Meaning: Prosody, Social and Emotional Processes
	C36	Writing and Spelling
	C38 - C43	Meaning: Combinatorial Semantics
	C44 - C48	Meaning: Discourse and Pragmatics
	C49 - C57	Meaning: Lexical Semantics
	C58	Grammar: Morphology
	C60	Speech Motor Control and Sensorimotor Integration
Setup Begins: 8:00 am	C61 - C69	Multilingualism
Teardown Complete: 3:30 pm	C71 - C79	Perception: Speech Perception and Audiovisual Integration

<b>Poster Session D</b>		
Thursday, November 9 6:15 – 7:30 pm <i>Harborview and Loch Raven Ballrooms</i>	D1, D64	Animal Communication
	D3 - D13	Grammar: Syntax
	D14, D72	Language Therapy
	D15 - D22	Language Development
	D23	Signed Language and Gesture
	D24 - D32	Language Disorders
	D34 - D39	Meaning: Combinatorial Semantics
	D40 - D43	Meaning: Discourse and Pragmatics
	D44, D52	Meaning: Prosody, Social and Emotional Processes
	D45 - D51	Meaning: Lexical Semantics
	D53	Computational Approaches
	D54, D74 - D78	Speech Motor Control and Sensorimotor Integration
	D55 - D63	Perception: Speech Perception and Audiovisual Integration
	D65 - D68	Perception: Auditory
	D69 - D71	Phonology and Phonological Working Memory
	D73	Control, Selection, and Executive Processes
Setup Begins: 3:45 pm Teardown Complete: 8:00 pm		
<b>Poster Session E</b>		
Friday, November 10 10:00 – 11:15 am <i>Harborview and Loch Raven Ballrooms</i>	E1 - E9	Language Development
	E10	Language Genetics
	E11, E55 - E56, E70	Perception: Orthographic and Other Visual Processes
	E12, E47 - E52, E80	Methods
	E13 - E22	Language Disorders
	E23, E54	Language Therapy
	E24, E46, E57, E79	Speech Motor Control and Sensorimotor Integration
	E25 - E29	Meaning: Combinatorial Semantics
	E31 - E34	Meaning: Discourse and Pragmatics
	E35, E45	Meaning: Prosody, Social and Emotional Processes
	E36 - E43	Meaning: Lexical Semantics
	E44, E53, E69	Computational Approaches
	E58 - E67	Multilingualism
	E68	Signed Language and Gesture
	E71 - E78	Perception: Speech Perception and Audiovisual Integration
Setup Begins: 8:00 am Teardown Complete: 11:45 am		

## NATIONAL SCIENCE FOUNDATION FUNDING



The National Science Foundation funds research related to the neurobiology of language through its Cognitive Neuroscience, Linguistics, Perception-Action-and-Cognition, Developmental Sciences and newly-created Science of Learning program.

During SNL 2017, Program Officers for the Linguistics and Cognitive Neuroscience programs will be on site. Attendees are welcome to contact them in advance to arrange meetings (Dr. William Badecker; [wbadecke@nsf.gov](mailto:wbadecke@nsf.gov); Dr. Uri Hasson; [uhasson@nsf.gov](mailto:uhasson@nsf.gov)).



# Poster Sessions

## Poster Session A

Wednesday, November 8, 10:30 – 11:45 am, Harborview and Loch Raven Ballrooms

### Computational Approaches

**A1 Alpha and theta power are sensitive to semantic but not syntactic retrieval interference** Ashley Lewis<sup>1</sup>, Julie Van Dyke<sup>1</sup>; <sup>1</sup>Haskins Laboratories

### Control, Selection, and Executive Processes

**A2 Verbal and Nonverbal Fluency Predicts Volume of the Anterior Cingulate Gyrus** Jennifer E. Schlak<sup>1</sup>, Hannah L. Travis<sup>1</sup>, Andrew E. Molnar<sup>1</sup>, Ruchi Brahmachari<sup>1</sup>, George W. Hynd<sup>2</sup>, Michelle Y. Kibby<sup>1</sup>; <sup>1</sup>Southern Illinois University-Carbondale, <sup>2</sup>Oakland University

**A3 Reduced Stroop competition between tool action “neighbors” in left hemisphere stroke** Harrison Stoll<sup>1</sup>, Tamer Soliman<sup>1</sup>, Laurel Buxbaum<sup>1</sup>; <sup>1</sup>Moss Rehabilitation Research Institute

**A4 Depression alters limbic-sensorimotor brain interactions during implicit emotional speech production** Kevin Sitek<sup>1,2</sup>, Gregory Ciccirelli<sup>1,3</sup>, Mathias Goncalves<sup>1</sup>, Thomas Quatieri<sup>1,3</sup>, Satrajit Ghosh<sup>1,2</sup>; <sup>1</sup>MIT, <sup>2</sup>Harvard University, <sup>3</sup>MIT Lincoln Laboratory

**A5 Brain and Clinical Predictors of Unique Brain Connectivity for Adjacent Levels of Language in the Reading Brain: Managing a Complex, Multi-Leveled System** Virginia Berninger<sup>1</sup>, Todd Richards<sup>1</sup>, Robert Abbott<sup>1</sup>; <sup>1</sup>University of Washington, Seattle

**A6 Fluent Speech in the Presence of Severe Verbal Working Memory Dysfunction** Christopher Barkley<sup>1</sup>, Zhenhong Hi<sup>2</sup>, Angela Birnbaum<sup>1</sup>, Ilo Leppik<sup>1</sup>, Susan Marino<sup>1</sup>; <sup>1</sup>University of Minnesota, <sup>2</sup>University of Florida

**A7 Task difficulty affects language production: Behavioral and fMRI evidence** Haoyun Zhang<sup>1</sup>, Anna Eppes<sup>1</sup>, Anne Beatty-Martínez<sup>1</sup>, Christian Navarro-Torres<sup>2</sup>, Michele Diaz<sup>1</sup>; <sup>1</sup>Pennsylvania State University, <sup>2</sup>University of California, Riverside

**A8 Tracking the time course of associative and categorical context effects in spoken word production** Andus Wing-Kuen Wong<sup>1</sup>, Ho-Ching Chiu<sup>1</sup>, Jie Wang<sup>2</sup>, Siu-San Wong<sup>1</sup>, Jinlu Cao<sup>2</sup>, Hsuan-Chih Chen<sup>2</sup>; <sup>1</sup>City University of Hong Kong, <sup>2</sup>Chinese University of Hong Kong

**A9 Auditory attention and predictive processing co-modulate speech comprehension in middle-aged adults** Sarah Tune<sup>1</sup>, Malte Wöstmann<sup>1</sup>, Jonas Obleser<sup>1</sup>; <sup>1</sup>University of Lübeck, Germany

**A10 Semantic context reverses the polarity of P200 effects during word planning** Daniel Kleinman<sup>1</sup>, Kara Federmeier<sup>1</sup>; <sup>1</sup>University of Illinois at Urbana-Champaign

**A11 Transcranial 10-Hz stimulation but also eye closure modulate auditory attention** Malte Wöstmann<sup>1</sup>, Lea-Maria Schmitt<sup>1</sup>, Johannes Voskuhl<sup>2</sup>, Christoph S. Herrmann<sup>2</sup>, Jonas Obleser<sup>1</sup>; <sup>1</sup>Department of Psychology, University of Lübeck, Germany, <sup>2</sup>Department of Psychology, Oldenburg University, Germany

### Grammar: Morphology

**A12 Language impairment and improvement in Parkinson’s disease: what, when, and why** Karim Johari<sup>1</sup>, Jana Reifegerste<sup>2</sup>, Matthew Walenski<sup>3</sup>, Farzad Ashrafi<sup>4</sup>, Roozbeh Behroozmand<sup>5</sup>, Michael T Ullman<sup>6</sup>; <sup>1</sup>University of South Carolina, USA, <sup>2</sup>University of Potsdam, Germany, <sup>3</sup>Northwestern University, USA, <sup>4</sup>Shahid Beheshti University of Medical Sciences, Iran, <sup>5</sup>University of South Carolina, USA, <sup>6</sup>Georgetown University, USA

**A13 The brain differentiates between known and unknown word compositions but not between transparent and opaque meaning composition: ERP-evidence from the processing of German nominal compounds and pseudo-compounds** Carsten Eulitz<sup>1</sup>, Eva Smolka<sup>1</sup>; <sup>1</sup>University of Konstanz, Department of Linguistics

### Grammar: Syntax

**A14 An ALE-based meta-analysis of neuroimaging studies of sentence comprehension** Matthew Walenski<sup>1</sup>, Eduardo Europa<sup>1</sup>, David Caplan<sup>4</sup>, Cynthia K. Thompson<sup>1,2,3</sup>; <sup>1</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL, USA, <sup>2</sup>Cognitive Neurology and Alzheimer’s Disease Center, Northwestern University, Evanston, IL, USA, <sup>3</sup>Department of Neurology, Northwestern University, Evanston, IL, USA, <sup>4</sup>Massachusetts General Hospital, Department of Neurology, Harvard Medical School, Boston, MA, USA

**A15 Neural Correlates Modulated by the Word Category Information During Complicated Hierarchical Syntactic Structure Processing: An fMRI study** Luyao Chen<sup>1</sup>, Yongben Fu<sup>1</sup>, Huntai Kang<sup>1</sup>, Liping Feng<sup>1</sup>; <sup>1</sup>Beijing Normal University

**A16 EEG responses to two A-movement phenomena: unaccusatives and passives** Jon Sprouse<sup>1</sup>, Susi Wurmbrand<sup>1</sup>; <sup>1</sup>University of Connecticut

**A17 Noun and verb processing in French during sentence comprehension – an event-related potential study** Lauren Fromont<sup>1,2</sup>, Phaedra Royle<sup>1,2</sup>, Karsten Steinhauer<sup>2,3</sup>; <sup>1</sup>Université de Montréal, <sup>2</sup>Centre for Research on Brain, Language and Music, <sup>3</sup>McGill University

**A18 Syntactic Constituent Rate Effects in EEG** Ellen Lau<sup>1</sup>, Mina Hirzel<sup>1</sup>, Natalia Lapinskaya<sup>2</sup>, Jeffrey Lidz<sup>1</sup>; <sup>1</sup>University of Maryland, College Park, <sup>2</sup>McMaster University

**A19 ERP responses to active versus “passive” gap filling** Laura Snider<sup>1</sup>, Jon Sprouse<sup>1</sup>; <sup>1</sup>University of Connecticut

**A20 Tracking the dynamics of wh- dependency resolution inside and outside of islands: An ERP investigation** Lauren Covey<sup>1</sup>, Alison Gabriele<sup>1</sup>, Robert Fiorentino<sup>1</sup>; <sup>1</sup>University of Kansas

**A21 EEG tracking of grammatical structures with different cloze probabilities in connected speech** Adria Rofes<sup>1,2</sup>, Giovanni Di Liberto<sup>1</sup>, Emily Teoh<sup>1,3</sup>, Robert Coen<sup>4</sup>, Sonja Kotz<sup>5</sup>, Edmund Lalor<sup>1,3</sup>, Brian Lawlor<sup>1,4</sup>, Paul Dockree<sup>1</sup>; <sup>1</sup>Trinity College Dublin, Ireland, <sup>2</sup>Johns Hopkins University, USA, <sup>3</sup>Rochester University, USA, <sup>4</sup>St James's Hospital, Ireland, <sup>5</sup>Maastricht University, Netherlands

**A22 Using ERPs to investigate the comprehension of passive versus active sentences in English** Carrie N. Jackson<sup>1</sup>, Heidi Lorimor<sup>2</sup>, Janet G. van Hell<sup>1</sup>; <sup>1</sup>Pennsylvania State University, <sup>2</sup>Bucknell University

## Language Therapy

**A23 Impact of aging and aphasia on incremental sentence production: eye-tracking while speaking** Jiyeon Lee<sup>1</sup>, Grace Man<sup>1</sup>, Jennifer Frederick<sup>1</sup>; <sup>1</sup>Purdue University

## Language Disorders

**A24 Is the Middle Frontal Gyrus Implicated in Reading?** Maria Stacy<sup>1</sup>, Sarah Dyer<sup>1</sup>, Michelle Kibby<sup>1</sup>; <sup>1</sup>Southern Illinois University-Carbondale

**A25 Semantic control does not relate to domain-general components of executive function.** Curtiss Chapman<sup>1</sup>, Randi Martin<sup>1</sup>; <sup>1</sup>Rice University

**A26 Analysis of executive and attentional (dys)function in chronic stroke aphasia** Rahel Schumacher<sup>1</sup>, Matthew A. Lambon Ralph<sup>1</sup>; <sup>1</sup>Neuroscience and Aphasia Research Unit, School of Biological Sciences, University of Manchester

**A27 Lexical Selection and Multiword Speech in Acute Stroke** Tatiana Schnur<sup>1</sup>, Randi Martin<sup>2</sup>; <sup>1</sup>Baylor College of Medicine, <sup>2</sup>Rice University

**A28 (Morpho)syntactic production in agrammatic aphasia: Testing three hypotheses within a cross-linguistic approach** Valantis Fyndanis<sup>1,2</sup>, Gabriele Miceli<sup>3</sup>, Carlo Semenza<sup>4,5</sup>, Rita Capasso<sup>6</sup>, Paraskevi Christidou<sup>7</sup>, Serena de Pellegrin<sup>4</sup>, Marialuisa Gandolfi<sup>8</sup>, Helen Killmer<sup>1,2</sup>, Lambros Messinis<sup>9</sup>, Panagiotis Papathanasopoulos<sup>9</sup>, Eugenia Panagea<sup>9</sup>, Nicola Smania<sup>8</sup>, Frank Burchert<sup>2</sup>, Isabell Wartenburger<sup>2</sup>; <sup>1</sup>University of Oslo, Norway, <sup>2</sup>University of Potsdam, Germany, <sup>3</sup>University of Trento, Padua, <sup>4</sup>University of Padua, Italy, <sup>5</sup>Fondazione Ospedale San Camillo, Italy, <sup>6</sup>SCA Associates, Italy, <sup>7</sup>Evexia Rehabilitation Center, Greece, <sup>8</sup>University of Verona, Italy, <sup>9</sup>University of Patras, Greece

**A29 Abnormal cortical folding and neurite architecture during brain maturation in children with developmental dyslexia** Eduardo Caverzasi<sup>1,2,7</sup>, Maria Luisa Mandelli<sup>1</sup>, Christa Watson<sup>1</sup>, Marita Meyer<sup>1</sup>, Fumiko Hoeft<sup>3</sup>, Claudia A Gandini Wheeler-Kingshott<sup>4,5,6</sup>, Elysa J Marco<sup>7,8,9</sup>, Bruce L Miller<sup>10</sup>, Robert Hendren<sup>1</sup>, Kevin Shapiro<sup>1</sup>, Maria Luisa Gorno-Tempini<sup>1,7</sup>; <sup>1</sup>Dyslexia Center, Department of Neurology, University of California, San Francisco, San Francisco, CA, USA, <sup>2</sup>Biomedical Sciences PhD, Department of Brain and Behavioral Sciences, University of Pavia, Pavia, Italy, <sup>3</sup>Langley Porter Psychiatry Institute Langley Porter Psychiatric Hospital and Clinics, Department of Psychiatry, University of California, San Francisco, CA, USA, <sup>4</sup>Queen Square MS Centre, Department of Neuroinflammation, UCL Institute of Neurology, Russel Square House, London, United Kingdom, <sup>5</sup>Department of Brain and Behavioral Sciences, University of Pavia, Pavia, Italy, <sup>6</sup>Brain MRI 3T Mondino Research Center, C. Mondino National Neurological Institute, Pavia, Italy, <sup>7</sup>Department of Neurology, University of California, San Francisco, San Francisco, CA, USA, <sup>8</sup>Department of Psychiatry, University of California, San Francisco, San Francisco, CA, USA, <sup>9</sup>Department of Pediatrics, University of California, San Francisco, San Francisco, CA, USA, <sup>10</sup>Memory and Aging Center, Department of Neurology, University of California, San Francisco, San Francisco, CA, USA

**A30 Distinct spatiotemporal patterns of neuronal functional connectivity in primary progressive aphasia variants** Kamalini Ranasinghe<sup>1</sup>, Leighton Hinkley<sup>1</sup>, Alexander Beagle<sup>1</sup>, Danielle Mizuiri<sup>1</sup>, Susanne Honma<sup>1</sup>, Ariane Welch<sup>1</sup>, Isabel Hubbard<sup>1</sup>, Maria Luisa Mandelli<sup>1</sup>, Zachary Miller<sup>1</sup>, Coleman Garret<sup>1</sup>, Alice La<sup>1</sup>, Adam Boxer<sup>1</sup>, John Houde<sup>1</sup>, Bruce Miller<sup>1</sup>, Keith Vossell<sup>1</sup>, Maria Luisa Gorno-Tempini<sup>1</sup>, Srikantan Nagarajan<sup>1</sup>; <sup>1</sup>University of California San Francisco

**A31 The role of executive functions in anaphora resolution in non-fluent variant Primary Progressive Aphasia** Eleni Peristeri<sup>1</sup>, Ianthi-Maria Tsimpli<sup>2</sup>, Kyrana Tsapkini<sup>3</sup>; <sup>1</sup>Department of English Language and Linguistics,

*Aristotle University of Thessaloniki, Thessaloniki, Greece,*

<sup>2</sup>*Department of Theoretical and applied linguistics, University of Cambridge, UK,* <sup>3</sup>*Department of Neurology, Johns Hopkins University, Baltimore, USA*

**A32 A quick bedside language assessment** Sarah M. Schneck<sup>1</sup>, Dana K. Eriksson<sup>2</sup>, Jillian Lucanie<sup>1</sup>, Stephen M. Wilson<sup>1</sup>; <sup>1</sup>*Vanderbilt University Medical Center,* <sup>2</sup>*University of Arizona*

**A33 White matter matters in the recovery of language in post-stroke aphasia** Erin Meier<sup>1</sup>, Jeffrey Johnson<sup>1</sup>, Yansong Geng<sup>1</sup>, Swathi Kiran<sup>1</sup>; <sup>1</sup>*Boston University, Sargent College of Health and Rehabilitation Sciences*

**A34 White Matter Connectivity and Lexical Access in Aphasia** William Hula<sup>1,2</sup>, Juan Fernandez-Miranda<sup>3</sup>, David Fernandes-Cabral<sup>3</sup>, Michelle Gravier<sup>1</sup>, Michael Walsh Dickey<sup>1,2</sup>, Fang-Cheng Yeh<sup>3</sup>, Sandip Panesar<sup>3</sup>, Vijay Rowthu<sup>3</sup>, Sudhir Pathak<sup>2</sup>, Patrick Doyle<sup>1,2</sup>; <sup>1</sup>*VA Pittsburgh Healthcare System,* <sup>2</sup>*University of Pittsburgh,* <sup>3</sup>*University of Pittsburgh Medical Center*

## Language Therapy

**A35 Increased connectivity with right hemisphere homologues of language areas following melody-based intervention in a patient with aphasia** Tali Bitan<sup>1,2</sup>, Cristina Saverino<sup>3</sup>, Tijana Simic<sup>2,3,4</sup>, Cheryl Jones<sup>2</sup>, Joanna Glazer<sup>3</sup>, Brenda Colella<sup>3</sup>, Catherine Wiseman-Hakes<sup>3</sup>, Robin Green<sup>2,3</sup>, Elizabeth Rochon<sup>2,3,4</sup>; <sup>1</sup>*University of Haifa, Israel,* <sup>2</sup>*University of Toronto, Canada,* <sup>3</sup>*Toronto Rehabilitation Institute, Canada,* <sup>4</sup>*Canadian Partnership for Stroke Recovery, Heart and Stroke Foundation, Canada*

## Meaning: Lexical Semantics

**A36 The mental lexicon across the lifespan: Word associations from L1 and L2 speakers of Norwegian with and without dementia** Pernille Hansen<sup>1</sup>, Ingeborg Sophie Ribu<sup>1</sup>, Malene Bøyum<sup>1</sup>; <sup>1</sup>*University of Oslo*

**A37 No evidence for semantic predictions? Inability to decode predictable semantic categories from EEG during silent pauses in spoken language** Edvard Heikel<sup>1</sup>, Jona Sassenhagen<sup>1</sup>, Christian J. Fiebach<sup>1</sup>; <sup>1</sup>*Goethe University Frankfurt*

**A38 Investigating the Behavioral and Physiological Effects of Acute Exercise on Novel Word Learning in Older Adults: Feasibility and Preliminary Data** Amy D. Rodriguez<sup>1</sup>, Kyle Hortman<sup>1,2</sup>, Jeffrey H. Boatright<sup>1,2</sup>, Monica Coulter<sup>1</sup>, Joe R. Nocera<sup>1,2</sup>, Kevin Mammino<sup>1</sup>, Susan Murphy<sup>1,2</sup>, Paul Weiss<sup>1,2</sup>, Bruce A. Crosson<sup>1,2,3</sup>; <sup>1</sup>*VA RR&D Center for Visual and Neurocognitive Rehabilitation,* <sup>2</sup>*Emory University,* <sup>3</sup>*Georgia State University*

**A39 Semantic similarity effect for written words in left perirhinal cortex: influence of type of property retrieved, visual versus nonvisual** Antonietta Gabriella Liuzzi<sup>1</sup>, Patrick Dupont<sup>1</sup>, Ronald Peeters<sup>2</sup>, Simon De Deyne<sup>3</sup>, Gerrit Storms<sup>3</sup>, Rik Vandenberghe<sup>1,4</sup>; <sup>1</sup>*Laboratory for Cognitive Neurology, Department of Neurosciences, KU Leuven, Belgium,* <sup>2</sup>*Radiology Department, University Hospitals Leuven, 3000 Leuven, Belgium.,* <sup>3</sup>*Laboratory of Experimental Psychology, Humanities and Social Sciences Group, KU Leuven, Belgium,* <sup>4</sup>*Neurology Department, University Hospitals Leuven, 3000 Leuven, Belgium*

**A40 Lexical access in inferential naming** Raphael Fargier<sup>1</sup>, Giulia Krethlow<sup>1</sup>, Eric Ménétré<sup>2</sup>, Marina Laganaro<sup>1</sup>; <sup>1</sup>*Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland*

**A41 Furry hippos & scaly sharks: blind individuals' knowledge of animal appearance** Judy Sein Kim<sup>1</sup>, Giulia Elli<sup>1</sup>, Marina Bedny<sup>1</sup>; <sup>1</sup>*Johns Hopkins University*

**A42 Context and prediction in spoken word recognition: Early left frontotemporal effects of lexical uncertainty and semantic constraint** Anastasia Klimovich-Smith<sup>1</sup>, Barry Devereux<sup>1</sup>, Billi Randall<sup>1</sup>, William Marslen-Wilson<sup>1</sup>, Lorraine K. Tyler<sup>1</sup>; <sup>1</sup>*University of Cambridge*

**A43 Dissociating the roles of ventral versus dorsal pathways in language production: an awake language mapping study** Stephanie Ries<sup>1</sup>, Vitoria Piai<sup>2,3</sup>, David Perry<sup>4</sup>, Sandon Griffin<sup>5</sup>, Kesshi Jordan<sup>6,7</sup>, Robert Knight<sup>5</sup>, Mitchel Berger<sup>4</sup>; <sup>1</sup>*School of Speech, Language, and Hearing Sciences & Center for Clinical and Cognitive Neuroscience, San Diego State University, San Diego, CA, USA.,* <sup>2</sup>*Donders Centre for Cognition, Radboud University, Nijmegen, The Netherlands.,* <sup>3</sup>*Department of Medical Psychology, Radboud University Medical Centre, Nijmegen, The Netherlands.,* <sup>4</sup>*Department of Neurological Surgery, University of California, San Francisco, CA, USA.,* <sup>5</sup>*Helen Wills Neuroscience Institute and Department of Psychology, University of California at Berkeley, Berkeley, CA, USA.,* <sup>6</sup>*Department of Neurology, University California, San Francisco, CA, USA.,* <sup>7</sup>*UC Berkeley - UCSF Graduate Program in Bioengineering, San Francisco, CA, USA.*

**A44 Different contextual effects modulate the representation of word meaning in the human brain** Christine Tseng<sup>1</sup>, Leila Wehbe<sup>1</sup>, Fatma Deniz<sup>1</sup>, Jack Gallant<sup>1</sup>; <sup>1</sup>*University of California, Berkeley*



## Meaning: Prosody, Social and Emotional Processes

**A45 The cognitive and neural oscillatory mechanisms underlying the facilitating effect of rhythm on speech comprehension** Xiaoqing Li<sup>1</sup>, Jinyan Xia<sup>1</sup>; <sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences (Beijing, China)

## Computational Approaches

**A46 Episodic and semantic components of lexical knowledge: a computational model** Alvaro Cabana<sup>1</sup>, Emilia Flo<sup>1</sup>, Camila Zugarramurdi<sup>1</sup>, Juan C. Valle-Lisboa<sup>1</sup>; <sup>1</sup>Facultad de Psicología, Universidad de la República, Montevideo, Uruguay

**A47 Neuro-computational modelling of parallel incremental prediction and integration during speech comprehension** Hun Choi<sup>1</sup>, Billi Randall<sup>1</sup>, Barry Devereux<sup>1</sup>, Lorraine Tyler<sup>1</sup>; <sup>1</sup>University of Cambridge

## Methods

**A48 Using Kinect technology to assess word learning** Andrés Méndez<sup>1</sup>, Rossana Guerra<sup>1</sup>, Leonel Gómez<sup>1</sup>; <sup>1</sup>Universidad de la República

**A49 MrAnats: Magnetic Resonance-based Adaptive NeuroAnatomy Teaching Software** Paul Fillmore<sup>1</sup>, Matthew Parham<sup>1</sup>; <sup>1</sup>Baylor University

**A50 Effects of laterality, handedness, and coil orientation on size and morphology of Motor Evoked Potentials (MEPs) recorded from lip muscles.** Patti Adank<sup>1</sup>, Dan Kennedy-Higgins<sup>1</sup>, Helen Nuttall<sup>1,2</sup>; <sup>1</sup>Department of Speech, Hearing and Phonetic Sciences, University College London, Chandler House, 2 Wakefield Street, London, UK, WC1N 1PF, <sup>2</sup>Department of Psychology, Lancaster University, Lancaster, UK, LA1 4YF

**A51 Test-retest reliability comparison of RSA and GLM approaches in a language task** Ryan Staples<sup>1</sup>, Einar Mencl<sup>1,3</sup>, Jeffery Malins<sup>1</sup>, Daniel Brennan<sup>1</sup>, Ken Pugh<sup>1,3,4</sup>, Robin Morris<sup>2</sup>; <sup>1</sup>Haskins Laboratories, <sup>2</sup>Georgia State University, <sup>3</sup>Yale University, <sup>4</sup>University of Connecticut

**A52 ICA-based classifiers mitigate task correlated motion artifacts for overt-speech fMRI paradigms in aphasia** Venkatagiri Krishnamurthy<sup>1,2</sup>, Lisa Krishnamurthy<sup>2,3</sup>, Kaundinya Gopinath<sup>4</sup>, Michelle Benjamin<sup>5,6</sup>, Bruce Crosson<sup>1,2,5,7</sup>; <sup>1</sup>Dept. of Neurology, Emory University, Atlanta, GA, United States, <sup>2</sup>Center for Visual and Neurocognitive Rehabilitation, Atlanta VAMC, Decatur, GA, United States, <sup>3</sup>Dept. of Physics & Astronomy, Georgia State University, Atlanta, GA, United States, <sup>4</sup>Dept. of Radiology & Imaging Sciences, Emory University, Atlanta,

GA, United States, <sup>5</sup>University of Florida, Gainesville, FL, United States, <sup>6</sup>Brooks Rehabilitation, Jacksonville, FL, United States, <sup>7</sup>Dept. of Psychology, Georgia State University, Atlanta, GA, United States

## Language Disorders

**A53 Comparison between the effect of online and offline transcranial direct current stimulation on naming latency in healthy adults** Mohammed F. ALHarbi<sup>1,2</sup>, Esther S. Kim<sup>1</sup>; <sup>1</sup>Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, AB T6G 2G4, Canada, <sup>2</sup>College of Medical Rehabilitation Sciences, Taibah University, Madinah, Saudi Arabia

## Methods

**A54 Gliosis+ for continuous lesion quantification in VLSM to map brain-language relationships** Lisa Krishnamurthy<sup>1,2</sup>, Venkatagiri Krishnamurthy<sup>2,3</sup>, Amy Rodriguez<sup>2</sup>, Michelle Benjamin<sup>4,5</sup>, Keith McGregor<sup>2,3,5</sup>, Atchar Sudhyadhom<sup>5</sup>, Kaundinya Gopinath<sup>6</sup>, Bruce Crosson<sup>2,3,5,7</sup>; <sup>1</sup>Dept. of Physics & Astronomy, Georgia State University, Atlanta, GA, United States, <sup>2</sup>Center for Visual and Neurocognitive Rehabilitation, Atlanta VAMC, Decatur, GA, United States, <sup>3</sup>Dept. of Neurology, Emory University, Atlanta, GA, United States, <sup>4</sup>Brooks Rehabilitation, Jacksonville, FL, United States, <sup>5</sup>University of Florida, Gainesville, FL, United States, <sup>6</sup>Dept. of Radiology & Imaging Sciences, Emory University, Atlanta, GA, United States, <sup>7</sup>Dept. of Psychology, Georgia State University, Atlanta, GA, United States

## Language Therapy

**A56 Comparing Frontal and Parietal tDCS Montages for Reducing Anomia Symptoms in People with Dementia** Carlos Roncero<sup>1</sup>, Erik Service<sup>1</sup>, Alex Thiel<sup>1</sup>, Stephan Probst<sup>1</sup>, Howard Chertkow<sup>1</sup>; <sup>1</sup>Lady Davis Institute, Jewish General Hospital

## Computational Approaches

**A57 Verbal IQ is determined by brain health, which is modulated by cardiovascular risk factors** Barbara Khalibinzwa Marebwa<sup>1</sup>, Robert J. Adams<sup>1</sup>, Julius Fridriksson<sup>2</sup>, Gayenell Magwood<sup>1</sup>, Leonardo Bonilha<sup>1</sup>; <sup>1</sup>Medical University of South Carolina, <sup>2</sup>University of South Carolina

## Perception: Orthographic and Other Visual Processes

**A58 Sight or Sound? Individual Differences in the Neural and Cognitive Mechanisms of Single Word Reading** Simon Fischer-Baum<sup>1</sup>, Jeong Hwan Kook<sup>1</sup>, Yoseph Lee<sup>1</sup>, Aurora Ramos-Nuñez<sup>1</sup>, Marina Vannucci<sup>1</sup>; <sup>1</sup>Rice University

## Multilingualism

**A59 Lateralization differences on semantic processing between native speakers and proficient learners of Mandarin Chinese** Chia-Ho Lai<sup>1</sup>, Shu-Kai Hsieh<sup>1</sup>, Chia-Lin Lee<sup>1</sup>, I-Wen Su<sup>1</sup>, Te-Hsin Liu<sup>1</sup>, Chia-Rung Lu<sup>1</sup>, I-Ni Tsai<sup>1</sup>, Tai-Li Chou<sup>1</sup>; <sup>1</sup>National Taiwan University

**A60 Right hemisphere contribution in syntactic category processing in L2 —ERP and fMRI data from learners of Mandarin Chinese** Chia-Ho Lai<sup>1</sup>, Chih Yeh<sup>1</sup>, Po-Heng Chen<sup>1</sup>, Chia-Lin Lee<sup>1</sup>, Shu-Kai Hsieh<sup>1</sup>, I-Wen Su<sup>1</sup>, Te-Hsin Liu<sup>1</sup>, Chia-Rung Lu<sup>1</sup>, I-Ni Tsai<sup>1</sup>, Tai-Li Chou<sup>1</sup>; <sup>1</sup>National Taiwan University

**A61 Auditory and visual word processing in child and adult second language learners: Electrophysiological and behavioral evidence of cross-language interaction** Katharine Donnelly Adams<sup>1</sup>, Fatemeh Abdollahi<sup>1</sup>, Ping Li<sup>1</sup>, Janet G. van Hell<sup>1</sup>; <sup>1</sup>The Pennsylvania State University

**A62 Speech perception in noise in a native and a second language: A functional magnetic resonance imaging (fMRI) investigation** Shanna Kousaie<sup>1,3</sup>, Shari Baum<sup>2,3</sup>, Natalie Phillips<sup>3,4,5</sup>, Vincent Gracco<sup>2,3,6</sup>, Debra Titone<sup>3,7</sup>, Jen-Kai Chen<sup>1,3</sup>, Xiaoqian J. Chai<sup>1</sup>, Denise Klein<sup>1,3,8</sup>; <sup>1</sup>Neuropsychology/Cognitive Neuroscience Unit, Montreal Neurological Institute, McGill University, Montreal, QC, Canada, <sup>2</sup>School of Communication Sciences and Disorders, Faculty of Medicine, McGill University, Montreal, QC, Canada, <sup>3</sup>Centre for Research on Brain, Language and Music, McGill University, Montreal, QC, Canada, <sup>4</sup>Department of Psychology/Centre for Research in Human Development, Concordia University, Montreal, QC, Canada, <sup>5</sup>Bloomfield Centre for Research in Aging, Lady Davis Institute for Medical Research and Jewish General Hospital/McGill University Memory Clinic, Jewish General Hospital, Montreal, QC, Canada, <sup>6</sup>Haskins Laboratories, New Haven, CT, USA, <sup>7</sup>Department of Psychology, McGill University Montreal, QC, Canada, <sup>8</sup>Department of Neurology and Neurosurgery, Faculty of Medicine, McGill University, Montreal, QC, Canada

**A63 Effect of language context on accented words in bilinguals** Hia Datta<sup>1</sup>, Arielle Mayer<sup>1</sup>; <sup>1</sup>Molloy College

**A64 Learning words from a new language changes processing of native language words** Gabriela Meade<sup>1,2</sup>, Phillip J. Holcomb<sup>1</sup>; <sup>1</sup>San Diego State University, <sup>2</sup>University of California, San Diego

**A65 Variability in BOLD correlates of semantic judgment reduces with proficiency among L2 learners** Angela Grant<sup>1,2</sup>, Ping Li<sup>1</sup>; <sup>1</sup>The Pennsylvania State University, <sup>2</sup>Concordia University

**A66 Context-dependent filtering in the caudate nucleus of the basal ganglia as a predictor of second-language learning aptitude** Jose M. Ceballos<sup>1,2</sup>, Brianna L. Yamasaki<sup>1,2</sup>, Chantel S. Prat<sup>1,2</sup>; <sup>1</sup>University of Washington, <sup>2</sup>Institute for Learning & Brain Sciences

**A67 Spontaneous fluctuations of dorsal and ventral reading networks in bilinguals** Jaione Arnaez-Telleria<sup>1</sup>, Myriam Oliver<sup>1</sup>, Manuel Carreiras<sup>1,2</sup>, Pedro M. Paz-Alonso<sup>1</sup>; <sup>1</sup>BCBL. Basque Center on Cognition, Brain and Language, Donostia-San Sebastian, Spain., <sup>2</sup>IKERBASQUE, Basque Foundation for Science, Bilbao, Spain.

**A68 The Role of Basal Ganglia Filtering Mechanisms in Second Language Aptitude** Brianna L. Yamasaki<sup>1</sup>, Jose M. Ceballos<sup>1</sup>, Chantel S. Prat<sup>1</sup>; <sup>1</sup>University of Washington

## Meaning: Prosody, Social and Emotional Processes

**A69 Processing of contrastive pitch accent in native and L2 English speakers** Aleuna Lee<sup>1</sup>, Lauren Stookey<sup>1</sup>, Edith Kaan<sup>1</sup>; <sup>1</sup>University of Florida

## Perception: Auditory

**A70 The Motor System's [Modest] Contribution to Speech Perception** Ryan Stokes<sup>1</sup>, Jonathan H. Venezia<sup>1</sup>, Gregory Hickok<sup>1</sup>; <sup>1</sup>University of California - Irvine

**A71 The role of prosody on processing wh-questions and wh-declaratives: An auditory ERP study** Yang Yang<sup>1,2</sup>, Leticia Pablos<sup>1,2</sup>, Stella Gryllia<sup>1</sup>, Niels Schiller<sup>1,2</sup>, Lisa Cheng<sup>1,2</sup>; <sup>1</sup>Leiden University Center for Linguistics, <sup>2</sup>Leiden Institute for Brain and Cognition

**A72 Convergence of spoken and written language processing in the superior temporal sulcus** Stephen M. Wilson<sup>1</sup>, Alexa Bautista<sup>2</sup>, Angelica McCarron<sup>2</sup>; <sup>1</sup>Vanderbilt University Medical Center, <sup>2</sup>University of Arizona

**A73 Stress-timing via Oscillatory Phase-locking in Naturalistic Language** Phillip M. Alday<sup>1,2</sup>, Andrea E. Martin<sup>1,3</sup>; <sup>1</sup>Max-Planck-Institute for Psycholinguistics, <sup>2</sup>University of South Australia, <sup>3</sup>University of Edinburgh

## Phonology and Phonological Working Memory

**A75 Phonological Feature Repetition Suppression in the Left Inferior Frontal Gyrus** Kayoko Okada<sup>1</sup>, William Matchin<sup>2</sup>, Gregory Hickok<sup>3</sup>; <sup>1</sup>Loyola Marymount University, <sup>2</sup>University of California, San Diego, <sup>3</sup>University of California, Irvine

**A76 Brain responses to intensive intervention for reading disability** Einar Mencl<sup>1,2</sup>, Stephen Frost<sup>1</sup>, Dan Brennan<sup>1</sup>, Jeff Malins<sup>1</sup>, Kenneth Pugh<sup>1,2,3</sup>, Robin Morris<sup>4</sup>; <sup>1</sup>Haskins Laboratories, <sup>2</sup>Yale University, <sup>3</sup>University of Connecticut, <sup>4</sup>Georgia State University

**A77 A tDCS study of the implicit learning of foreign cognate and non-cognate words** Joshua Payne<sup>1</sup>, Paul Mullins<sup>1</sup>, Marie-Joséphine Tainturier<sup>1</sup>; <sup>1</sup>Bangor University

**A78 Sensory memory for phoneme sequences within spoken words in native-English and native-Polish listeners** Monica Wagner<sup>1</sup>, Jungmee Lee<sup>2</sup>, Valerie Shafer<sup>3</sup>; <sup>1</sup>St. John's University, <sup>2</sup>University of South Florida, <sup>3</sup>The Graduate Center, CUNY

## Speech Motor Control and Sensorimotor Integration

**A79 Oral cavity numbing reduces sensorimotor adaptation to altered auditory feedback** Hardik Kothare<sup>1,2</sup>, Inez Raharjo<sup>1,2</sup>, David Klein<sup>3</sup>, Danielle Mizuiri<sup>1</sup>, Kamalini Ranasinghe<sup>1</sup>, Shethal Bearely<sup>1</sup>, Steven W. Cheung<sup>1</sup>, Srikantan Nagarajan<sup>1</sup>, John F. Houde<sup>1</sup>; <sup>1</sup>University of California, San Francisco, <sup>2</sup>University of California, Berkeley, <sup>3</sup>New York University

## Writing and Spelling

**A80 Electrophysiological correlates of internal performance monitoring in typed language production** Svetlana Pinet<sup>1</sup>, Nazbanou Nozari<sup>1</sup>; <sup>1</sup>Johns Hopkins University

## Poster Session B

Wednesday, November 8, 3:00 – 4:15 pm, Harborview and Loch Raven Ballrooms

## Control, Selection, and Executive Processes

**B1 The role of individual differences in inhibition on sentence choice during speech** Malathi Thothathiri<sup>1</sup>, Daniel Evans<sup>1</sup>; <sup>1</sup>The George Washington University

**B2 Sentence comprehension under conflict in aphasia** Malathi Thothathiri<sup>1</sup>, Edward Wlotko<sup>2</sup>; <sup>1</sup>The George Washington University, <sup>2</sup>Moss Rehabilitation Research Institute

**B3 Lexical Planning in Sentence Production Is Highly Incremental: Evidence from ERPs** Liming Zhao<sup>1,2</sup>, Yufang Yang<sup>2</sup>; <sup>1</sup>Academy of Psychology and Behavior, Tianjin Normal University, <sup>2</sup>Institute of Psychology, Chinese Academy of Sciences

**B4 Prediction under Load: The Effects of Cognitive Load Presence and Type on Anticipation and Competition in Spoken Language Processing** Kate Pirog Revill<sup>1</sup>; <sup>1</sup>Emory University

**B5 Neural tracking of attended continuous speech in monolinguals and early bilinguals** Andrea Olguin<sup>1</sup>, Tristan Bekinschtein<sup>1</sup>, Mirjana Bozic<sup>1</sup>; <sup>1</sup>University of Cambridge

**B7 Prediction-related activity in the medial prefrontal cortex reflects processing of cataphor cues** Andrew Jahn<sup>1</sup>, Dave Kush<sup>2</sup>, Ashley Lewis<sup>1</sup>, Julie Van Dyke<sup>1</sup>; <sup>1</sup>Haskins Laboratories, <sup>2</sup>Norwegian University of Science and Technology

**B8 Spatiotemporal neuronal activation patterns during verbal fluency tasks** Shawniqua T. Williams<sup>1</sup>, Preya A. Shah<sup>1</sup>, Vitória Piai<sup>2</sup>, Heather Gatens<sup>1</sup>, Abba Krieger<sup>1</sup>, Timothy H. Lucas, II<sup>1</sup>, Brian Litt<sup>1</sup>; <sup>1</sup>University of Pennsylvania, <sup>2</sup>Radboud University

**B9 Electrophysiological evidence for the time course of syllabic and sub-syllabic processing in Cantonese Chinese spoken word production** Andus Wing-Kuen Wong<sup>1</sup>, Ho-Ching Chiu<sup>1</sup>, Jie Wang<sup>2</sup>, Siu-San Wong<sup>1</sup>, Hsuan-Chih Chen<sup>2</sup>; <sup>1</sup>City University of Hong Kong, <sup>2</sup>Chinese University of Hong Kong

**B10 Role of Left Hemisphere Language Areas in Visuospatial Working Memory** Juliana Baldo<sup>1</sup>, Selvi Paulraj<sup>1,2</sup>, Krista Parker<sup>1</sup>, Brian Curran<sup>1</sup>, Nina Dronkers<sup>1,3</sup>; <sup>1</sup>VA Northern California Health Care System, <sup>2</sup>Palo Alto University, <sup>3</sup>University of California, Davis

## Writing and Spelling

**B11 Tracking keystroke sequences at the cortical level** Svetlana Pinet<sup>1,2</sup>, Gary S. Dell<sup>3</sup>, F.-Xavier Alario<sup>2</sup>; <sup>1</sup>Johns Hopkins University, <sup>2</sup>Aix-Marseille Université & CNRS, <sup>3</sup>University of Illinois at Urbana-Champaign

**B12 Mental Self-Government of Brain's Multi-Leveled Reading and Writing Systems: Before and After Multi-Leveled Language Instruction** Todd Richards<sup>1</sup>, Kevin



Yagle<sup>1</sup>, Daniel Peterson<sup>1</sup>, Robert Abbott<sup>1</sup>, Kathleen Nielsen<sup>1</sup>, Virginia Berninger<sup>1</sup>; <sup>1</sup>University of Washington, Seattle, Washington

## Grammar: Morphology

**B13 Incremental working memory effects across consecutive nominal constituents: An ERP study** Alicia Parrish<sup>1</sup>, Kaylin Smith<sup>1</sup>, Alan Beretta<sup>1</sup>; <sup>1</sup>Michigan State University

**B14 Neural correlates of processing case and inflection: fMRI evidence from Russian** Anna Chrabaszcz<sup>1</sup>, Maxim Kireev<sup>2</sup>, Svyatoslav Medvedev<sup>2</sup>, Kira Gor<sup>3</sup>; <sup>1</sup>University of Pittsburgh, <sup>2</sup>N. P. Bechtereva Institute of the Human Brain, <sup>3</sup>University of Maryland

## Grammar: Syntax

**B15 Event-Related Potentials Indicate a Role for Word Frequency in L1 and L2 Grammatical Processing** David Abugaber<sup>1</sup>, Irene Finestrat<sup>1</sup>, Alicia Luque<sup>1</sup>, Kara Morgan-Short<sup>1</sup>; <sup>1</sup>University of Illinois - Chicago

**B16 Phrase Structure Building Evidenced by Differential Network Modulations** Chiao-Yi Wu<sup>1,2</sup>, Emiliano Zaccarella<sup>2</sup>, Angela D. Friederici<sup>2</sup>; <sup>1</sup>Nanyang Technological University, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences

**B17 Asymmetric Binariness as a Cognitive Universal: The Rhythm of Syntactic Structure** Danielle Fahey<sup>1</sup>, Dirk-Bart den Ouden<sup>1</sup>; <sup>1</sup>University of South Carolina

**B18 VOS Preference in Truku Sentence Processing: Evidence from Event-Related Potentials** Masataka Yano<sup>1,2</sup>, Keiyu Niikuni<sup>1</sup>, Hajime Ono<sup>3</sup>, Sachiko Kiyama<sup>1</sup>, Manami Sato<sup>4</sup>, Apay, Ai-yu Tang<sup>5</sup>, Daichi Yasunaga<sup>6</sup>, Masatoshi Koizumi<sup>1</sup>; <sup>1</sup>Tohoku University, <sup>2</sup>Japan Society for the Promotion of Science, <sup>3</sup>Tsuda University, <sup>4</sup>Okinawa International University, <sup>5</sup>National Dong Hwa University, <sup>6</sup>Kanazawa University

**B19 A meta-analysis of seven FMRI-studies on artificial grammar learning** Julia Udden<sup>1</sup>; <sup>1</sup>Department of Psychology and Linguistics, Stockholm University, Stockholm, Sweden

**B20 Isolating syntactic structure-building in the brain: An MEG study on Bosnian-Croatian-Serbian** Diogo Almeida<sup>1</sup>, Aida Talić<sup>2</sup>, Željko Bošković<sup>2</sup>, Jon Sprouse<sup>2</sup>; <sup>1</sup>New York University Abu Dhabi, <sup>2</sup>University of Connecticut

**B21 The Left Inferior Frontal Gyrus is Necessary for Syntactic Phrase Formation: Evidence from Transcranial Magnetic Stimulation** Lars Meyer<sup>1</sup>, Anne Elsner<sup>1</sup>, Philipp

Kuhnke<sup>1</sup>, Angela D. Friederici<sup>1</sup>, Gesa Hartwigsen<sup>1</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

**B22 Selective interference with sentence production by direct electrocortical stimulation of the inferior frontal gyrus** Edward F. Chang<sup>1</sup>, Garret Kurteff<sup>1</sup>, Stephen M. Wilson<sup>2</sup>; <sup>1</sup>University of California, San Francisco, <sup>2</sup>Vanderbilt University Medical Center

**B23 Cortical tracking of linguistic structures: the role of covert prosody** Anastasia Glushko<sup>1,2</sup>, David Poeppel<sup>3,4</sup>, Max Wolpert<sup>1,2</sup>, Toivo Glatz<sup>5</sup>, Karsten Steinhauer<sup>1,2</sup>; <sup>1</sup>McGill University, <sup>2</sup>The Centre for Research on Brain, Language and Music, <sup>3</sup>New York University, <sup>4</sup>Max Planck Institute for Empirical Aesthetics, <sup>5</sup>University of Groningen

**B24 Investigating the neural mechanisms of syntactic expectations** Leon O. H. Kroczeck<sup>1</sup>, Angela D. Friederici<sup>1</sup>, Thomas C. Gunter<sup>1</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

## Language Therapy

**B25 Effects of morphosyntactic therapy and tDCS on the spontaneous speech of individuals with aphasia** Vânia de Aguiar<sup>1,3</sup>, Adrià Rofes<sup>2,3</sup>, Roelien Bastiaanse<sup>4</sup>, Rita Capasso<sup>5</sup>, Marialuisa Gandolfi<sup>6,7</sup>, Nicola Smania<sup>6,7</sup>, Giorgio Rossi<sup>8</sup>, Gabriele Miceli<sup>9</sup>; <sup>1</sup>Department of clinical Speech and Language Studies, Trinity College Dublin, Dublin, Ireland, <sup>2</sup>Global Brain Health Institute, Trinity College Dublin, Ireland, <sup>3</sup>International Doctorate in Experimental Approaches to Language And the Brain (IDEALAB) Universities of Groningen (The Netherlands), Newcastle (UK), Potsdam (Germany), Trento (Italy) and Macquarie University (Australia), <sup>4</sup>Center for Language and Cognition, University of Groningen, The Netherlands, <sup>5</sup>S.C.A. Associates, Rome, Italy, <sup>6</sup>Neuromotor and Cognitive Rehabilitation Research Centre, USO Neurological Rehabilitation, Azienda Ospedaliera Universitaria Integrata (AOUI) of Verona, Verona, Italy, <sup>7</sup>Department of Neurological and Movement Sciences, University of Verona, Verona, Italy, <sup>8</sup>Department of Neurology, Santa Maria del Carmine Hospital, Rovereto, Italy, <sup>9</sup>Center for Mind/Brain Sciences (CIMeC), University of Trento, Italy

## Language Disorders

**B26 Prominence in sentence comprehension in schizophrenic subjects: An ERP study** María Francisca Alonso-Sánchez<sup>1</sup>, Lucía Zepeda-Rivera<sup>1</sup>, Aland Astudillo; <sup>1</sup>Universidad Santo Tomás, <sup>2</sup>Universidad de Valparaíso

**B27 Structural connectivity subserving verbal fluency revealed by lesion-behavior mapping in stroke patients** Mingyang Li<sup>1</sup>, Yumei Zhang<sup>2</sup>, Luping Song<sup>3</sup>,

Ruiwang Huang<sup>4</sup>, Junhua Ding<sup>1</sup>, Yuxing Fang<sup>1</sup>, Yangwen Xu<sup>1</sup>, Zaizhu Han<sup>1</sup>; <sup>1</sup>National Key Laboratory of Cognitive Neuroscience and Learning & IDG/McGovern Institute for Brain Research, Beijing Normal University, Beijing, China, 100875, <sup>2</sup>Department of Neurology, Beijing Tiantan Hospital, Capital Medical University, Beijing, China., <sup>3</sup>Rehabilitation College and China Rehabilitation Research Center, Capital Medical University, Beijing, China, 100038., <sup>4</sup>Center for the Study of Applied Psychology, Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, School of Psychology, South China Normal University, Guangzhou, China, 510631.

**B28 Impoverished Remote Semantic Memory in Mild Cognitive Impairment** Nathaniel B. Klooster<sup>1,2</sup>, Arun Paliani<sup>1</sup>, David A. Wolk<sup>1</sup>, Anjan Chatterjee<sup>1,2</sup>; <sup>1</sup>University of Pennsylvania, <sup>2</sup>Moss Rehabilitation Research Institute

**B29 Similarity-based interference effects in reflexive binding: Empirical evidence from aphasia** Maria Varkanitsa<sup>1,2</sup>, David Caplan<sup>1</sup>; <sup>1</sup>Massachusetts General Hospital - Harvard Medical School, <sup>2</sup>University College London

**B30 Brain Network Reorganization for Language after Complete Prenatal Hemispheric Infarction** Salomi S. Asaridou<sup>1</sup>, Özlem Ece Demir-Lira<sup>2</sup>, Danny Siu<sup>1</sup>, Susan Levine<sup>2</sup>, Steven L. Small<sup>1</sup>; <sup>1</sup>Department of Neurology, University of California, Irvine, <sup>2</sup>Department of Psychology, The University of Chicago

**B31 Lesion predictors of response to semantically-based naming treatment in chronic aphasia** Michelle Gravier<sup>1</sup>, Michael Dickey<sup>1,2</sup>, William Hula<sup>1,2</sup>, Patrick Doyle<sup>1,2</sup>; <sup>1</sup>VA Pittsburgh Healthcare System, <sup>2</sup>University of Pittsburgh

**B32 Predicting Western Aphasia Battery Subscores from the Spatial Distributions of Localized Brain Lesions** Grant Walker<sup>1</sup>, Gregory Hickok<sup>1</sup>, Julius Fridriksson<sup>2</sup>; <sup>1</sup>University of California, Irvine, <sup>2</sup>University of South Carolina

**B33 The neural representation of concrete and abstract verb processing in aphasia** Reem S. W. Alyahya<sup>1,2</sup>, Ajay Halai<sup>1</sup>, Paul Conroy<sup>1</sup>, Matthew A. Lambon Ralph<sup>1</sup>; <sup>1</sup>Neuroscience and Aphasia Research Unit, University of Manchester, United Kingdom, <sup>2</sup>King Fahad Medical City, Saudi Arabia

**B34 Left hemisphere frontotemporal effective connectivity during semantic feature judgments: Differences between patients with aphasia and healthy controls** Erin Meier<sup>1</sup>, Swathi Kiran<sup>1</sup>; <sup>1</sup>Boston University, Sargent College of Health and Rehabilitation Sciences

## Language Therapy

**B35 Transcranial Direct Current Stimulation Changes Functional Connectivity in Primary Progressive Aphasia** Bronte N. Ficek<sup>1</sup>, Zeyi Wang<sup>2</sup>, Kimberly Webster<sup>1,3</sup>, Brian Caffo<sup>2</sup>, Kyrana Tsapkini<sup>1</sup>; <sup>1</sup>Department of Neurology, Johns Hopkins Medicine, Baltimore, MD, <sup>2</sup>Department of Biostatistics, Johns Hopkins School of Public Health, Baltimore, MD, <sup>3</sup>Department of Otolaryngology, Johns Hopkins Medicine, Baltimore, MD

**B36 Changes in neural activity during a semantic verification task as a result of treatment in persons with aphasia** Shreya Chaturvedi<sup>1</sup>, Jeffrey Johnson<sup>1</sup>, Yansong Geng<sup>1</sup>, Erin Meier<sup>1</sup>, Swathi Kiran<sup>1</sup>; <sup>1</sup>Boston University

## Meaning: Lexical Semantics

**B37 Hemispheric Processing of Iconic and Arbitrary Words: A Line Bisection Study** Vijayachandra Ramachandra<sup>1</sup>, Rachel Panick<sup>1</sup>, Cara Maher<sup>1</sup>, Gabriella Trezza<sup>1</sup>, Brittney Coan<sup>1</sup>; <sup>1</sup>Marywood University

**B38 Neural Correlates of Semantic Coherence in English and Chinese Speakers during Natural Language Comprehension** Jixing Li<sup>1</sup>, Christophe Pallier<sup>2</sup>, Yiming Yang<sup>3</sup>, John Hale<sup>1</sup>; <sup>1</sup>Cornell University, <sup>2</sup>INSERM-CEA Cognitive Neuroimaging Unit, <sup>3</sup>Jiangsu Normal University

**B39 State-dependant organization of the functional connectome with age** Perrine Ferré<sup>1</sup>, Yassine Benhajali<sup>1</sup>, Jason Steffener<sup>2</sup>, Yaakov Stern<sup>3</sup>, Yves Joanette<sup>1</sup>, Pierre Bellec<sup>1</sup>; <sup>1</sup>Centre de Recherche de l'Institut Universitaire de Montréal, <sup>2</sup>University of Ottawa, <sup>3</sup>Columbia University

**B40 Commonalities in the neural encoding of sentence meaning across widely distributed brain regions** Andrew Anderson<sup>1</sup>, Edmund Lalor<sup>1</sup>, Leonardo Fernandino<sup>2</sup>, Rajeev Raizada<sup>1</sup>, Scott Grimm<sup>1</sup>, Vankee Lin<sup>1</sup>, Xixi Wang<sup>1</sup>; <sup>1</sup>University of Rochester, <sup>2</sup>Medical College of Wisconsin

**B41 Multivariate pattern analysis reveals semantic information in brain areas activated for nonwords** Hillary Levinson<sup>1</sup>, Samantha Mattheiss<sup>1</sup>, William W. Graves<sup>1</sup>; <sup>1</sup>Rutgers University

**B42 ERP and fMRI exploration of the organizational structure of abstract versus concrete words in neurotypical adults** Chaleece Sandberg<sup>1</sup>; <sup>1</sup>Penn State University

**B43 How using concepts changes them: A graph theory approach** Yoed N. Kenett<sup>1</sup>, Zareh Kaloustian<sup>1</sup>, Sharon L. Thompson-Schill<sup>1</sup>; <sup>1</sup>University of Pennsylvania

**B44 Distinguishing Metaphors that Differ in their Encoded Force Patterns** Vesna Gamez-Djokic<sup>1</sup>, Elisabeth Wehling<sup>2</sup>, Lisa Aziz-Zadeh<sup>1</sup>; <sup>1</sup>University of Southern California, <sup>2</sup>University of California, Berkeley

## Grammar: Morphology

**B45 Morphological processing in Chinese: An ERP study** Lin Chen<sup>1</sup>, You Li<sup>2</sup>, Charles Perfetti<sup>3</sup>; <sup>1</sup>Sun Yat-sen University, <sup>2</sup>South China Normal University, <sup>3</sup>University of Pittsburgh

## Perception: Orthographic and Other Visual Processes

**B46 Letters to the left of me, letters to the right: Examining parafoveal flanker effects during word recognition** Trevor Brothers<sup>1</sup>, Matthew J. Traxler<sup>1</sup>, Tamara Y. Swaab<sup>1</sup>; <sup>1</sup>University of California, Davis

## Perception: Auditory

**B47 Asymmetrical MMNs to socially-marked biological sounds: a potential challenge to the phoneme underspecification hypothesis** Roberto Petrosino<sup>1</sup>, Diogo Almeida<sup>2</sup>, Andrea Calabrese<sup>1</sup>, Jon Sprouse<sup>1</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>New York University - Abu Dhabi

**B48 Language effects for theta oscillatory activity within cortical sensory processing** Monica Wagner<sup>1</sup>, Silvia Ortiz-Mantilla<sup>2</sup>, Valerie Shafer<sup>3</sup>; <sup>1</sup>St. John's University, <sup>2</sup>Rutgers University, <sup>3</sup>The Graduate Center, CUNY

**B49 Neurobiological mechanisms of efficient encoding: A pilot EEG study.** Nicholas Walker<sup>1</sup>, Christian Stilp<sup>2</sup>, Keith Kleunder<sup>3</sup>, Julia Evans<sup>1</sup>, Meredith Scheppele<sup>1</sup>; <sup>1</sup>University of Texas at Dallas, <sup>2</sup>University of Louisville, <sup>3</sup>Purdue University

**B50 Representations of amplitude modulations in auditory onsets, ramp tones, and speech in the human superior temporal gyrus** Yulia Oganian<sup>1,2</sup>, Edward Chang<sup>1,2</sup>; <sup>1</sup>Department of neurological surgery, University of California, San Francisco, <sup>2</sup>Center for Integrative Neuroscience, University of California, San Francisco

## Language Genetics

**B51 Translational research in dyslexia: genetic rodent models inform understanding of mechanisms in humans** Tracy Centanni<sup>1,2,3</sup>, Fuyi Chen<sup>4</sup>, Anne B Booker<sup>4</sup>, Andrew M Sloan<sup>3</sup>, Sara D Beach<sup>2,5</sup>, Ola Ozernov-Palchik<sup>6</sup>, Sidney C May<sup>2</sup>, Michael P Kilgard<sup>3</sup>, Joseph J LoTurco<sup>4</sup>, Dimitrios Pantazis<sup>2</sup>, Tiffany P Hogan<sup>7</sup>, John DE Gabrieli<sup>2</sup>; <sup>1</sup>Texas Christian University, <sup>2</sup>Massachusetts Institute of Technology, <sup>3</sup>University of Texas at Dallas, <sup>4</sup>University of Connecticut, <sup>5</sup>Harvard University, <sup>6</sup>Tufts University, <sup>7</sup>MGH Institute of Health Professions

## Phonology and Phonological Working Memory

**B52 Converging evidence from univariate and multivariate fMRI analyses suggests a phonological buffer in the left supramarginal gyrus** Qiu Hai Yue<sup>1</sup>, Randi C. Martin<sup>1</sup>, A. Cris Hamilton<sup>1</sup>, Nathan S. Rose<sup>2</sup>; <sup>1</sup>Rice University, Houston, TX, USA, <sup>2</sup>University of Notre Dame, Notre Dame, IN, USA

**B53 Auditory Cortex Represents Abstract Phonological Features: A Mismatch Negativity Study of English Voicing** Philip Monahan<sup>1</sup>, Jessamyn Schertz<sup>1</sup>; <sup>1</sup>University of Toronto

**B54 Neural encoding of T3 sandhi in Mandarin Chinese speakers in speech production** Caicai Zhang<sup>1,2</sup>, Xunan Huang<sup>1</sup>, Stephen Politzer-Ahles<sup>1</sup>, Jie Zhang<sup>3</sup>, Gang Peng<sup>1,2</sup>; <sup>1</sup>The Hong Kong Polytechnic University, <sup>2</sup>Shenzhen Institutes of Advanced Technology, <sup>3</sup>The University of Kansas

## Perception: Speech Perception and Audiovisual Integration

**B55 Lexical tone processing with and without awareness in Cantonese-speaking congenital amusics: Evidence from event-related potentials** Caicai Zhang<sup>1,2</sup>, Jing Shao<sup>1</sup>; <sup>1</sup>The Hong Kong Polytechnic University, <sup>2</sup>Shenzhen Institutes of Advanced Technology

## Phonology and Phonological Working Memory

**B56 Lesion Localization of a Shared Phonologic Representation Deficit on Reading, Rhyming, Repetition, and Short-Term Memory Tasks** Sara Pillay<sup>1</sup>, Peter Kraegel<sup>1</sup>, Colin Humphries<sup>1</sup>, Diane Book<sup>1</sup>, Jeffrey Binder<sup>1</sup>; <sup>1</sup>Medical College of Wisconsin

**B57 Processing Demands of Word Frequency on Verbal working Memory as measured by functional near-infrared spectroscopy (fNIRS)** Amy Berglund<sup>1</sup>, Julia L. Evans<sup>1</sup>, Andrea W. Fung<sup>1</sup>, Chen Song<sup>1</sup>, Fenghua Tian<sup>2</sup>, Holly Watkins<sup>1</sup>; <sup>1</sup>University of Texas at Dallas, <sup>2</sup>University of Texas at Arlington

## Speech Motor Control and Sensorimotor Integration

**B58 Enhancing Speech Motor Learning With Noninvasive Brain Stimulation** Adam Buchwald<sup>1</sup>, Mara Steinberg Lowe<sup>1</sup>, Holly Calhoun<sup>1</sup>, Rebecca Wellner<sup>1</sup>, Stacey Rimikis<sup>1</sup>; <sup>1</sup>New York University



## Perception: Orthographic and Other Visual Processes

**B59 Orthographic priming for tactile Braille alphabet in the ventral Occipito-Temporal cortex of congenitally blind** Katarzyna Rączy<sup>1</sup>, Aleksandra Sadowska<sup>1</sup>, Jakub Szwedczyk<sup>1</sup>, Paweł Hańczur<sup>2</sup>, Ewa Sumera<sup>3</sup>, Marianna Boros<sup>1</sup>, Maksymilian Korczyk<sup>1</sup>, Anna Beres<sup>1</sup>, Marcin Szwed<sup>1</sup>; <sup>1</sup>Jagiellonian University, <sup>2</sup>Warsaw University of Technology, <sup>3</sup>Institute for the Blind and Partially Sighted Children

**B60 Lexical Decision with Emotional Words: A Pupil Dilation Study** Sahura Ertuğrul<sup>1</sup>, Didem Gökçay<sup>2</sup>; <sup>1</sup>Cognitive Science, Middle East Technical University, Ankara, <sup>2</sup>Medical Informatics, Middle East Technical University, Ankara

**B61 Do Different Types of Script Induce Differences in Hemispheric Lateralization During Reading? Evidence from a Cross Linguistic MEG Study.** Kefei Wu<sup>1</sup>, Diogo Almeida<sup>1</sup>; <sup>1</sup>New York University Abu Dhabi

**B62 Using Representations from Artificial Neural Network Models of Reading to Reveal Neural Activation Patterns for Different Reading Computations** William Graves<sup>1</sup>; <sup>1</sup>Rutgers University - Newark

**B63 Uncovering the cascade of computations involved in ambiguity resolution using MEG decoding** Laura Gwilliams<sup>1,2</sup>, Jean-Rémi King<sup>1</sup>; <sup>1</sup>New York University, <sup>2</sup>NYUAD Institute

**B64 Dynamics of Brain Functions and Reading in Different Languages OR Why is it hard to read Arabic?** Zohar Eviatar<sup>1</sup>; <sup>1</sup>University of Haifa

**B65 The rhythm of semantics: Temporal expectancy and context-based prediction in a picture association paradigm** Cybelle M. Smith<sup>1</sup>, Kara D. Federmeier<sup>1</sup>; <sup>1</sup>University of Illinois at Urbana-Champaign

## Language Therapy

**B66 Areas predicting tDCS effects in primary progressive aphasia (PPA)** Kyrana Tsapkini<sup>1</sup>, Kim Webster<sup>1</sup>, Bronte Ficek<sup>1</sup>, Chiadi Onyike<sup>2</sup>, Brenda Rapp<sup>3</sup>, Argye Hillis<sup>1</sup>, Constantine Frangakis<sup>4</sup>; <sup>1</sup>Department of Neurology, Johns Hopkins University, Baltimore, MD, <sup>2</sup>Department of Psychiatry and Behavioral Sciences, Johns Hopkins University, Baltimore, MD, <sup>3</sup>Department of Cognitive Science, Johns Hopkins University, MD, <sup>4</sup>Department of Biostatistics, Johns Hopkins School of Public Health, Baltimore, MD

## Meaning: Prosody, Social and Emotional Processes

**B67 The ATL causally mediates the expansion of working memory capacity for famous faces** Rocco Chiou<sup>1</sup>, Matthew A. Lambon Ralph<sup>1</sup>; <sup>1</sup>University of Manchester, United Kingdom

## Writing and Spelling

**B68 Investigating the functional neural circuitry for spelling using graphical models** Kulpreet Cheema<sup>1</sup>, Dr. William Hodgetts<sup>1,2</sup>, Dr. Jacqueline Cummine<sup>1</sup>; <sup>1</sup>Faculty of Rehabilitation Medicine, University of Alberta, <sup>2</sup>The Institute for Reconstructive Sciences in Medicine

**B69 Ventral occipito-temporal responses to written texts and fingerspelling in congenitally deaf adults** Tae Twomey<sup>1</sup>, Dafydd Waters<sup>1</sup>, Cathy Price<sup>1</sup>, Mairéad MacSweeney<sup>1</sup>; <sup>1</sup>University College London

## Perception: Speech Perception and Audiovisual Integration

**B70 Dynamic Adaption During Lexically-Guided Perceptual Learning in People with Aphasia** David Saltzman<sup>1</sup>, Kathrin Rothermich<sup>1</sup>, Emily Myers<sup>1</sup>; <sup>1</sup>University of Connecticut

**B71 Speech processing with one hemisphere: word repetition in a patient with right hemisphereotomy** Chad S. Rogers<sup>1</sup>, Michael Jones<sup>1</sup>, Jacqueline M. Hampton<sup>1</sup>, Catherine Hoyt Drazen<sup>1</sup>, Matthew D. Smyth<sup>1</sup>, Jarod Roland<sup>1</sup>, Nico Dosenbach<sup>1</sup>, Jonathan E. Peelle<sup>1</sup>; <sup>1</sup>Washington University School of Medicine

**B73 The visual representation of lipread words in posterior temporal cortex studied using an fMRI-rapid adaptation paradigm, functional localizers, and behavior** Lynne E. Bernstein<sup>1</sup>, Silvio P. Eberhardt<sup>1</sup>, Xiong Jiang<sup>2</sup>, Maximilian Riesenhuber<sup>2</sup>, Edward T. Auer<sup>1</sup>; <sup>1</sup>Department of Speech, Language, and Hearing Sciences, 550 Rome Hall, George Washington University, Washington, District of Columbia 20052, USA, <sup>2</sup>Department of Neuroscience, Georgetown University Medical Center, Research Building Room WP-12, 3970 Reservoir Rd. NW, Washington, District of Columbia 20007, USA

**B74 Alpha and beta oscillations in the language network, motor and visual cortex index the semantic integration of speech and gestures in clear and degraded speech** Linda Drijvers<sup>1,2,3</sup>, Asli Ozyurek<sup>1,2,3</sup>, Ole Jensen<sup>4</sup>; <sup>1</sup>Radboud University, Centre for Language Studies, Nijmegen, The Netherlands, <sup>2</sup>Radboud University, Donders Institute for Brain, Cognition, and Behaviour, Nijmegen, The Netherlands, <sup>3</sup>Max Planck Institute for Psycholinguistics,



Nijmegen, The Netherlands, <sup>4</sup>School of Psychology, Centre for Human Brain Health, University of Birmingham, United Kingdom

### **B75 Inferior frontal gyrus activation is modulated by phonetic competition: An fMRI study of clear and conversational speech**

Xin Xie<sup>1</sup>, Emily Myers<sup>2</sup>;  
<sup>1</sup>University of Rochester, <sup>2</sup>University of Connecticut

### **B76 N400 modulated by word onset duration but not information content during spoken word recognition**

Jonathan Brennan<sup>1</sup>, Emma Saraff<sup>1</sup>, Max Cantor<sup>2</sup>, Dave Embick<sup>3</sup>; <sup>1</sup>University of Michigan, <sup>2</sup>University of Colorado, <sup>3</sup>University of Pennsylvania

### **B77 Phoneme Perception Deficits from Unilateral Left Hemisphere Stroke: A Voxel-Based Lesion Correlation Study**

Jeffrey Binder<sup>1</sup>, Sara B. Pillay<sup>1</sup>, Colin J. Humphries<sup>1</sup>, Peter Kraegel<sup>1</sup>, Diane S. Book<sup>1</sup>; <sup>1</sup>Medical College of Wisconsin, Milwaukee, WI, USA

## **Signed Language and Gesture**

### **B78 Trial-by-trial N400 variability reflects temporal gesture-speech integration**

Laura Morett<sup>1,2</sup>, Nicole Landi<sup>1,3</sup>, Julia Irwin<sup>3,4</sup>, James McPartland<sup>1</sup>; <sup>1</sup>Yale Child Study Center, <sup>2</sup>University of Alabama, <sup>3</sup>Haskins Laboratories, <sup>4</sup>Southern Connecticut State University

## **Computational Approaches**

### **B79 Electrophysiological correlates of statistical features of word sequences in natural spoken language**

Hugo Weissbart<sup>1</sup>, Katerina D. Kandylaki<sup>1</sup>, Tobias Reichenbach<sup>1</sup>; <sup>1</sup>Imperial College London

## **Poster Session C**

Thursday, November 9, 10:00 – 11:15 am, Harborview and Loch Raven Ballrooms

## **Computational Approaches**

### **C1 The Effects of Background Noise on Native and Non-native Spoken Word Recognition: An Artificial Neural Network Modelling Approach**

Themis Karaminis<sup>1</sup>, Florian Hintz<sup>2</sup>, Odette Scharenborg<sup>1,3</sup>; <sup>1</sup>Centre for Language Studies, Radboud University, Nijmegen, the Netherlands; <sup>2</sup>Max Planck Institute for Psycholinguistics, Nijmegen, the Netherlands, <sup>3</sup>Donders Institute for Brain, Cognition, & Behavior, Radboud University Nijmegen the Netherlands

## **Grammar: Syntax**

### **C2 Neural synchronization of syntactic priming during face-to-face communications**

Wenda Liu<sup>1</sup>, Xialu Bai<sup>1</sup>, Hui Zhao<sup>1</sup>, Yuhang Long<sup>1</sup>, Lifan Zheng<sup>1</sup>, Chunming Lu<sup>1</sup>; <sup>1</sup>Beijing Normal University

### **C3 Both syntactic and prosodic cues guide sentence processing in the left inferior frontal gyrus**

Constantijn L van der Burght<sup>1</sup>, Tomás Goucha<sup>1</sup>, Angela D Friederici<sup>1</sup>, Jens Kreitewolf<sup>1,2</sup>, Gesa Hartwigsen<sup>1</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, <sup>2</sup>University of Lübeck

### **C4 Beyond Speech Entrainment: Delta-Band Oscillations Align Neural Excitability with High-Level Linguistic Information**

Lars Meyer<sup>1</sup>, Matthias Gumbert<sup>1,2</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>University of Trento, Trento, Italy

### **C5 Priming sentence production and comprehension in aging**

Grace Man<sup>1</sup>, Emily Hosokawa<sup>1</sup>, Holly Branigan<sup>2</sup>, Jiyeon Lee<sup>1</sup>; <sup>1</sup>Purdue University, <sup>2</sup>University of Edinburgh

### **C6 Frontotemporal connectivity during syntactic movement processing**

Eduardo Europa<sup>1</sup>, Darren R Gitelman<sup>2,3,4</sup>, Swathi Kiran<sup>5</sup>, Cynthia K Thompson<sup>1,2,6</sup>; <sup>1</sup>School of Communication, Northwestern University, <sup>2</sup>Feinberg School of Medicine, Northwestern University, <sup>3</sup>Advocate Lutheran General Hospital, <sup>4</sup>Rosalind Franklin University of Medicine and Science, <sup>5</sup>College of Health & Rehabilitation, Boston University, <sup>6</sup>Cognitive Neurology and Alzheimer's Disease Center, Northwestern University

### **C7 Conceptual number agreement processing and coreference establishing in Brazilian Portuguese: An ERP study.**

Juliana Andrade Feiden<sup>1,2</sup>, Srđan Popov<sup>2</sup>, Roelien Bastiaanse<sup>2</sup>; <sup>1</sup>International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), Universities of Groningen (NL), Newcastle (UK), Potsdam (DE), Trento (IT), Macquarie University (AU), <sup>2</sup>Center for Language and Cognition Groningen (CLCG), University of Groningen, Groningen, The Netherlands

### **C8 An fMRI Study of Syntactic Complexity Effect of Chinese Relative Clauses**

Yanyu Xiong<sup>1</sup>, Chunglin Yang<sup>1</sup>, Sharlene Newman<sup>1</sup>; <sup>1</sup>Indiana University

### **C9 Left-lateralized syntactic category processing is modulated by interhemispheric inhibition in healthy young right-handers with familial sinistrality background**

Yi-Lun Weng<sup>1</sup>, Min-Hsin Chen<sup>1</sup>, Chia-Lin Lee<sup>1</sup>; <sup>1</sup>National Taiwan University, Taiwan

### **C10 The (non-)satiation of P600/SPS effects to distinct grammatical violations**

Emma Nguyen<sup>1</sup>, Jon Sprouse<sup>1</sup>; <sup>1</sup>University of Connecticut

### **C11 The time-course of statistical learning in patients with left hemisphere stroke**

Kathryn D. Schuler<sup>1,2</sup>, Mackenzie E. Fama<sup>1,2</sup>, Peter E. Turkeltaub<sup>1,2</sup>, Elissa L. Newport<sup>1,2</sup>; <sup>1</sup>Georgetown University, <sup>2</sup>Center for Brain Plasticity and Recovery

## Signed Language and Gesture

**C13 The cortical organization of syntactic processing in American Sign Language: Evidence from a parametric manipulation of constituent structure in fMRI and MEG** William Matchin<sup>1</sup>, Agnes Villwock<sup>1</sup>, Austin Roth<sup>1</sup>, Deniz Ilkbasaran<sup>1</sup>, Marla Hatrak<sup>1</sup>, Tristan Davenport<sup>1</sup>, Eric Halgren<sup>1</sup>, Rachel Mayberry<sup>1</sup>; <sup>1</sup>University of California San Diego

## Computational Approaches

**C14 Localizing Structure-building and Memory Retrieval in Naturalistic Language Comprehension** John Hale<sup>1</sup>, Shohini Bhattacharya<sup>1</sup>, Jonathan R. Brennan<sup>2</sup>, Jixing Li<sup>1</sup>, Wen-Ming Luh<sup>1</sup>, Christophe Pallier<sup>3</sup>, R. Nathan Spreng<sup>1</sup>; <sup>1</sup>Cornell University, <sup>2</sup>University of Michigan, <sup>3</sup>INSERM-CEA Cognitive Neuroimaging Unit

## Language Development

**C15 Associating children's reading and mathematics subskills with resting-state functional connectivity** Alexandra Cross<sup>1</sup>, Reshma Ramdajal<sup>2</sup>, Christine L. Stager<sup>3</sup>, Maureen W. Lovett<sup>4,5</sup>, Karen A. Steinbach<sup>4</sup>, Jan C. Frijters<sup>6</sup>, Elizabeth P. Hayden<sup>1</sup>, Lisa M.D. Archibald<sup>1</sup>, Marc F. Joanisse<sup>1</sup>; <sup>1</sup>University of Western Ontario, <sup>2</sup>Erasmus University Rotterdam, <sup>3</sup>Thames Valley District School Board, <sup>4</sup>The Hospital for Sick Children, <sup>5</sup>University of Toronto, <sup>6</sup>Brock University

**C16 ERP correlates of syntactic processing in cochlear implant users.** Luca Artesini<sup>1</sup>, Mara Dighero<sup>1</sup>, Valeria Giannelli<sup>1</sup>, Debora Musola<sup>4</sup>, Francesco Vespignani<sup>2</sup>, Francesco Pavani<sup>1,2,3</sup>; <sup>1</sup>CIMeC - Center for Mind/Brain Sciences, University of Trento, Rovereto, Italy, <sup>2</sup>DiPSco - Department of Psychology and Cognitive Sciences, University of Trento, Rovereto, Italy, <sup>3</sup>Centre de Recherche en Neurosciences de Lyon, Lyon, France, <sup>4</sup>Cooperativa Logogenia®, Italy

**C17 Lesion Sites Associated with Apraxia of Speech: Report of a new case and implications for Neural Models of Speech Production** Venugopal Balasuramanian<sup>1</sup>, Ludo Max<sup>2</sup>; <sup>1</sup>Seton Hall University, NJ, <sup>2</sup>University of Washington, Seattle

**C18 Literacy Environment Differentially Influences Brain Structural Covariance** Tin Nguyen<sup>1</sup>, Stephanie Del Tufo<sup>1,2</sup>, Laurie Cutting<sup>1,2,3,4</sup>; <sup>1</sup>Vanderbilt Brain Institute, <sup>2</sup>Peabody College of Education and Human Development, <sup>3</sup>Vanderbilt Kennedy Center, <sup>4</sup>Vanderbilt University Institute of Imaging Science

**C19 A window for word-learning: Measuring dynamic neural responses during statistical language learning** Nicolette Noonan<sup>1</sup>, Lisa Archibald<sup>1</sup>, Marc Joanisse<sup>1</sup>; <sup>1</sup>The University of Western Ontario

**C20 Development of the lateral lemniscus and its relation to receptive vocabulary: A diffusion-weighted imaging study** Anthony Dick<sup>1</sup>, Dea Garic<sup>1</sup>, Heidy Zetina<sup>1</sup>; <sup>1</sup>Florida International University

**C22 Insight into spoken word processing in young children using eye movements** Elizabeth Simmons<sup>1,2</sup>, Rhea Paul<sup>3</sup>, Rachel Theodore<sup>1,2</sup>, Monica Li<sup>1,2</sup>, James Magnuson<sup>1,2</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>CT Institute for Brain and Cognitive Sciences, <sup>3</sup>Sacred Heart University

**C23 Neurocognitive Correlates of Child and Adult Syntactic Processing: Evidence from Classroom Second Language Learners** Fatemeh Abdollahi<sup>1</sup>, Janet G. van Hell<sup>1</sup>; <sup>1</sup>The Pennsylvania State University

**C24 Speeded grammatical processing in Tourette syndrome** Cristina Dye<sup>1</sup>, Matthew Walenski<sup>2</sup>, Adam Takacs<sup>3</sup>, Karolina Janacek<sup>4</sup>, Andrea Kobor<sup>4</sup>, Dezso Nemeth<sup>4</sup>, Stewart H. Mostofsky<sup>5</sup>, Michael T. Ullman<sup>6</sup>; <sup>1</sup>Newcastle University, United Kingdom, <sup>2</sup>Northwestern University, United States, <sup>3</sup>University of Glasgow, United Kingdom, <sup>4</sup>Eötvös Loránd University, Hungary, <sup>5</sup>Johns Hopkins University, United States, <sup>6</sup>Georgetown University, United States

**C25 Sentence prosody cues object category learning at 6 months** Claudia Männel<sup>1,2</sup>, Maria Teixeira<sup>3</sup>, Laura Bosch<sup>3</sup>, Angela D. Friederici<sup>1</sup>, Manuela Friedrich<sup>1,4</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences Leipzig, <sup>2</sup>University of Leipzig, <sup>3</sup>University of Barcelona, <sup>4</sup>Humboldt-Universität zu Berlin

## Language Disorders

**C26 Chinese dyslexic children's alteration in the large-scale brain functional network comparing phonological and semantic reading tasks** Jiali Hu<sup>1</sup>, Xin Liu<sup>1</sup>, Yue Gao<sup>1</sup>, Yu Zhou<sup>1</sup>, Li Liu<sup>1</sup>; <sup>1</sup>Beijing Normal University

**C27 Comprehension of sentences with structurally defined gaps in primary progressive aphasia: Evidence from eye-tracking** Matthew Walenski<sup>1</sup>, Jennifer E. Mack<sup>1</sup>, M. Marsel Mesulam<sup>2</sup>, Cynthia K. Thompson<sup>1,2,3</sup>; <sup>1</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL, USA, <sup>2</sup>Cognitive Neurology and Alzheimer's Disease Center, Northwestern University, Evanston, IL, USA, <sup>3</sup>Department of Neurology, Northwestern University, Evanston, IL, USA

**C28 Atypical phonemic discrimination but not audiovisual speech integration in children with the broader autism phenotype, autism, and speech sound disorder.** Julia Irwin<sup>1,3</sup>, Trey Avery<sup>1</sup>, Jacqueline Turcios<sup>1,3</sup>, Lawrence Brancaccio<sup>1,3</sup>, Barbara Cook<sup>3</sup>, Nicole Landi<sup>1,2</sup>; <sup>1</sup>Haskins Laboratories, <sup>2</sup>University of Connecticut, <sup>3</sup>Southern Connecticut State University

## C29 Oscillatory Abnormalities in Primary Progressive Aphasia

Aneta Kielar<sup>1,3</sup>, Tiffany Deschamps<sup>2</sup>, Regina Jökel<sup>2,4</sup>, Jed Meltzer<sup>2,3,4</sup>, <sup>1</sup>University of Arizona, <sup>2</sup>Baycrest Health Sciences Toronto, Ontario, Canada, <sup>3</sup>Canadian Partnership for Stroke Recovery, Ottawa, Ontario, Canada, <sup>4</sup>University of Toronto, Toronto, Ontario, Canada

## C30 Examining gray matter differences in a single treatment non-responder with semantic variant primary progressive aphasia

Isabel Hubbard<sup>1</sup>, Stephanie Grassp<sup>2</sup>, Heather Dial<sup>2</sup>, Maria Luisa Mandelli<sup>1</sup>, Maria Luisa Gorno-Tempini<sup>1</sup>, Maya Henry<sup>1,2</sup>, <sup>1</sup>University of California San Francisco, <sup>2</sup>University of Texas at Austin

## C31 Watch your mouth: A Neuropsychological Case Study of Evoked Pupillary Responses to Profanity in Aphasia with Coprolalia

Alexandra Kelly<sup>1</sup>, Ally Dworetzky<sup>3</sup>, Helen Felker<sup>1,2</sup>, Bonnie Zuckerman<sup>4</sup>, Medha Raghavendra<sup>1,2</sup>, Jordan Dawson<sup>1,2</sup>, Rachel Bastomski<sup>1,2</sup>, Jamie Reilly<sup>1,2</sup>, Eleanor M. Saffran Center for Cognitive Neuroscience, <sup>2</sup>Department of Communication Sciences and Disorders Temple University, Philadelphia, Pennsylvania USA, <sup>3</sup>Washington University in Saint Louis, Saint Louis, Missouri USA, <sup>4</sup>Basque Center for Brain and Cognitive Science, San Sebastian, Spain

## C32 Morpho-lexical Recognition Ability and Related Brain Regions in Individuals with Mild Cognitive Impairment, Alzheimer's Dementia, and Cognitively Normal Elderly

JungMoon Hyun<sup>1</sup>, Alexandre Nikolaev<sup>2,3</sup>, Yawu Liu<sup>4</sup>, Eve Higby<sup>5</sup>, Minna Lehtonen<sup>6</sup>, Sameer Ashaie<sup>1</sup>, Tuomo Hänninen<sup>4</sup>, Merja Hallikainen<sup>4</sup>, Hilka Soininen<sup>2,4</sup>, <sup>1</sup>Northwestern University, <sup>2</sup>University of Eastern Finland, <sup>3</sup>University of Helsinki, <sup>4</sup>Kuopio University Hospital, <sup>5</sup>University of California, Riverside, <sup>6</sup>Abo Akademi University, Turku, Finland

## C33 Structural Brain Differences in Good and Poor Comprehenders Identified through a Regression-Based Quantitative Method

Kayleigh Ryherd<sup>1</sup>, Clint Johns<sup>2</sup>, Andy Jahn<sup>2</sup>, Julie Van Dyke<sup>2</sup>, Landi Nicole<sup>1,2</sup>, <sup>1</sup>University of Connecticut, <sup>2</sup>Haskins Laboratories

## C34 Mapping Both Lesion and Behaviour Structures in Stroke Aphasia

Ying Zhao<sup>1</sup>, Ajay Halai<sup>1</sup>, Matthew Lambon Ralph<sup>1</sup>, <sup>1</sup>Neuroscience and Aphasia Research Unit, School of Biological Sciences, University of Manchester

## Meaning: Prosody, Social and Emotional Processes

### C35 No Acoustic Evidence from RHD for a Right Hemisphere Role in Prosody Production: A Meta-Analysis

Ethan Weed<sup>1</sup>, Riccardo Fusaroli<sup>1</sup>, <sup>1</sup>Aarhus University

## Writing and Spelling

### C36 Selective involvement of posterior perisylvian regions in sublexical processing: Evidence from brain tumor patients

Fleur van Ierschoot<sup>1,2,3</sup>, Wencke Veenstra<sup>3,4</sup>, Barbara Santini<sup>5</sup>, Michiel Wagemakers<sup>4</sup>, Hanne-Rinck Jeltema<sup>4</sup>, Giampietro Pinna<sup>5</sup>, Roelien Bastiaanse<sup>1,3</sup>, Gabriele Miceli<sup>1,2</sup>, <sup>1</sup>International Doctorate for Experimental Approached to Language and Brain (IDEALAB), <sup>2</sup>University of Trento, <sup>3</sup>University of Groningen, <sup>4</sup>University Medical Center of Groningen, <sup>5</sup>University of Verona

## Language Disorders

### C37 Individual differences in the cortical activity dynamics of auditory word processing in adolescents with SLI using anatomically constrained magnetoencephalography (aMEG)

Nicholas Walker<sup>1</sup>, Julia L. Evans<sup>1,2</sup>, Timothy T. Brown<sup>2</sup>, Amy Berglund<sup>1</sup>, Meredith Scheppele<sup>1</sup>, Andrea W. Fung<sup>1</sup>, <sup>1</sup>University of Texas at Dallas, <sup>2</sup>UCSD

## Meaning: Combinatorial Semantics

### C38 Elementary composition in Language processing: an EEG study

Emilia Fló<sup>1</sup>, Álvaro Cabana<sup>1</sup>, Juan C Valle Lisboa<sup>1</sup>, <sup>1</sup>Facultad de Psicología, Universidad de la República

### C39 ERP effects for quantifier complexity, priming, and truth-value in an auditory/visual verification task

Aniello De Santo<sup>1</sup>, Jonathan Rawski<sup>1</sup>, John E. Drury<sup>1</sup>, <sup>1</sup>Stony Brook University

### C40 The effect of multimodal predictability on the N400

Christine Ankener<sup>1</sup>, Maria Staudte<sup>1</sup>, Heiner Drenhaus<sup>1</sup>, Matthew W. Crocker<sup>1</sup>, <sup>1</sup>Saarland University

### C41 Language and multiple demand regions jointly predict individual differences in sentence comprehension: Evidence from a network approach

Qiu Hai Yue<sup>1</sup>, Randi C. Martin<sup>1</sup>, Simon Fischer-Baum<sup>1</sup>, Michael W. Deem<sup>1</sup>, <sup>1</sup>Rice University, Houston, TX, USA

### C42 Extracting Single Word Voxel Patterns from Self-Paced Reading using Simultaneous Eye-Tracking and Multiband fMRI

Benjamin Schloss<sup>1</sup>, Chun-Ting Hsu<sup>1</sup>, Ping Li<sup>1</sup>, <sup>1</sup>Pennsylvania State University

### C43 Neural evidence for representationally-specific pre-activation: Evidence from Representational Similarity Analysis over time and space

Lin Wang<sup>1,2</sup>, Gina Kuperberg<sup>1,2</sup>, Ole Jensen<sup>3</sup>, <sup>1</sup>Department of Psychiatry and the Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, USA, <sup>2</sup>Department of Psychology, Tufts University, Medford, MA, USA, <sup>3</sup>Centre for Human Brain Health, University of Birmingham, Birmingham, UK



## Meaning: Discourse and Pragmatics

### C44 ERPs reveal listeners' sensitivity to discourse history in comprehension

Si On Yoon<sup>1</sup>, Kara D. Federmeier<sup>1</sup>; <sup>1</sup>University of Illinois, Urbana-Champaign

### C45 Linguistic cues modulate, but don't eliminate, the influence of event knowledge: Evidence from the N400

Elisabeth Rabs<sup>1</sup>, Heiner Drenhaus<sup>1</sup>, Francesca Delogu<sup>1</sup>, Matthew Crocker<sup>1</sup>; <sup>1</sup>Saarland University

### C46 On-line expectation management during discourse comprehension

Geertje van Bergen<sup>1</sup>, Marlou Rasenberg<sup>1,2</sup>, Joost Rommers<sup>3</sup>; <sup>1</sup>Max Planck Institute for Psycholinguistics, <sup>2</sup>Radboud University, <sup>3</sup>Donders Institute for Brain, Cognition and Behaviour

### C47 Connecting events: an ERP study of causal connectives

Gina Kuperberg<sup>1,2</sup>, Einat Shetreet<sup>3</sup>; <sup>1</sup>Tufts University, <sup>2</sup>Massachusetts General Hospital, <sup>3</sup>Tel Aviv University

### C48 Cognitive Control Mediates Age-Related Reductions in Adaptation to Speaker-Specific Predictability

Shruti Dave<sup>1</sup>, Trevor Brothers<sup>1</sup>, Matthew Traxler<sup>1</sup>, Tamara Swaab<sup>1</sup>; <sup>1</sup>University of California, Davis

## Meaning: Lexical Semantics

### C49 Orthographic influences on Chinese spoken language in the brain: task-dependent effects as revealed by event-related fMRI

Pei-Chun Chao<sup>1</sup>, Wei-Fan Chen<sup>2</sup>, Jie-Li Tsai<sup>3</sup>, Chia-Ying Lee<sup>1,2</sup>; <sup>1</sup>National Yang-Ming University, Taiwan, <sup>2</sup>Academia Sinica, Taiwan, <sup>3</sup>National Chengchi University, Taiwan

### C50 The Loci of the Semantic Relatedness Paradox during Speech Production

Tao Wei<sup>1</sup>, Tatiana Schnur<sup>2</sup>; <sup>1</sup>Beijing Normal University, <sup>2</sup>Baylor College of Medicine

### C51 Developmental changes during semantic judgments to Chinese characters: A Longitudinal Study of Effective Connectivity

Li-Ying Fan<sup>1,2,3</sup>, Tai-Li Chou<sup>3,4,5</sup>; <sup>1</sup>School of Linguistic Sciences and Arts, Jiangsu Normal University, China, <sup>2</sup>Collaborative Innovation Center for Language Ability, Jiangsu Normal University, China, <sup>3</sup>Department of Psychology, National Taiwan University, Taiwan, <sup>4</sup>Neurobiology and Cognitive Science Center, National Taiwan University, Taiwan, <sup>5</sup>Graduate Institute of Brain and Mind Sciences, National Taiwan University, Taiwan

### C52 ANY ERP effects

Hongchen Wu<sup>1</sup>, Jun Lyu<sup>1</sup>, Aydogan Yanilmaz<sup>1</sup>, John E. Drury<sup>1</sup>; <sup>1</sup>Stony Brook University

### C53 Incremental learning and lexical access: Evidence from aphasia

Julia Schuchard<sup>1</sup>, Erica L. Middleton<sup>1</sup>; <sup>1</sup>Moss Rehabilitation Research Institute

### C54 Direct Encoding of Semantic and Orthographic Neighborhood Reveals The Organization of Lexical Access

Jona Sassenhagen<sup>1</sup>, Benjamin Gagl<sup>1,2</sup>, Christian J. Fiebach<sup>1,2</sup>; <sup>1</sup>Goethe University Frankfurt, <sup>2</sup>IDeA Center for Individual Development and Adaptive Education, Frankfurt

### C55 Age-related brain activation changes during rule repetition in word-matching

ikram methqal<sup>1</sup>, Basile Pinsard<sup>1</sup>, Maximiliano A. Wilson<sup>2</sup>, Oury Monchi<sup>3</sup>, Jean-Sebastien Provost<sup>3</sup>, Mahnoush Amiri<sup>1</sup>, Yves Joannette<sup>1</sup>; <sup>1</sup>Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal, Montréal, Québec, Canada, <sup>2</sup>Centre de Recherche de l'Institut Universitaire en Santé Mentale de Québec, QC, Canada, <sup>3</sup>Hotchkiss Brain Institute, University of Calgary, Calgary, Canada

### C56 Clustering Abstract Concepts into Distinct Categories

Catherine Walsh<sup>1</sup>, Stephen J. Gotts<sup>1</sup>, Alex Martin<sup>1</sup>; <sup>1</sup>Laboratory of Brain and Cognition, National Institute of Mental Health

### C57 The intensity of sensory-perceptual features regulates conceptual processing in the anterior temporal lobe's semantic hub

Jet M. J. Vonk<sup>1,2</sup>, H. Isabel Hubbard<sup>2</sup>, Maria Luisa Mandelli<sup>2</sup>, Roel Jonkers<sup>3</sup>, Adam M. Brickman<sup>4</sup>, Bruce L. Miller<sup>2</sup>, Maria Luisa Gorno-Tempini<sup>2</sup>, Lorraine K. Obler<sup>1</sup>; <sup>1</sup>The Graduate Center of the City University of New York, <sup>2</sup>Memory and Aging Center, University of California San Francisco, <sup>3</sup>University of Groningen, <sup>4</sup>The Taub Institute for Research on Alzheimer's Disease and the Aging Brain, Columbia University

## Grammar: Morphology

### C58 Tracking the neurophysiological correlates during the computation of agreement dependencies: the access of grammatical feature and associative representations in spoken language

Jane Aristia<sup>1</sup>, Angèle Brunellièr<sup>1</sup>; <sup>1</sup>University of Lille, CNRS, UMR 9193 - SCALab - Sciences Cognitives et Sciences Affectives, F-59000 Lille, France

## Meaning: Prosody, Social and Emotional Processes

### C59 Effects of cortical thickness on pause duration in neurotypical adults' speech: Evidence for the role of the left middle temporal gyrus in lexical retrieval

Georgia Angelopoulou<sup>1</sup>, Dimitrios Kasselimis<sup>1,2</sup>, Maria Varkanitsa<sup>3,4</sup>, Panagiotis Fotiadis<sup>3</sup>, Charalambos Themistocleous<sup>5</sup>, Dimitrios Tsolakopoulos<sup>1</sup>, Christally Grillo<sup>1</sup>, Foteini Christidi<sup>1</sup>, Efstratios Karavasilis<sup>6</sup>, George Argiropoulos<sup>6</sup>, George Velonakis<sup>6</sup>, Sofia Karanassou<sup>7</sup>, Zoi Nikitopoulou<sup>7</sup>, Petros Roussos<sup>8</sup>, Dionysis Goutsos<sup>8</sup>, Nikolaos Kelekis<sup>6</sup>, Ioannis Evdokimidis<sup>1</sup>, Constantin Potagas<sup>1</sup>; <sup>1</sup>Eginition University Hospital - National and Kapodistrian University of Athens,



<sup>2</sup>University of Crete, <sup>3</sup>Massachusetts General Hospital - Harvard Medical School, <sup>4</sup>University College London, <sup>5</sup>University of Gothenburg, <sup>6</sup>Attikon University Hospital - National and Kapodistrian University, Athens, Greece, <sup>7</sup>Panteion University of Athens, <sup>8</sup>National and Kapodistrian University of Athens

## Speech Motor Control and Sensorimotor Integration

**C60 Graph Theoretical Approaches Show a Relationship Between Resting State Functional Connectivity in Younger and Older Adults and Phonological Aspects of Language Production** Victoria Gertel<sup>1</sup>, Kerem Oktar<sup>2</sup>, Michele Diaz<sup>1</sup>;

<sup>1</sup>Pennsylvania State University, <sup>2</sup>Pomona College

## Multilingualism

**C61 Electrophysiological activity in native, dialectal and foreign accented speech processing** Clara Martin<sup>1,2</sup>, Alejandro Pérez<sup>1</sup>, Sindy Caffarra<sup>1</sup>; <sup>1</sup>BCBL, <sup>2</sup>Ikerbasque

**C63 Individual difference in language proficiency shapes the functional plasticity of language control in bilingual word production** Yongben Fu<sup>1</sup>, Yanjing Wu<sup>2</sup>, Chunming Lu<sup>1</sup>, Taomei Guo<sup>1</sup>; <sup>1</sup>Beijing Normal University, <sup>2</sup>Shenzhen University

**C64 Effects of Frequency and Construction on the Interpretation of Chinese Quadrisyllabic Idiomatic Expressions: An fMRI Study** Te-Hsin Liu<sup>1</sup>, I-Wen Su<sup>1</sup>, Chia-Ho Lai<sup>1</sup>, Shu-Kai Hsieh<sup>1</sup>, Chia-Lin Lee<sup>1</sup>, Chia-Rung Lu<sup>1</sup>, I-Ni Tsai<sup>1</sup>, Tai-Li Chou<sup>1</sup>; <sup>1</sup>National Taiwan University

**C65 Individual differences in age of acquisition predict fine-grained white matter microstructure in bilinguals** Emily Nichols<sup>1</sup>, Marc Joanisse<sup>1</sup>, Yue Gao<sup>2</sup>, Li Liu<sup>2</sup>; <sup>1</sup>University of Western Ontario, <sup>2</sup>Beijing Normal University

**C66 Speech processing and plasticity in the right hemisphere predict real-world foreign language learning in adults** Zhenghan Qi<sup>1</sup>, Michelle Han<sup>1</sup>, Yunxin Wang<sup>1</sup>, Carlo de los Angeles<sup>1</sup>, Qi Liu<sup>1</sup>, Keri Garell<sup>1</sup>, Ee San Chen<sup>1</sup>, Susan Whitfield-Gabrieli<sup>1</sup>, John D. E. Gabrieli<sup>1</sup>, Tyler K. Perrachione<sup>2</sup>; <sup>1</sup>Massachusetts Institute of Technology, <sup>2</sup>Boston University

**C67 Multi-voxel pattern analysis reveals the impact of language learning experience on the brain's intrinsic functional connectivity** Xiaoqian Chai<sup>1</sup>, Shanna Kousaie<sup>1,2</sup>, Debra Titone<sup>2,3</sup>, Shari Baum<sup>2,4</sup>, Denise Klein<sup>1,2,5</sup>; <sup>1</sup>Neuropsychology/Cognitive Neuroscience Unit, Montreal Neurological Institute, McGill University, Montreal, QC, Canada, <sup>2</sup>Centre for Research on Brain, Language and Music, McGill University, Montreal, QC, Canada, <sup>3</sup>Department of Psychology, McGill University Montreal, QC, Canada,

<sup>4</sup>School of Communication Sciences and Disorders, Faculty of Medicine, McGill University, Montreal, QC, Canada, <sup>5</sup>Department of Neurology and Neurosurgery, Faculty of Medicine, McGill University, Montreal, QC, Canada

**C68 The language network of polyglots** Olessia Jouravlev<sup>1,2</sup>, Zachary Mineroff, Evelina Fedorenko<sup>1,3,4</sup>; <sup>1</sup>Massachusetts Institute of Technology, <sup>2</sup>Carleton University, <sup>3</sup>Harvard Medical School, <sup>4</sup>Massachusetts General Hospital

**C69 Bilingual experience shapes language control networks: the role of L2 AoA and social context of language usage** Jason Gullifer<sup>1</sup>, Xiaoqian Chai<sup>1</sup>, Veronica Whitford<sup>2,3</sup>, Irina Pivneva<sup>1</sup>, Shari Baum<sup>1</sup>, Denise Klein<sup>1</sup>, Debra Titone<sup>1</sup>; <sup>1</sup>McGill University, <sup>2</sup>Massachusetts Institute of Technology, <sup>3</sup>Harvard University

## Signed Language and Gesture

**C70 Picture-Word Interference in Bimodal Bilinguals** Megan Mott<sup>1</sup>, Katherine J. Midgley<sup>1</sup>, Phillip J. Holcomb<sup>1</sup>, Gabriela Meade<sup>1,2</sup>, Zed Sevcikova Sehyr<sup>1</sup>, Karen Emmorey<sup>1</sup>; <sup>1</sup>San Diego State University, <sup>2</sup>UCSD

## Perception: Speech Perception and Audiovisual Integration

**C71 Neural Correlates of Atypical Categorical Perception in Dyslexia** Sara Beach<sup>1,2</sup>, Tracy M. Centanni<sup>2</sup>, Ola Ozernov-Palchik<sup>2,3</sup>, Sidney C. May<sup>2</sup>, Dimitrios Pantazis<sup>2</sup>, Tyler K. Perrachione<sup>4</sup>, John D. E. Gabrieli<sup>2</sup>; <sup>1</sup>Harvard University, <sup>2</sup>Massachusetts Institute of Technology, <sup>3</sup>Tufts University, <sup>4</sup>Boston University

**C72 Brain-behavior relationships in implicit learning of non-native phonetic categories** Sahil Luthra<sup>1</sup>, Pamela Fuhrmeister<sup>1</sup>, Peter J. Molfese<sup>2</sup>, Sara Guediche<sup>3</sup>, Sheila E. Blumstein<sup>4</sup>, Emily B. Myers<sup>1,5</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>National Institutes of Health, <sup>3</sup>Basque Center on Cognition, Brain and Language, <sup>4</sup>Brown University, <sup>5</sup>Haskins Laboratories

**C73 Neural entrainment to acoustic edges in speech** Maria Oana Cucu<sup>1</sup>, Nina Kazanina<sup>1</sup>, Conor Houghton<sup>1</sup>; <sup>1</sup>University of Bristol

**C74 Tonal triggers to word-level and sentence-level predictions** Pelle Soderstrom<sup>1</sup>, Merle Horne<sup>1</sup>, Mikael Roll<sup>1</sup>; <sup>1</sup>Lund University

**C75 Early Sensory Changes in Neural Processing Gate Generalized Perceptual Learning** Shannon Heald<sup>1</sup>, Sophia Uddin<sup>1</sup>, Stephen Van Hedger<sup>1</sup>, Joel Snyder<sup>2</sup>, Howard Nusbaum<sup>1</sup>; <sup>1</sup>The University of Chicago, <sup>2</sup>University of Nevada, Las Vegas

**C76 Cortical entrainment depends on temporal predictability, not periodicity** Geoffrey Brookshire<sup>1</sup>, Daniel Casasanto<sup>1,2</sup>; <sup>1</sup>University of Chicago, <sup>2</sup>Cornell University

**C77 When Do Words Get in the Way? An EEG Investigation of the Interaction between Talker and Linguistic Cues in Speech Processing** Philip Monahan<sup>1</sup>, Chandan Narayan<sup>2</sup>; <sup>1</sup>University of Toronto, <sup>2</sup>York University

**C78 High gamma neural responses dissociate between the acoustic and linguistic analysis of temporal speech structure** Gregory Cogan<sup>1</sup>, John Pearson<sup>2</sup>, Michael Haglund<sup>1</sup>, Saurabh Sinha<sup>1</sup>, Tobias Overath<sup>2</sup>; <sup>1</sup>Duke University School of Medicine, <sup>2</sup>Duke University

**C79 Effects of Signal Quality on Audiovisual Integration in Cochlear Implant Users** Hannah Shatzer<sup>1</sup>, Mark Pitt<sup>1</sup>, Aaron Moberly<sup>1</sup>, Jess Kerlin<sup>2</sup>, Antoine Shatin<sup>2</sup>; <sup>1</sup>Ohio State University, <sup>2</sup>University of California, Davis

## Poster Session D

Thursday, November 9, 6:15 – 7:30 pm, Harborview and Loch Raven Ballrooms

### Animal Communication

**D1 von Economo and fork neurons in vocal forebrain nuclei of vocal learning birds : neural basis of Vocal learning and language** shubha srivastava<sup>1</sup>; <sup>1</sup>Kashi Naresh Government Post Graduate College, Gyanpur U P India

### Grammar: Syntax

**D3 Linking white matter integrity to syntactic category processing - an ERP and DTI study** Wan-ting Lin<sup>1</sup>, Chen-Hsiang Weng<sup>1</sup>, Min-Hsin Chen<sup>1</sup>, Wen-Yih Isaac Tseng<sup>1</sup>, Joshua Oon Soo Goh<sup>1</sup>, Chia-Lin Lee<sup>1</sup>; <sup>1</sup>National Taiwan University

**D4 On the neural dynamics of syntactic prediction** K. Strijkers<sup>1</sup>, V. Chanoine<sup>2</sup>, D. Munding<sup>3</sup>, A.-S. Dubarry<sup>1</sup>, A. Trébuchon<sup>4</sup>, J.-M. Badier<sup>4</sup>, F.-X. Alario<sup>3</sup>; <sup>1</sup>Aix Marseille Univ, CNRS, LPL, Aix-en-Provence, France, <sup>2</sup>Aix-Marseille Univ, Brain and Language Research Institute, Aix-en-Provence, France, <sup>3</sup>Aix Marseille Univ, CNRS, LPC, Marseille, France, <sup>4</sup>Aix Marseille Univ, INSERM, INS, Inst Neurosci Syst, Marseille, France

**D5 ERP responses to two types of subject island violations and constructions with substantially similar processing dynamics** Jayeon Park<sup>1</sup>, Jon Sprouse<sup>1</sup>; <sup>1</sup>University of Connecticut

**D6 In search of syntax: The case of English post-nominal modification** Graham Flick<sup>1</sup>, Liina Pylkkänen<sup>1,2</sup>; <sup>1</sup>New York University Abu Dhabi, <sup>2</sup>New York University

**D7 The role of structural repair and presentation modality in (dis)agreement processing in Dutch: An ERP study** Srdan Popov<sup>1,2</sup>, Roelien Bastiaanse<sup>2</sup>; <sup>1</sup>International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), Universities of Groningen (NL), Newcastle (UK), Potsdam (DE), Trento (IT), Macquarie University (AU), <sup>2</sup>Center for Language and Cognition Groningen (CLCG), University of Groningen, The Netherlands

**D8 Incremental commitment and revision in Icelandic compound processing** Kaylin Smith<sup>1</sup>, Alicia Parrish<sup>1</sup>, Alan Beretta<sup>1</sup>; <sup>1</sup>Michigan State University

**D9 Investigating task-modulated syntactic prediction with MEG** Phoebe Gaston<sup>1</sup>, Chia-Hsuan Liao<sup>1</sup>, William Matchin<sup>2</sup>, Ellen Lau<sup>1</sup>; <sup>1</sup>University of Maryland, College Park, <sup>2</sup>University of California San Diego

**D10 A syntax area in the posterior superior temporal sulcus** William Matchin<sup>1</sup>, Gregory Hickok<sup>2</sup>; <sup>1</sup>UC San Diego, <sup>2</sup>UC Irvine

**D11 EEG correlates of covert dependency formation in Mandarin wh-questions** Chia-Wen Lo<sup>1</sup>, Jonathan Brennan<sup>1</sup>; <sup>1</sup>University of Michigan

**D12 Decoding the P600: late ERP positivities to syntactic mismatch share neural patterns with nonlinguistic oddballs, but not face or semantic manipulation patterns** Jona Sassenhagen<sup>1</sup>, Christian J. Fiebach<sup>1,2</sup>; <sup>1</sup>Goethe University Frankfurt, <sup>2</sup>IDEA Center for Individual Development and Adaptive Education, Frankfurt

**D13 Test-retest reliability of language evoked potentials** Matthew Walenski<sup>1</sup>, Elena Barbieri<sup>1</sup>, Brianne Dougherty<sup>1</sup>, Cynthia K. Thompson<sup>1,2,3</sup>; <sup>1</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL, USA, <sup>2</sup>Cognitive Neurology and Alzheimer's Disease Center, Northwestern University, Evanston, IL, USA, <sup>3</sup>Department of Neurology, Northwestern University, Evanston, IL, USA

### Language Therapy

**D14 Aligning sentence structures in a language game: evidence from healthy aging and aphasia** Jiyeon Lee<sup>1</sup>, Grace Man<sup>1</sup>, Victor Ferreira<sup>2</sup>, Nick Gruberg<sup>2</sup>; <sup>1</sup>Purdue University, <sup>2</sup>University of California San Diego

### Language Development

**D15 Resting-state connectivity during second language learning in deaf individuals** Velia Cardin<sup>1</sup>, Elena Kremnova<sup>2</sup>, Elina Zmeikina<sup>2</sup>, Anna Komarova<sup>3,4</sup>, Valeria Vinogradova<sup>1,3</sup>, Tatiana Davidenko<sup>3,4</sup>, Bencie Woll<sup>5</sup>;

<sup>1</sup>University of East Anglia, <sup>2</sup>Moscow Neurological Institute, <sup>3</sup>Sign Language Centre, Moscow, <sup>4</sup>Moscow State Linguistics University, <sup>5</sup>University College London

**D16 Speech sound processing and its association to familial risk of dyslexia and communication skills in six-month-old infants**

Linda Lönnqvist<sup>1</sup>, Paula Virtala<sup>1</sup>, Eino Partanen<sup>1,2</sup>, Paavo Leppänen<sup>3</sup>, Anja Thiede<sup>1</sup>, Teija Kujala<sup>1</sup>;

<sup>1</sup>Cognitive Brain Research Unit, Department of Psychology and Logopedics, Faculty of Medicine, University of Helsinki, Finland, <sup>2</sup>Center of Functionally Integrative Neuroscience, Department of Clinical Medicine, Aarhus University, Denmark, <sup>3</sup>Department of Psychology, University of Jyväskylä, Finland

**D17 Rhythm sensitivity assists in overcoming acoustic and syntactic challenges during speech listening**

Sanghoon Ahn<sup>1</sup>, Ian Goldthwaite<sup>1</sup>, Kate Corbeil<sup>1</sup>, Allison Bryer<sup>1</sup>, Korrin Perry<sup>1</sup>, Aiesha PolaKampalli<sup>1</sup>, Katherine Miller<sup>1</sup>, Rachael Holt<sup>1</sup>, Yune Lee<sup>1,2</sup>; <sup>1</sup>The Ohio State University, <sup>2</sup>Center for Brain Injury, The Ohio State University

**D18 Early classroom exposure to expository texts predicts developmental trajectory of genre-related neural specialization**

Katherine Aboud<sup>1,2</sup>, Laurie Cutting<sup>1,2,3,4</sup>; <sup>1</sup>Vanderbilt Brain Institute, <sup>2</sup>Peabody College of Education and Human Development, <sup>3</sup>Vanderbilt Kennedy Center, <sup>4</sup>Vanderbilt University Institute of Imaging Science

**D19 Prior knowledge influences in learning and consolidating new words**

Emma James<sup>1</sup>, M. Gareth Gaskell<sup>1</sup>, Lisa Henderson<sup>1</sup>; <sup>1</sup>University of York

**D20 Frontal Shift of the Imageability Effect on N400 in Elders**

Chih-Ting Chang<sup>1</sup>, Chia-Ju Chou<sup>1</sup>, Jie-Li Tsai<sup>2</sup>, Chia-Ying Lee<sup>1,2,3,4</sup>; <sup>1</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan, <sup>2</sup>Department of Psychology, National Chengchi University, Taiwan, <sup>3</sup>Institute of Linguistics, Academia Sinica, Taipei, Taiwan, <sup>4</sup>Institute of Cognitive Neuroscience, National Central University, Taipei, Taiwan

**D21 Developmental change in cerebellar white matter pathways is associated with reading proficiency in children**

Lauren R. Borchers<sup>1</sup>, Trang H. Nguyen<sup>1</sup>, Lisa Bruckert<sup>1</sup>, Katherine E. Travis<sup>1</sup>, Michal Ben-Shachar<sup>2</sup>, Bruce D. McCandliss<sup>1</sup>, Heidi M. Feldman<sup>1</sup>; <sup>1</sup>Stanford University, <sup>2</sup>Bar Ilan University

**D22 Can microstructural properties of cerebellar pathways improve prediction of reading skills in children?**

Lisa Bruckert<sup>1</sup>, Katherine E. Travis<sup>1</sup>, Michal Ben-Shachar<sup>2</sup>, Heidi M. Feldman<sup>1</sup>; <sup>1</sup>Stanford University, <sup>2</sup>Bar Ilan University

## Signed Language and Gesture

**D23 Language pathway development requires childhood language acquisition: Effects of sensorimotor modality and language deprivation on brain connectivity for language**

Qi Cheng<sup>1</sup>, Eric Halgren<sup>1</sup>, Rachel Mayberry<sup>1</sup>; <sup>1</sup>University of California, San Diego

## Language Disorders

**D24 Same but different: comprehension of spatial terms in highly verbal individuals with autism and typically developing controls**

Agata Bochynska<sup>1</sup>, Valentin Vulchanov<sup>1</sup>, Mila Vulchanova<sup>1</sup>; <sup>1</sup>Norwegian University of Science and Technology, NTNU Trondheim

**D25 Connections between implicit learning and reading fluency: an fMRI investigation**

Ola Ozernov-Palchik<sup>1,2</sup>, Tracy Centanni<sup>2,4</sup>, Sara Beach<sup>2,3</sup>, Sidney May<sup>2</sup>, Meredith Brown<sup>1</sup>, John Gabrieli<sup>1</sup>; <sup>1</sup>Tufts University, <sup>2</sup>Massachusetts Institute of Technology, <sup>3</sup>Harvard University, <sup>4</sup>Texas Christian University

**D26 Neural network of verbal, nonverbal and amodal semantic processing deficits in semantic dementia**

Yan Chen<sup>1</sup>, Kelian Chen<sup>2</sup>, Junhua Ding<sup>1</sup>, Yumei Zhang<sup>3</sup>, Qing Yang<sup>2</sup>, Yingru Lv<sup>2</sup>, Qihao Guo<sup>2</sup>, Zaizhu Han<sup>1</sup>; <sup>1</sup>Beijing Normal University, <sup>2</sup>Fudan University, <sup>3</sup>Beijing Tiantan Hospital

**D27 How does iReadMore therapy change the reading network connectivity in patients with central alexia?**

Sheila Kerry<sup>1</sup>, Zoe Woodhead<sup>2,3</sup>, Oscar Aguilar<sup>1,4,5</sup>, Jenny Crinion<sup>1</sup>, Will Penny<sup>4</sup>, Yean-Ong Hoon<sup>4</sup>, Alex Leff<sup>1,3,4</sup>; <sup>1</sup>Institute of Cognitive Neuroscience, University College London, 17 Queen Square, London, WC1N 3AR, UK, <sup>2</sup>Department of Experimental Psychology, University of Oxford, UK, <sup>3</sup>Department of Brain Repair and Rehabilitation, Institute of Neurology, University College London, UK, <sup>4</sup>Wellcome Trust Centre for Neuroimaging, University College London, 12 Queen Square, London, WC1N 3BG, UK, <sup>5</sup>Facultad de Psicología, Pontificia Universidad Javeriana, Bogotá, Carrera 7, No. 40 – 62, Colombia.

**D28 Sentence Repetition Impairment in Primary Progressive Aphasia: A Voxel-Based Morphometry (VBM) study**

Sladjana Lukic<sup>1</sup>, Maria Luisa Mandelli<sup>1</sup>, Ariane Welch<sup>1</sup>, Yann Cobigo<sup>1</sup>, H. Isabel Hubbard<sup>1</sup>, Maria Luisa Gorno-Tempini<sup>1</sup>; <sup>1</sup>Memory and Aging Center, Department of Neurology, University of California San Francisco

**D29 Implicit verbal structure learning in Developmental Verbal/Orofacial Dyspraxia due to FOXP2 mutation: An fMRI study**

Georgios P.D. Argyropoulos<sup>1</sup>, Mortimer Mishkin<sup>2</sup>, Faraneh Vargha-Khadem<sup>1,3</sup>; <sup>1</sup>UCL Great Ormond Street Institute of Child Health, London, UK, <sup>2</sup>National



*Institutes of Health, Bethesda, Maryland, USA, <sup>3</sup>Great Ormond Street Hospital for Children National Health Foundation Trust, London, UK*

**D30 Semantic Comprehension Errors in Pure Word Deafness** L. Robert Slevc<sup>1</sup>, Ryan A. Simmons<sup>2</sup>, Randi C. Martin<sup>3</sup>; <sup>1</sup>University of Maryland, <sup>2</sup>Duke University, <sup>3</sup>Rice University

**D31 What Matters about White Matter** Argye Hillis<sup>1</sup>, Amy Wright<sup>1</sup>, Sadhvi Saxena<sup>1</sup>, Bonnie Breining<sup>1</sup>, Rajani Sebastian<sup>1</sup>, Donna Tippett<sup>1</sup>; <sup>1</sup>Johns Hopkins University School of Medicine

**D32 Using background connectivity to index recovery of function in acquired language impairments** Yuan Tao<sup>1</sup>, Brenda Rapp<sup>1</sup>; <sup>1</sup>Johns Hopkins University

## Meaning: Combinatorial Semantics

**D34 Verb constraint and semantic integration** Ben Rickles<sup>1,3</sup>, Gwen A. Frishkoff<sup>2</sup>; <sup>1</sup>Georgia State University, <sup>2</sup>University of Oregon, <sup>3</sup>University of Maryland

**D35 Effects of Aging on Semantic-Syntactic Integration in Chinese Classifier-noun Agreement** Chia-Ju Chou<sup>1</sup>, Chih-Ting Chang<sup>1</sup>, Jie-Li Tsai<sup>2</sup>, Chia-Ying Lee<sup>1,3</sup>; <sup>1</sup>National Yang-Ming University, <sup>2</sup>National Cheng-Chi University, <sup>3</sup>Academia Sinica

**D36 Predicting the negative: investigating the comprehension of negated sentences in an event-related potential study** Viviana Haase<sup>1</sup>, Markus Werning<sup>1</sup>; <sup>1</sup>Institute for Philosophy II, Ruhr University Bochum, Germany

**D37 The P600 - not the N400 - indexes semantic integration** Francesca Delogu<sup>1</sup>, Harm Brouwer<sup>1</sup>, Matthew Crocker<sup>1</sup>; <sup>1</sup>Saarland University

**D38 Quick and easy composition of event concepts in the left (but not the right) anterior temporal lobe** Songhee Kim<sup>1</sup>, Liina Pylkkänen<sup>1,2</sup>; <sup>1</sup>New York University, <sup>2</sup>NYU Abu Dhabi Institute

**D39 A distributed and dynamic architecture underlies the retrieval of social concepts** Ingrid Olson<sup>1</sup>, Yin Wang<sup>1</sup>, Jessica A. Collins<sup>1</sup>, Jessica Koski<sup>1</sup>, Tehila Nugiel<sup>1</sup>, Ahtanasia Metoki<sup>1</sup>; <sup>1</sup>Temple University

## Meaning: Discourse and Pragmatics

**D40 Semantic activity differs during comprehension and production of sentences** Clara Scholl<sup>1</sup>, Alice Jackson<sup>1</sup>, Michael Wolmetz<sup>1</sup>; <sup>1</sup>Johns Hopkins University Applied Physics Laboratory

**D41 Neural measures of sensitivity to the acquisition of space-time mappings in an artificial semiotic system** Tania Delgado<sup>1</sup>, Tessa Verhoeft<sup>1</sup>, Esther Walker<sup>1</sup>, Seana Coulson<sup>1</sup>; <sup>1</sup>UC San Diego

**D42 Functional connectivity between cognitive control and episodic memory systems in event comprehension** Zachary Eaves<sup>1,2</sup>, Pedro Paz-Alonso<sup>3</sup>, Nicholas Hindy<sup>4</sup>, Sarah Solomon<sup>5</sup>, Gerry Altmann<sup>1,2</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>The Connecticut Institute for the Brain and Cognitive Sciences, <sup>3</sup>Basque Center on Cognition, Brain and Language, <sup>4</sup>University of Kentucky, <sup>5</sup>University of Pennsylvania

**D43 Individual Competence in Reading Comprehension and Fluid Intelligence Modulates Right DLPFC Activity when Reading Scientific Texts** Chun-Ting Hsu<sup>1</sup>, Benjamin Schloss<sup>1</sup>, Ping Li<sup>1</sup>; <sup>1</sup>Pennsylvania State University

## Meaning: Prosody, Social and Emotional Processes

**D44 Neural Mechanisms Underlying Social Criticism and Praise** Shan Gao<sup>1,2</sup>, Ting Gou<sup>1</sup>; <sup>1</sup>School of Foreign Languages, University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>Key Laboratory for NeuroInformation of Ministry of Education, University of Electronic Science and Technology of China, Chengdu, China

## Meaning: Lexical Semantics

**D45 Effect of methylphenidate on semantic unification: Evidence from an EEG study in the healthy population** Yingying Tan<sup>1</sup>, Peter Hagoort<sup>1</sup>; <sup>1</sup>Max Planck Institute for Psycholinguistics

**D46 Brain oscillation signatures of learning new meanings for known words and novel words** Xiaoping Fang<sup>1,2</sup>, Charles Perfetti<sup>1,2</sup>; <sup>1</sup>Learning Research and Development Center, University of Pittsburgh, <sup>2</sup>Center for the Neural Basis of Cognition

**D47 A study, the study: Using indefinite and definite articles to examine the nature of structure building** Regina Calloway<sup>1,2</sup>, Charles Perfetti<sup>1,2</sup>; <sup>1</sup>Learning Research and Development Center, <sup>2</sup>University of Pittsburgh Psychology

**D48 Verb Deficits in Alzheimer's Disease and Aphasia: Argument-Structure and Thematic-Hierarchy Effects** Caitlyn Antal<sup>1</sup>, Julie Turbide<sup>1</sup>, Roberto G. de Almeida<sup>1</sup>; <sup>1</sup>Concordia University

**D49 The fate of the unexpected: Downstream repetition effects for prediction violations** Melinh K. Lai<sup>1</sup>, Kara D. Federmeier<sup>1</sup>; <sup>1</sup>University of Illinois, Champaign, United States



**D50 Grammatical gender in the aging brain: an ERP study of prediction and integration in a sentence context** Matthew Wood<sup>1</sup>, Viridiana Estrada<sup>2</sup>, Alondra Chaire<sup>3</sup>, Nicole Y.Y. Wicha<sup>1,4</sup>; <sup>1</sup>University of Texas at San Antonio, <sup>2</sup>The University of Texas Medical Branch, <sup>3</sup>Otto-von-Guericke-Universität Magdeburg Magdeburg, Germany, <sup>4</sup>UTSA Neurosciences Institute

**D51 Regions that preferentially respond to verbs or nouns are more sensitive to semantic differences among words in their preferred grammatical class: An MVPA fMRI study.** Giulia V. Elli<sup>1</sup>, Connor Lane<sup>1</sup>, Marina Bedny<sup>1</sup>; <sup>1</sup>Johns Hopkins University

## Meaning: Prosody, Social and Emotional Processes

**D52 Neural processing of emotional words in post-institutionalized adults: an ERP study using Emotional Stroop task** Marina Zhukova<sup>1</sup>, Irina Ovchinnikova<sup>1</sup>, Sergey Kornilov<sup>1,2,3,4</sup>, Elena Grigorenko<sup>1,2,3,4,5</sup>; <sup>1</sup>Saint-Petersburg State University, Saint-Petersburg, Russia, <sup>2</sup>University of Houston, Houston, TX, USA, <sup>3</sup>Baylor College of Medicine, Houston, TX, USA, <sup>4</sup>Haskins Laboratories, New Haven, CT, USA, <sup>5</sup>Yale University, New Haven, CT, USA

## Computational Approaches

**D53 Bayesian surprise during incremental anticipatory processing: a re-analysis of Nieuwland et al. (2017), based on DeLong et al. (2005)** Shaorong Yan<sup>1</sup>, Gina R. Kuperberg<sup>2,3</sup>, T. Florian Jaeger<sup>1,4,5</sup>; <sup>1</sup>Department of Brain and Cognitive Sciences, University of Rochester, <sup>2</sup>Department of Psychology, Tufts University, <sup>3</sup>Department of Psychiatry and the Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, <sup>4</sup>Department of Computer Science, University of Rochester, <sup>5</sup>Department of Linguistics, University of Rochester

## Speech Motor Control and Sensorimotor Integration

**D54 White Matter Integrity and Language Production in Aging** Sara Winter<sup>1</sup>, Avery Rizio<sup>1</sup>, Jack Dempsey<sup>1</sup>, Kerem Oktar<sup>2</sup>, Michele Diaz<sup>1</sup>; <sup>1</sup>Pennsylvania State University, <sup>2</sup>Pomona College

## Perception: Speech Perception and Audiovisual Integration

**D55 Declarative and procedural memory substrates of the categorical perception of speech** F. Sayako Earle<sup>1</sup>, Emily B. Myers<sup>2</sup>, Jarrad A.G. Lum<sup>3</sup>, Michael T. Ullman<sup>4</sup>; <sup>1</sup>University of Delaware, <sup>2</sup>University of Connecticut, <sup>3</sup>Deakin University, <sup>4</sup>Georgetown University

**D56 Reducing playback rate of audiovisual speech leads to a surprising decrease in the McGurk effect** John Magnotti<sup>1</sup>, Debshila Basu Mallick<sup>2</sup>, Michael Beauchamp<sup>1</sup>; <sup>1</sup>Baylor College of Medicine, <sup>2</sup>Rice University

**D57 The influence of speaker gaze on situated comprehension: Evidence from an ERP study** Torsten Jachmann<sup>1,2</sup>, Heiner Drenhaus<sup>1,2</sup>, Maria Staudte<sup>1,2</sup>, Matthew Crocker<sup>1,2</sup>; <sup>1</sup>Department of Language Science and Technology, Saarland University, Germany, <sup>2</sup>Cluster of Excellence MMCI, Saarland University, Germany

**D58 Effect of Native Language on L2 Processing of Acoustic and Phonological Information in Mandarin Lexical Tones** Keke Yu<sup>1</sup>, Li Li<sup>1</sup>, Yuan Chen<sup>1</sup>, Yacong Zhou<sup>1</sup>, Ruiming Wang<sup>1</sup>, Yang Zhang<sup>2</sup>, Ping Li<sup>3</sup>; <sup>1</sup>South China Normal University, <sup>2</sup>University of Minnesota, <sup>3</sup>Pennsylvania State University

**D59 Mice can learn phonetic categories.** Michael Wehr<sup>1</sup>, Jonny Saunders<sup>1</sup>; <sup>1</sup>University of Oregon

**D60 Somatosensory information affects word segmentation and perception of lexical information** Rintaro Ogane<sup>1,2</sup>, Jean-Luc Schwartz<sup>1,2</sup>, Takayuki Ito<sup>1,2,3</sup>; <sup>1</sup>GIPSA-lab, CNRS, 11 rue des Mathématiques, Grenoble Campus, BP46, F-38402 Saint Martin D'Hères Cedex, France, <sup>2</sup>Univ. Grenoble-Alpes, 621 avenue Centrale, 38400 Saint Martin D'Hères, France, <sup>3</sup>Haskins Laboratories, 300 George Street, New Haven, CT 06511 USA

**D61 Cross-linguistic differences in MMN asymmetry: Voicing underspecification in Japanese** Yasuaki Shinohara<sup>1</sup>, Arild Hestvik<sup>2</sup>, Rinus Verdonschot<sup>1</sup>, Karthik Durvasula<sup>3</sup>, Hiromu Sakai<sup>1</sup>; <sup>1</sup>Waseda University, <sup>2</sup>University of Delaware, <sup>3</sup>Michigan State University

**D62 Tracking phoneme processing during continuous speech perception with MEG** Christian Brodbeck<sup>1</sup>, Jonathan Z. Simon<sup>1</sup>; <sup>1</sup>University of Maryland, College Park

**D63 Individual Differences in Subphonemic Sensitivity and Reading Ability** Monica Li<sup>1,2</sup>, David Braze<sup>1,2</sup>, Anuenue Kukona<sup>2,3</sup>, Donald P. Shankweiler<sup>1,2</sup>, Whitney A. Tabor<sup>1,2</sup>, Julie Van Dyke<sup>2</sup>, W. Einar Mencl<sup>2</sup>, Clinton L. Johns<sup>2</sup>, Kenneth R. Pugh<sup>1,2</sup>, James S. Magnuson<sup>1,2</sup>; <sup>1</sup>University of Connecticut, Storrs, Connecticut, USA, <sup>2</sup>Haskins Laboratories, New Haven, Connecticut, USA, <sup>3</sup>De Montfort University, The Gateway, Leicester, UK

## Animal Communication

**D64 Auditory and visual sequence learning in humans and monkeys** Alice Milne<sup>1</sup>, Chris Petkov<sup>1</sup>, Ben Wilson<sup>1</sup>; <sup>1</sup>Institute of Neuroscience, Newcastle University, United Kingdom

## Perception: Auditory

**D65 Processing of English focal stress by L1-English and L1-Mandarin/L2-English speakers: An auditory ERP study** Ellen Guigelaar<sup>1,2</sup>, John Drury<sup>1</sup>; <sup>1</sup>Stony Brook University, <sup>2</sup>East Tennessee State University

**D66 Prosodic lengthening and boundary prediction in nominal compounds: An ERP study** Alicia Parrish<sup>1</sup>, Patrick Kelley<sup>1</sup>, Kaylin Smith<sup>1</sup>, Yan Cong<sup>1</sup>, Alan Beretta<sup>1</sup>; <sup>1</sup>Michigan State University

**D67 Accented speech attenuates code-switching costs in bilingual listeners: An auditory electrophysiological study** Carla Fernandez<sup>1</sup>, Janet van Hell<sup>1</sup>; <sup>1</sup>Pennsylvania State University

**D68 Cortical responses to linguistic features in natural story comprehension** Katerina Danae Kandylaki<sup>1</sup>, Hugo Weissbart<sup>1</sup>, Tobias Reichenbach<sup>1</sup>; <sup>1</sup>Imperial College London

## Phonology and Phonological Working Memory

**D69 Using phonemic, rapid naming and orthographic measures to predict volume of the posterior cingulate** Hannah Travis<sup>1</sup>, Jennifer Schlak<sup>1</sup>, Ruchi Brahmachari<sup>1</sup>, Andrew Molnar<sup>1</sup>, George Hynd<sup>2</sup>, Michelle Kibby<sup>1</sup>; <sup>1</sup>Southern Illinois University-Carbondale, <sup>2</sup>Oakland University

**D70 Perceptual sensitivity to non-native sounds: ERP evidence of neuroplasticity in the phonological system related to second language learning** Karin Heidlmayr<sup>1,2</sup>, Emmanuel Ferragne<sup>2</sup>, Frédéric Isel<sup>3</sup>; <sup>1</sup>Max-Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, <sup>2</sup>Laboratory CLILLAC-ARP – EA3967, Paris Diderot – Sorbonne Paris Cité University, Paris, France, <sup>3</sup>Laboratory MoDyCo-CNRS University Paris Nanterre – Paris Lumières, France

**D71 The Neural Basis of Phonological and Orthographic Working Memory: Implications for Working Memory Models** Brenda Rapp<sup>1</sup>, Jeremy Purcell<sup>1</sup>, Randi Martin<sup>2</sup>; <sup>1</sup>Johns Hopkins University, <sup>2</sup>Rice University

## Language Therapy

**D72 Electrophysiological predictors of efficacy for treatment of reading and language impairments** Paul Fillmore<sup>1</sup>, Michaela Ritter<sup>1</sup>; <sup>1</sup>Baylor University

## Control, Selection, and Executive Processes

**D73 Modulating the left inferior frontal cortex by task, task challenge and tDCS** Davide Nardo<sup>1</sup>, Katerina Pappa<sup>1</sup>, John Duncan<sup>2</sup>, Peter Zeidman<sup>3</sup>, Martina Callaghan<sup>3</sup>, Alexander Leff<sup>3,4</sup>, Jennifer Crinion<sup>1</sup>; <sup>1</sup>Institute of Cognitive

Neuroscience, University College London, London, UK, <sup>2</sup>MRC Cognition and Brain Sciences Unit, University of Cambridge, Cambridge, UK, <sup>3</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, UK, <sup>4</sup>Department of Brain Repair and Rehabilitation, Institute of Neurology, University College London, London, UK

## Speech Motor Control and Sensorimotor Integration

**D74 Manual directional gestures facilitate learning of Mandarin tones** Anna Zhen<sup>1,2</sup>, Stephen Van Hedger<sup>1</sup>, Shannon Heald<sup>1</sup>, Susan Goldin-Meadow<sup>1</sup>, Xing Tian<sup>2</sup>; <sup>1</sup>The University of Chicago, <sup>2</sup>New York University Shanghai

**D75 Brain lesion associated with impaired sensorimotor processing of speech auditory feedback in aphasia** Roozbeh Behroozmand<sup>1</sup>, Lorelei Phillip<sup>2</sup>, Karim Johari<sup>1</sup>, Leonardo Bonilha<sup>3</sup>, Chris Rorden<sup>4</sup>, Gregory Hickok<sup>5</sup>, Julius Fridriksson<sup>2</sup>; <sup>1</sup>Speech Neuroscience Lab, Department of Communication Sciences and Disorders, University of South Carolina, 1224 Sumter Street, Columbia, SC 29201, USA, <sup>2</sup>The Aphasia Lab, Department of Communication Sciences and Disorders, University of South Carolina, 915 Greene St., Columbia, SC 29208, USA, <sup>3</sup>Department of Neurology, Medical University of South Carolina, Charleston, SC 29425, USA, <sup>4</sup>Department of Psychology, University of South Carolina, Columbia, SC 29208, USA, <sup>5</sup>Department of Cognitive Sciences, University of California, Irvine, Irvine CA 92697, USA

**D76 Investigating voice imitation using fMRI and real-time anatomical MRI of the vocal tract** Carolyn McGettigan<sup>1</sup>, Sheena Waters<sup>1</sup>, Clare Lally<sup>1</sup>, Daniel Carey<sup>1,2</sup>, Elise Kanber<sup>1</sup>, Valentina Cartei<sup>3</sup>, Marc Miquel<sup>4,5</sup>; <sup>1</sup>Royal Holloway, University of London, UK, <sup>2</sup>Trinity College Dublin, IRE, <sup>3</sup>University of Sussex, UK, <sup>4</sup>Queen Mary University of London, UK, <sup>5</sup>Barts NHS Trust, London, UK

**D77 Speech encoding in the human subthalamic nucleus** Witold Lipski<sup>1</sup>, Ahmad Alhourani<sup>1</sup>, Tara Pirnia<sup>1</sup>, Peter Jones<sup>1</sup>, Christina Dastolfo-Hromack<sup>1</sup>, Leah Helou<sup>1</sup>, Susan Shaiman<sup>1</sup>, Michael Dickey<sup>1</sup>, Lori Holt<sup>1</sup>, Robert Turner<sup>1</sup>, Julie Fiez<sup>1</sup>, Mark Richardson<sup>1</sup>; <sup>1</sup>University of Pittsburgh

**D78 Articulatory gesture encoding in human sensorimotor cortex during continuous speech production** Josh Chartier<sup>1</sup>, Gopala K. Anumanchipalli<sup>1</sup>, Edward F. Chang<sup>1</sup>; <sup>1</sup>University of California, San Francisco

## Poster Session E

Friday, November 10, 10:00 – 11:15 am, Harborview and Loch Raven Ballrooms

### Language Development

**E1 Evoked and oscillatory EEG activity differentiates language discrimination in young monolingual and bilingual infants** Loreto Nacar<sup>2</sup>, Carlos Guerrero-Mosquera<sup>1</sup>, Marc Colomer<sup>1</sup>, Nuria Sebastian-Galles<sup>1</sup>; <sup>1</sup>Center for Brain and Cognition, Universitat Pompeu Fabra, Spain, <sup>2</sup>Infant Studies Centre, University of British Columbia, Canada

**E2 The relationship between lexical development and neural measures of speech discrimination in monolingual and bilingual toddlers** Valerie Shafer<sup>1</sup>, Carol Tessel<sup>2</sup>, Michelle MacRoy-Higgins<sup>3</sup>, Nancy Vidal<sup>4</sup>, Yan Yu<sup>5</sup>, Alahna Coghurn<sup>1</sup>, Richard Schwartz<sup>1</sup>; <sup>1</sup>The Graduate Center, CUNY, <sup>2</sup>Florida Atlantic University, <sup>3</sup>Hunter College, <sup>4</sup>Iona College, <sup>5</sup>St. John's University

**E3 N170 sensitivity to orthographic and visual-spatial processing in Chinese L1 and L2 kindergartners** I-Fan Su<sup>1</sup>, Hyun Kyung Lee<sup>1</sup>, Lirong Luo<sup>1</sup>, Yanling Zhou<sup>2</sup>; <sup>1</sup>The University of Hong Kong, <sup>2</sup>The Education University of Hong Kong

**E4 The Function of Cerebellum VI in Reading---Evidence from Cerebro-Cerebellar Functional Connectivity** Chen Ang<sup>1</sup>, Xiaoxia Feng<sup>1</sup>, Huihui Li<sup>1</sup>, Manli Zhang<sup>2</sup>, Xiuji Yang<sup>2</sup>, Mengyu Tian<sup>3</sup>, Yue Gao<sup>1</sup>, Xiangzhi Meng<sup>2</sup>, Guosheng Ding<sup>1</sup>; <sup>1</sup>Beijing Normal Univ., Beijing, China, <sup>2</sup>Peking Univ., Beijing, China, <sup>3</sup>Inst. of psychology, Chinese Acad. of Sci., Beijing, China

**E5 Early specialization of phonological and semantic processing in 5- to 6-year-old children** Yael Weiss<sup>1</sup>, James R Booth<sup>1</sup>; <sup>1</sup>University of Texas at Austin

**E6 A sensitive period for the modification of the language network in blindness** Rashi Pant<sup>1</sup>, Shipra Kanjlia<sup>1</sup>, Connor Lane<sup>1</sup>, Marina Bedny<sup>1</sup>; <sup>1</sup>Johns Hopkins University

**E7 Brain white matter of children shows structural changes specific to language training performance** Clara E. M. Ekerdt<sup>1</sup>, Clara Kühn<sup>1</sup>, Alfred Anwander<sup>1</sup>, Jens Brauer<sup>1</sup>, Angela D. Friederici<sup>1</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

**E8 Language Training Induces Changes in Cortical Thickness of the Developing Brain** Clara Kühn<sup>1</sup>, Clara E. M. Ekerdt<sup>1</sup>, Elisabeth Wenger<sup>2</sup>, Riccardo Cafiero<sup>1</sup>, Jens Brauer<sup>1</sup>, Angela D. Friederici<sup>1</sup>; <sup>1</sup>Max Planck Institute for

Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Max Planck Institute for Human Development, Berlin, Germany

**E9 Language exposure is associated with the cortical thickness of young, low-SES children** Rachel Romeo<sup>1,2</sup>, Julia Leonard<sup>2</sup>, Sydney Robinson<sup>2</sup>, Meredith Rowe<sup>3</sup>, Allyson Mackey<sup>2,4</sup>, John Gabrieli<sup>2,3</sup>; <sup>1</sup>Harvard Medical School, <sup>2</sup>Massachusetts Institute of Technology, <sup>3</sup>Harvard Graduate School of Education, <sup>4</sup>University of Pennsylvania

### Language Genetics

**E10 Becoming a balanced, proficient bilingual: Predictions from age of acquisition & genetic background** Kelly A. Vaughn<sup>1</sup>, Arturo E. Hernandez<sup>1</sup>; <sup>1</sup>University of Houston

### Perception: Orthographic and Other Visual Processes

**E11 Orthographic processing and print tuning are atypical in adults with a history of institutionalization: an ERP study** Irina Ovchinnikova<sup>1</sup>, Tatiana Logvinenko<sup>1</sup>, Marina Zhukova<sup>1</sup>, Sergey Kornilov<sup>1,2,3,4</sup>, Elena Grigorenko<sup>1,2,3,4,5</sup>; <sup>1</sup>Saint-Petersburg State University, Saint-Petersburg, Russia, <sup>2</sup>University of Houston, Houston, TX, USA, <sup>3</sup>Baylor College of Medicine, Houston, TX, USA, <sup>4</sup>Haskins Laboratories, New Haven, CT, USA, <sup>5</sup>Yale University, New Haven, CT, USA

### Methods

**E12 Measuring an Individual's Semantic Storage Loss due to Temporal Lobe Damage** Carlos Roncero<sup>1</sup>, Jim Nikelski<sup>1</sup>, Stephan Probst<sup>1</sup>, Alex Theil<sup>1</sup>, Howard Chertkow<sup>1</sup>; <sup>1</sup>Lady Davis Institute, Jewish General Hospital

### Language Disorders

**E13 Characterizing connected speech in French-speaking Alzheimer's disease and semantic variant of primary progressive aphasia patients** Maxime Montembeault<sup>1,2</sup>, Mariem Boukadi<sup>1,2</sup>, Audrey Sheehan<sup>1,2</sup>, Robert Jr Laforce<sup>3,4</sup>, Maximiliano A. Wilson<sup>3,5</sup>, Isabelle Rouleau<sup>6</sup>, Simona M. Brambati<sup>1,2</sup>; <sup>1</sup>Centre de recherche de l'Institut universitaire de gériatrie de Montréal, <sup>2</sup>Université de Montréal, <sup>3</sup>Université Laval, <sup>4</sup>Centre de recherche du Centre hospitalier universitaire de Québec, <sup>5</sup>Centre de recherche de l'Institut universitaire en santé mentale de Québec, <sup>6</sup>Université du Québec à Montréal

**E14 Brain bases of acquired reading impairments in stroke** William Graves<sup>1</sup>, Olga Boukrina<sup>2</sup>, A. M. Barrett<sup>2</sup>; <sup>1</sup>Rutgers University - Newark, <sup>2</sup>Kessler Foundation



**E15 Effect of rTMS on Brain Activation and Naming Performance in Chronic Aphasia: Results from a Pilot Participant** Michelle Gravier<sup>1</sup>, Steven Forman<sup>1,2</sup>, Michael Dickey<sup>1,2</sup>, William Hula<sup>1,2</sup>, Patrick Doyle<sup>1,2</sup>; <sup>1</sup>VA Pittsburgh Healthcare System, <sup>2</sup>University of Pittsburgh

**E16 The dyslexic brain before and after literacy - unifying structural signs** Ulrike Kuhl<sup>1</sup>, Angela D. Friederici<sup>1</sup>, Michael A. Skeide<sup>1</sup>; <sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences

**E18 Agrammatic performance in aphasia: A ventral-stream problem?** Dirk-Bart Den Ouden<sup>1</sup>, Alexandra Basilakos<sup>1</sup>, Leo Bonilha<sup>2</sup>, Ezequiel Gleichgerrcht<sup>2</sup>, Svetlana Malyutina<sup>3</sup>, Chris Rorden<sup>1</sup>, Julius Fridriksson<sup>1</sup>; <sup>1</sup>University of South Carolina, <sup>2</sup>Medical University of South Carolina, <sup>3</sup>National Research University Higher School of Economics, Moscow

**E19 Patterns of grey matter changes in the acute phase of post-stroke aphasia** Mariem Boukadi<sup>1,2</sup>, Karine Marcotte<sup>3,4</sup>, Maxime Montembeault<sup>1,2</sup>, Alex Desautels<sup>4</sup>, Simona Brambati<sup>1,2</sup>; <sup>1</sup>Department of Psychology, Université de Montréal, <sup>2</sup>Centre de recherche de l'Institut universitaire de gériatrie de Montréal (CRIUGM), <sup>3</sup>École d'orthophonie et d'audiologie, Université de Montréal, <sup>4</sup>Centre de recherche de l'Hôpital du Sacré-Cœur de Montréal

**E20 Functional subspecialization of Broca's area in the controlled selection of verbal and nonverbal representations and fluent sentence production.** Denise Y. Harvey<sup>1,2</sup>, Myrna F. Schwartz<sup>1</sup>; <sup>1</sup>Moss Rehabilitation Research Institute, <sup>2</sup>University of Pennsylvania

**E21 Lower axon density in residual temporal white matter is related to semantic paraphasia prevalence** Emilie McKinnon<sup>1</sup>, Jens Jensen<sup>1</sup>, Julius Fridriksson<sup>2</sup>, Chris Rorden<sup>2</sup>, Joseph Helpert<sup>1</sup>, Leonardo Bonilha<sup>1</sup>; <sup>1</sup>Medical University of South Carolina, <sup>2</sup>University of South Carolina

**E22 An adaptive semantic matching paradigm for reliable and valid language mapping in individuals with aphasia** Melodie Yen<sup>1</sup>, Dana K. Eriksson<sup>2</sup>, Andrew T. DeMarco<sup>3</sup>, Stephen M. Wilson<sup>1</sup>; <sup>1</sup>Vanderbilt University Medical Center, <sup>2</sup>University of Arizona, <sup>3</sup>Georgetown University

## Language Therapy

**E23 Interventions for Primary Progressive Aphasia: A scoping review** Yara Inuy<sup>1</sup>, Vânia de Aguiar<sup>1</sup>; <sup>1</sup>Department of clinical Speech and Language Studies, Trinity College Dublin, Dublin, Ireland

## Speech Motor Control and Sensorimotor Integration

**E24 Decoding the cortical sensitivity of spoken acoustic variability in persons with aphasia** Caroline Niziolek<sup>1</sup>, Sara Beach<sup>2</sup>, Swathi Kiran<sup>1</sup>; <sup>1</sup>Boston University, <sup>2</sup>Harvard Medical School

## Meaning: Combinatorial Semantics

**E25 Reconfiguration of the semantic and default mode networks induced by variations of semantic context during comprehension of written narratives** Francesca Martina Branzi<sup>1</sup>, Gina F. Humphreys<sup>1</sup>, Paul Hoffman<sup>2</sup>, Matthew A. Lambon Ralph<sup>1</sup>; <sup>1</sup>University of Manchester, <sup>2</sup>University of Edinburgh

**E26 The Processing of Conceptual Shifts: an ERP Study** Natalia Bekemeier<sup>1</sup>, Dorothea Brenner<sup>1</sup>, Katja Biermann-Ruben<sup>1</sup>, Peter Indefrey<sup>1,2</sup>; <sup>1</sup>Heinrich-Heine-University Düsseldorf, Germany, <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Centre for Cognitive Neuroimaging, The Netherlands

**E27 Making sense of real-time access to knowledge during sentence processing: What you know, what you don't know, and what you don't know you know** Melissa Troyer<sup>1</sup>, Marta Kutas<sup>1</sup>; <sup>1</sup>University of California, San Diego

**E28 Robust Electrophysiological Indices of Semantic Surprisal during Natural, Ongoing Speech Processing.** Michael Broderick<sup>1</sup>, Andrew James Anderson<sup>2</sup>, Giovanni M. Di Liberto<sup>1</sup>, Edmund C. Lalor<sup>1,2</sup>; <sup>1</sup>School of Engineering, Trinity Centre for Bioengineering, and Trinity College Institute of Neuroscience, Trinity College Dublin, Dublin, Ireland, <sup>2</sup>Department of Biomedical Engineering and Department of Neuroscience, University of Rochester, Rochester, New York, 14627

**E29 Locus of semantic and syntactic processing in normal language processing: Anterior Temporal Lobe** Jona Sassenhagen<sup>1</sup>, Denis A. Engemann<sup>2,3</sup>, Christian J. Fiebach<sup>1,4</sup>; <sup>1</sup>Goethe University Frankfurt, <sup>2</sup>Parietal project-team, INRIA Saclay - ile de France, France, <sup>3</sup>University Paris-Sud, Université Paris-Saclay, NeuroSpin center, France, <sup>4</sup>IDeA Center for Individual Development and Adaptive Education, Frankfurt

## Meaning: Discourse and Pragmatics

**E31 Establishing a Bio-Marker of Object-State Competition** Yanina Prystauka<sup>1,2</sup>, Zachary Ekves<sup>1,2</sup>, Gerry Altmann<sup>1,2</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>The Connecticut Institute for the Brain and Cognitive Sciences



**E32 Examining individual differences in the processing of referential dependencies in Spanish: an ERP investigation** Nick Feroce<sup>1</sup>, Lauren Covey, Robert Fiorentino, Alison Gabriele; <sup>1</sup>University of Kansas

**E33 The shared and dissociable neural substrates of generalized and particularized conversational implicature** Wangshu Feng<sup>1,2</sup>, Hongbo Yu<sup>1,3</sup>, Xiaolin Zhou<sup>1,2,4,5,6</sup>; <sup>1</sup>Center for Brain and Cognitive Sciences, Peking University, Beijing 100871, China, <sup>2</sup>School of Psychological and Cognitive Sciences, Peking University, Beijing 100871, China, <sup>3</sup>Department of Experimental Psychology, University of Oxford, OX1 3UD, Oxford, UK, <sup>4</sup>Key Laboratory of Computational Linguistics, Ministry of Education, Peking University, Beijing 100871, China, <sup>5</sup>Beijing Key Laboratory of Behavior and Mental Health, Peking University, Beijing 100871, China, <sup>6</sup>PKU-IDG/McGovern Institute for Brain Research, Peking University, Beijing 100871, China

**E34 Electrophysiological Evidence for Memory Retrieval during Referential Processing** Hossein Karimi<sup>1</sup>, Tamara Swaab<sup>1</sup>, Fernanda Ferreira<sup>1</sup>; <sup>1</sup>University of California, Davis

## Meaning: Prosody, Social and Emotional Processes

**E35 Men who compliment a woman's appearance using metaphorical language are more creative and masculine and attractive to women** Zhao Gao<sup>1</sup>, Qi Yang<sup>1</sup>, Xiaole Ma<sup>1</sup>, Yang Li<sup>1</sup>, Becker Benjamin<sup>1</sup>, Keshuang Li<sup>1</sup>, Keith Kendrick<sup>1</sup>; <sup>1</sup>University of Electronic Science and Technology of China

## Meaning: Lexical Semantics

**E36 High Definition-transcranial Direct Current Stimulation Modulates Category Verbal Fluency in Healthy Adults** Julie Fratantoni<sup>1</sup>, ReAna Limones<sup>1</sup>, Jeffrey Spence<sup>1</sup>, Julia Evans<sup>1</sup>, John Hart<sup>1</sup>; <sup>1</sup>The University of Texas at Dallas

**E37 High Definition-transcranial Direct Current Stimulation Modulates Phonemic Verbal Fluency in Healthy Adults** ReAna Limones<sup>1</sup>, Fratantoni Julie<sup>1</sup>, Evans Julia<sup>1</sup>, Hart John<sup>1</sup>; <sup>1</sup>The University of Texas at Dallas

**E38 Changing Task Demands in a Semantic Decision Task: Evidence for the Dynamic Multilevel Reactivation Framework.** Joshua Troche<sup>1</sup>; <sup>1</sup>University of Central Florida

**E39 Evidence for a causal link between left temporoparietal alpha-beta desynchronisation and context-driven word production** Vitoria Piai<sup>1,2</sup>, Joost Rommers<sup>1</sup>, Robert Knight<sup>3</sup>; <sup>1</sup>Radboud University, Donders Institute for Brain, Cognition and Behaviour, <sup>2</sup>Radboudumc, Department of Medical Psychology, <sup>3</sup>University of California, Berkeley, Helen Wills Neuroscience Institute and Department of Psychology

**E40 Neural correlates of naming practice of nouns and verbs: An fMRI study in healthy controls** Ekaterina Delikishkina<sup>1,3</sup>, Angelika Lingnau<sup>1,2</sup>, Gabriele Miceli<sup>1,3</sup>; <sup>1</sup>University of Trento, <sup>2</sup>Royal Holloway University of London, <sup>3</sup>International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), Universities of Trento, Groningen, Newcastle, Potsdam & Macquarie University

**E41 Entrenchment in Chinese quadra-syllabic idiomatic expressions: A fMRI study** Shu-Kai Hsieh<sup>1</sup>, Tai-Li Chou<sup>2</sup>, Yu-Hsiang Tseng<sup>2</sup>, Chiung-Yu Chiang<sup>1</sup>, Chia-Lin Lee<sup>1,2</sup>, Te-Hsin Liu<sup>3</sup>, Chia-Rung Lu<sup>1</sup>, I-Ni Tsai<sup>3</sup>, I-Wen Su<sup>1</sup>; <sup>1</sup>Graduate Institute of Linguistics, National Taiwan University, <sup>2</sup>Department of Psychology, National Taiwan University, <sup>3</sup>Graduate Program of Teaching Chinese as a Second Language, National Taiwan University

**E42 Different mechanisms for lexical ambiguity resolution in individuals with ASD?** Emily Coderre<sup>1</sup>, Mariya Chernenok<sup>2</sup>, Trevor Brothers<sup>2</sup>, Barry Gordon<sup>1</sup>, Kerry Ledoux<sup>1</sup>; <sup>1</sup>Johns Hopkins University, <sup>2</sup>University of California, Davis

**E43 Spatio-temporal granularity of dorsal stream processing during word production** F.-X. Alario<sup>1</sup>, C. Liegeois-Chauvel<sup>2,3</sup>, A.-S. Dubarry<sup>4</sup>, I. Wang<sup>3</sup>, S. Alomar<sup>3</sup>, I. Najm<sup>3</sup>, J. Gonzalez-Martinez<sup>3</sup>; <sup>1</sup>Aix Marseille Univ, CNRS, LPC, Marseille, France, <sup>2</sup>Aix Marseille Univ, INSERM, INS, Inst Neurosci Syst, Marseille, France, <sup>3</sup>Cleveland Clinic Foundation, Cleveland (OH), USA, <sup>4</sup>Aix Marseille Univ, CNRS, LPL, Aix-en-Provence, France

## Computational Approaches

**E44 Comprehenders Rationally Adapt Semantic Predictions to the Statistics of the Local Environment: A Bayesian model of trial-by-trial modulation on the N400** Gina Kuperberg<sup>1,2</sup>, Nathaniel Delaney-Busch<sup>1</sup>, Emily Morgan<sup>1</sup>, Ellen Lau<sup>3</sup>; <sup>1</sup>Department of Psychology, Tufts University, <sup>2</sup>Department of Psychiatry and the Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, <sup>3</sup>Department of Linguistics, University of Maryland

## Meaning: Prosody, Social and Emotional Processes

**E45 When the expressive prosody meets word predictions in spoken-language comprehension** Angèle Brunellière<sup>1</sup>, Laurence Delrue<sup>2</sup>; <sup>1</sup>Univ. Lille, CNRS, UMR 9193 - SCALab - Sciences Cognitives et Sciences Affectives, F-59000 Lille, France, <sup>2</sup>Univ. Lille, CNRS, UMR 8163 - STL - Savoirs Textes Langage, F-59000 Lille, France

## Speech Motor Control and Sensorimotor Integration

**E46 Interhemispheric functional connectivity predicts action semantic performance in stroke** Nicholas Riccardi<sup>1</sup>, Chris Rorden<sup>1,3</sup>, Julius Fridriksson<sup>2,3</sup>, Rutvik H. Desai<sup>1,3</sup>; <sup>1</sup>Department of Psychology, University of South Carolina, <sup>2</sup>Department of Communication Science & Disorders, University of South Carolina, <sup>3</sup>McCausland Center for Brain Imaging, University of South Carolina

### Methods

**E47 Oscillatory dynamics identify unique neural processes beyond event-related responses during auditory sentence comprehension** Julie Schneider<sup>1</sup>, Mandy Maguire<sup>1</sup>; <sup>1</sup>Callier Center for Communication Disorders at the University of Texas at Dallas

**E48 Performance differences on reading skill measures are related to differences in cortical grey matter structure in young adults** Clinton Johns<sup>1</sup>, Andrew A. Jahn<sup>1</sup>, Hannah R. Jones<sup>2</sup>, Dave Kush<sup>1,3</sup>, Peter J. Molfese<sup>1,4</sup>, Julie A. Van Dyke<sup>1</sup>, James S. Magnuson<sup>1,5</sup>, Whitney Tabor<sup>1,5</sup>, W. Einar Mencl<sup>1</sup>, Donald P. Shankweiler<sup>1,5</sup>, David Braze<sup>1</sup>; <sup>1</sup>Haskins Laboratories, <sup>2</sup>University of Rochester, <sup>3</sup>Norwegian University of Science and Technology, <sup>4</sup>National Institutes of Health, <sup>5</sup>University of Connecticut

**E49 Behavior stability and reliability of fMRI activation in stroke aphasia** Brielle Stark<sup>1</sup>, Grigori Yourganov<sup>1</sup>, Alexandra Basilakos<sup>1</sup>, Chris Rorden<sup>1</sup>, Leonardo Bonilha<sup>2</sup>, Julius Fridriksson<sup>1</sup>; <sup>1</sup>University of South Carolina, <sup>2</sup>Medical University of South Carolina

**E50 A multi-modal approach to quantify the reading network using the neurochemical-neurovascular relationship to predict decoding and fluency** Lisa Krishnamurthy<sup>1,2,3</sup>, Venkatagiri Krishnamurthy<sup>2,3,4</sup>, Dina Schwam<sup>5</sup>, Daphne Greenberg<sup>5</sup>, Robin Morris<sup>3,6</sup>; <sup>1</sup>Dept. of Physics & Astronomy, Georgia State University, Atlanta, GA, United States, <sup>2</sup>Center for Visual and Neurocognitive Rehabilitation, Atlanta VAMC, Decatur, GA, United States, <sup>3</sup>Center for Advanced Brain Imaging, GSU/GT, Atlanta, GA, United States, <sup>4</sup>Dept. of Neurology, Emory University, Atlanta, GA, United States, <sup>5</sup>Dept. of Educational Psychology, Special Education, and Communication Disorders, Georgia State University, Atlanta, GA, United States, <sup>6</sup>Dept. Of Psychology, Georgia State University, Atlanta, GA, United States

**E51 Time-generalized multivariate analysis of EEG activity reveals a cascading organization of semantic mismatch processing** Edvard Heikel<sup>1</sup>, Jona Sassenhagen<sup>1</sup>, Christian J. Fiebach<sup>1</sup>; <sup>1</sup>Goethe University Frankfurt

**E52 Investigating brain mechanisms of natural reading by combining EEG, MEG and eye-tracking** Olaf Hauk<sup>1</sup>, Felix Dreyer<sup>1,3</sup>, Maarten van Casteren<sup>1</sup>, Caroline Coutout<sup>1</sup>, Elisabeth Fonteneau<sup>4</sup>, Béla Weiss<sup>1,2</sup>; <sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, <sup>2</sup>Brain Imaging Centre, Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest, <sup>3</sup>Brain Language Laboratory, Free University of Berlin, Berlin, <sup>4</sup>Department of Psychology, University of Cambridge

## Computational Approaches

**E53 Lesion mapping of syntactic and lexical features derived from Natural Language Processing of narrative speech elicited by patients with chronic post-stroke aphasia** Ezequiel Gleichgerrcht<sup>1</sup>, John Delgaizo<sup>1</sup>, Julius Fridriksson<sup>2</sup>, Dirk den Ouden<sup>2</sup>, Alexandra Basilakos<sup>2</sup>, Chris Rorden<sup>2</sup>, Leonardo Bonilha<sup>1</sup>; <sup>1</sup>Medical University of South Carolina, <sup>2</sup>University of South Carolina

## Language Therapy

**E54 Changed resting-state network connectivity following prosody treatment for apraxia of speech** Carl Coelho<sup>1</sup>, Jennifer Mozeiko<sup>1</sup>, Xiao Yang<sup>1</sup>, Lisa Mueller<sup>1</sup>; <sup>1</sup>University of Connecticut

## Perception: Orthographic and Other Visual Processes

**E55 Using a novel Local Heterogeneity Regression method to index orthographic representations in reading.** Jeremy Purcell<sup>1</sup>, Brenda Rapp<sup>1</sup>; <sup>1</sup>Department of Cognitive Science, Johns Hopkins University, USA

**E56 Multimodal MRI converging evidence on the role of ventro-occipito-temporal cortex in reading: Integrating opposing views** Garikoitz Lerma-Usabiaga<sup>1</sup>, Carreiras Manuel<sup>1,2</sup>, Paz-Alonso Pedro M.<sup>1</sup>; <sup>1</sup>BCBL. Basque Center on Cognition, Brain and Language, Donostia-San Sebastián, Spain, <sup>2</sup>IKERBASQUE, Basque Foundation for Science, Bilbao, Spain.

## Speech Motor Control and Sensorimotor Integration

**E57 Combining TMS and EEG to measure electrophysiological responses to speech after suppression of primary motor cortex** Helen E Nuttall<sup>1</sup>, Barrie Usherwood<sup>1</sup>, Patti Adank<sup>2</sup>, Outi Tuomainen<sup>2</sup>; <sup>1</sup>Lancaster University, <sup>2</sup>University College London

## Multilingualism

**E58 Processing sentences with “only” in a second language: Evidence from ERPs** Rachida Ganga<sup>1</sup>, Marijn Struiksma<sup>1</sup>, Emily Haoyan Ge<sup>2</sup>, Virginia Yip<sup>2</sup>, Aoju Chen<sup>1</sup>; <sup>1</sup>Utrecht University, the Netherlands, <sup>2</sup>The Chinese University of Hong Kong, China

**E59 The perisylvian language network and language analytical abilities** Olga Kepinska<sup>1</sup>, Egbert A. J. F. Lakke<sup>1</sup>, Eleanor M. Dutton<sup>1</sup>, Johanneke Caspers<sup>1</sup>, Niels O. Schiller<sup>1</sup>; <sup>1</sup>Leiden University

**E60 Bilingualism, Age, and the “Brain Reserve”** Stefan Heim<sup>1,2</sup>, Johanna Stumme<sup>1,2,3</sup>, Nora Bittner<sup>2,3</sup>, Christiane Jockwitz<sup>1,2,3</sup>, Katrin Amunts<sup>2,3</sup>, Svenja Caspers<sup>2,3</sup>; <sup>1</sup>RWTH Aachen University, <sup>2</sup>Institute of Medicine (INM-1), Forschungszentrum Jülich, <sup>3</sup>Heinrich Heine University Düsseldorf

**E61 The role of native writing system in picture processing: an ERP study** Yen Na Yum<sup>1</sup>, Anna Petrova<sup>2</sup>, Sam Po Law<sup>2</sup>; <sup>1</sup>The Education University of Hong Kong, <sup>2</sup>The University of Hong Kong

**E62 A longitudinal behavioral and fMRI study of second language learning** Kaitlyn M. Tagarelli<sup>1</sup>, Xiong Jiang<sup>2</sup>, Aaron J. Newman<sup>1</sup>, Kyle F. Shattuck<sup>2</sup>, Aron K. Barbey<sup>3</sup>, John W. VanMeter<sup>2</sup>, Kara Morgan-Short<sup>4</sup>, Alison Mackey<sup>2</sup>, Peter E. Turkeltaub<sup>2</sup>, Elissa L. Newport<sup>2</sup>, Michael T. Ullman<sup>2</sup>; <sup>1</sup>Dalhousie University, <sup>2</sup>Georgetown University, <sup>3</sup>University of Illinois at Urbana-Champaign, <sup>4</sup>University of Illinois at Chicago

**E63 A dynamic causal modeling analysis of the role of the caudate nucleus and prefrontal cortex in bilingual language control** Roy Seo<sup>1,2</sup>, Jose M. Ceballos<sup>1,2</sup>, Brianna L. Yamasaki<sup>1,2</sup>, Chantel S. Prat<sup>1,2</sup>; <sup>1</sup>Department of Psychology, University of Washington, <sup>2</sup>Institute for Learning and Brain Sciences, University of Washington

**E64 Changing our Brains and Minds: The effect of the bilingual experience on neural structure** Vincent DeLuca<sup>1</sup>, Christos Pliatsikas<sup>1</sup>, Jason Rothman<sup>1,2</sup>, Ellen Bialystok<sup>3</sup>; <sup>1</sup>University of Reading, <sup>2</sup>UiT The Arctic University of Norway, <sup>3</sup>York University

**E65 Individual Difference-Related Neuroplasticity during Second Language Training** Jennifer Legault<sup>1</sup>, Angela Grant<sup>1</sup>, Shin-Yi Fang<sup>1</sup>, Ping Li<sup>1</sup>; <sup>1</sup>The Pennsylvania State University

**E66 Cortical thickness differs between bilinguals and monolinguals according to age of acquisition** Hannah Claussenius-Kalman<sup>1</sup>, Pilar Archila-Suerte<sup>1</sup>, Kelly A. Vaughn<sup>1</sup>, Arturo E. Hernandez<sup>1</sup>; <sup>1</sup>University of Houston

**E67 How experience with different prosodies shapes the bilingual brain: preliminary connectivity analyses from English-French bilinguals.** Annie Gilbert<sup>1,2</sup>, Shanna Koussaie<sup>1,2,3</sup>, Max Wolpert<sup>1,2</sup>, Denise Klein<sup>1,2,3</sup>, Shari R. Baum<sup>1,2</sup>; <sup>1</sup>Centre for Research on Brain, Language, and Music, Canada, <sup>2</sup>McGill University, Canada, <sup>3</sup>Montreal Neurological Institute and Hospital, Canada

## Signed Language and Gesture

**E68 Neural signatures of sign language processing in bimodal bilinguals** Brendan Costello<sup>1</sup>, Pedro Paz-Alonso<sup>1</sup>, Manuel Carreiras<sup>1,2,3</sup>; <sup>1</sup>BCBL, Donostia-San Sebastian, Spain, <sup>2</sup>Ikerbasque, Basque Foundation for Science, Bilbao, Spain, <sup>3</sup>University of the Basque Country, Spain

## Computational Approaches

**E69 A computational account of word representation and processing in bilingual individuals** Claudia Penalzoza<sup>1</sup>, Uli Grasemann<sup>2</sup>, Risto Miikkulainen<sup>2</sup>, Swathi Kiran<sup>1</sup>; <sup>1</sup>Boston University, <sup>2</sup>The University of Texas at Austin

## Perception: Orthographic and Other Visual Processes

**E70 Learning a new alphabet: Identifying changes in neural representations** Robert W Wiley<sup>1</sup>, Brenda Rapp<sup>1</sup>; <sup>1</sup>Johns Hopkins University

## Perception: Speech Perception and Audiovisual Integration

**E71 White matter matters: aging of the arcuate fasciculus and middle longitudinal fasciculus and their impact on hearing and speech perception** Pascale Tremblay<sup>1</sup>, Maxime Perron<sup>1</sup>, Isabelle Deschamps<sup>1</sup>, Daniel Kennedy-Higgins<sup>2</sup>, Anthony S. Dick<sup>3</sup>, Maxime Descoteaux<sup>4</sup>; <sup>1</sup>Université Laval, <sup>2</sup>University College London, <sup>3</sup>Florida International University, <sup>4</sup>Université de Sherbrooke

**E72 Sensitivity to phonetic competition in People with Aphasia** Kathrin Rothermich<sup>1</sup>, David Saltzman<sup>1</sup>, Xin Xie<sup>2</sup>, Emily Myers<sup>1,3</sup>; <sup>1</sup>University of Connecticut, <sup>2</sup>University of Rochester, <sup>3</sup>Haskins Laboratories

**E73 Reading at the speed of speech: Convergence between visual and auditory language perception at 5 Hz** Benjamin Gagl<sup>1,2</sup>, Julius Golch<sup>1</sup>, Stefan Hawelka<sup>3</sup>, Jona Sassenhagen<sup>1</sup>, David Poeppel<sup>4,5</sup>, Christian J. Fiebach<sup>1,2</sup>; <sup>1</sup>Department of Psychology, Goethe University Frankfurt, Frankfurt am Main, Germany, <sup>2</sup>Center for Individual Development and Adaptive Education of Children at Risk (IDeA), Frankfurt am Main, Germany, <sup>3</sup>Centre for Cognitive Neuroscience, University of Salzburg, Salzburg, Austria,



<sup>4</sup>Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Germany, <sup>5</sup>Department of Psychology, New York University, USA

**E74 Differences in hearing acuity among “normal-hearing” young adults modulate the neural basis for speech comprehension** Yune Lee<sup>1</sup>, Arthur Wingfield<sup>2</sup>, Nam-Eun Min<sup>3</sup>, Charles Jester<sup>3</sup>, Ethan Kotloff<sup>6</sup>, Murray Grossman<sup>3</sup>, Jonathan Peelle<sup>4</sup>; <sup>1</sup>Department of Speech and Hearing Science, The Ohio State University, Columbus OH USA, <sup>2</sup>Volen National Center for Complex Systems, Brandeis University, Waltham MA USA, <sup>3</sup>Department of Neurology and Penn Frontotemporal Degeneration Center, University of Pennsylvania, Philadelphia PA USA, <sup>4</sup>Department of Otolaryngology, Washington University in St. Louis, St. Louis MO USA

**E75 The importance of cognitive plasticity and speaker's voice in adaptation to distorted speech stimuli.** Dan Kennedy-Higgins<sup>1</sup>, Joseph T. Devlin<sup>2</sup>, Patti Adank<sup>1</sup>; <sup>1</sup>Department of Speech, Hearing & Phonetic Sciences, University College London, UK, <sup>2</sup>Department of Experimental Psychology, University College London, UK

**E76 Neural responses to environmental sounds in sentence context** Sophia Uddin<sup>1</sup>, Shannon Heald<sup>1</sup>, Howard Nusbaum<sup>1</sup>; <sup>1</sup>University of Chicago

**E77 Neural correlates of sine wave speech intelligibility in human frontal and temporal cortex** Matthew Leonard<sup>1</sup>, Sattar Khoshkhoo<sup>1</sup>, Nima Mesgarani<sup>2</sup>, Edward Chang<sup>1</sup>; <sup>1</sup>University of California, San Francisco, <sup>2</sup>Columbia University

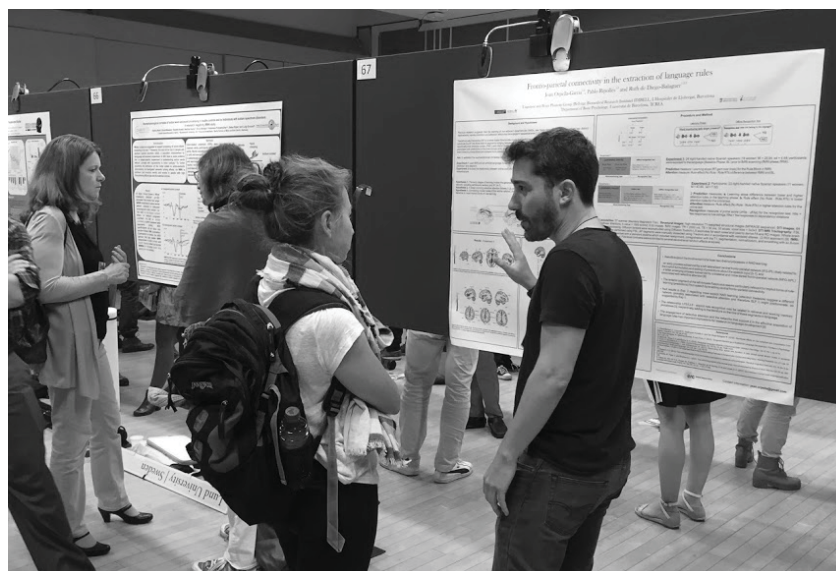
**E78 Phase entrainment of neural oscillations with tACS causally modulates fMRI responses to intelligible speech** Benedikt Zoefel<sup>1</sup>, Alan Archer-Boyd<sup>1</sup>, Matthew H Davis<sup>1</sup>; <sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, UK

## Speech Motor Control and Sensorimotor Integration

**E79 The Effect of Input Modality and Overt vs. Covert Production on Speech Perception in Articulatory Musculature** Naama Zur<sup>1,2</sup>, Avi Karni<sup>1,3</sup>, Zohar Eviatar<sup>1,2</sup>; <sup>1</sup>University of Haifa, <sup>2</sup>Institute of Information Processing and Decision Making, <sup>3</sup>Edmond J. Safra Brain Research Center for the Study of Learning Disabilities

## Methods

**E80 Enhanced accuracy of lesion to symptom mapping with multivariate sparse canonical correlations** Dorian Pustina<sup>1</sup>, Brian Avants<sup>2</sup>, Olufunsho Faseyitan<sup>1</sup>, John Medaglia<sup>3</sup>, H. Branch Coslett<sup>1</sup>; <sup>1</sup>Department of Neurology, University of Pennsylvania, <sup>2</sup>Department of Radiology, University of Pennsylvania, <sup>3</sup>Department of Psychology, University of Pennsylvania



# Author Index

Authors are indexed by abstract number, not page number. **Bold** indicates first author.

## A

Abbott, R - A5, B12  
 Abdollahi, F - A61, **C23**  
 Aboud, K - **D18**  
 Abugaber, D - **B15**  
 Adams, RJ - A57  
 Adank, P - **A50**, E57, E75  
 Aguilar, O - D27  
 Ahn, S - **D17**  
 Alario, F-X - B11, D4, **E43**  
 Alday, PM - **A73**  
 Alexander, E - Slide A4  
 ALHarbi, MF - **A53**  
 Alhourani, A - D77  
 Almeida, D - **B20**, B47, B61  
 Alomar, S - E43  
 Alonso-Sánchez, MF - **B26**  
 Altmann, G - D42, E31  
 Alyahya, RSW - **B33**  
 Amiri, M - C55  
 Amunts, K - E60  
 Anderson, AJ - **B40**, E28  
 Andrade Feiden, J - **C7**  
 Ang, C - **E4**  
 Angelopoulou, G - **C59**  
 Ankener, C - **C40**  
 Antal, C - **D48**  
 Anumanchipalli, GK - D78  
 Anwander, A - E7  
 Archer-Boyd, A - E78  
 Archibald, LMD - C15, C19  
 Archila-Suerte, P - E66  
 Argiropoulos, G - C59  
 Argyropoulos, GPD - **D29**  
 Aristia, J - **C58**  
 Arnaez-Telleria, J - **A67**  
 Artesini, L - **C16**  
 Asaridou, SS - **B30**  
 Ashaie, S - C32  
 Ashrafi, F - A12  
 Astudillo, A - B26  
 Auer, ET - B73  
 Avants, B - E80  
 Avery, T - C28  
 Aziz-Zadeh, L - B44

## B

Badier, J-M - D4  
 Bai, X - C2  
 Balasuramanian, V - **C17**  
 Baldo, J - **B10**  
 Barbey, AK - E62  
 Barbieri, E - D13  
 Barkley, C - **A6**  
 Barrett, AM - E14  
 Basilakos, A - E18, E49, E53

Bastiaanse, R - B25, C36, C7, D7  
 Bastomski, R - C31  
 Basu Mallick, D - D56  
 Baum, SR - A62, C67, C69, E67  
 Bautista, A - A72  
 Beach, SD - B51, **C71**, D25, E24  
 Beagle, A - A30  
 Bearely, S - A79  
 Beatty-Martínez, A - A7  
 Beauchamp, M - D56  
 Bedny, M - A41, D51, E6  
 Behroozmand, R - A12, **D75**  
 Bekemeier, N - **E26**  
 Bekinschtein, T - B5  
 Bellec, P - B39  
 Ben-Shachar, M - D21, D22  
 Benhajali, Y - B39  
 Benjamin, B - E35  
 Benjamin, M - A52, A54  
 Beretta, A - B13, D66, D8  
 Bereś, A - B59  
 Berger, M - A43  
 Berglund, A - **B57**, C37  
 Berl, MM - Slide B4  
 Berninger, V - **A5**, B12  
 Bernstein, LE - **B73**  
 Bhattasali, S - C14  
 Bialystok, E - E64  
 Biermann-Ruben, K - E26  
 Binder, J - B56, **B77**  
 Birnbaum, A - A6  
 Bitan, T - **A35**  
 Bittner, N - E60  
 Blanco-Elorrieta, E - Slide A3  
 Blumstein, SE - C72  
 Boatright, JH - A38  
 Bochynska, A - **D24**  
 Bonilha, L - A57, D75, E18, E21, E49, E53  
 Book, DS - B56, B77  
 Booker, AB - B51  
 Booth, JR - E5  
 Borchers, LR - **D21**  
 Boros, M - B59  
 Bosch, L - C25  
 Boukadi, M - E13, **E19**  
 Boukrina, O - E14  
 Boxer, A - A30  
 Bozic, M - B5  
 Bošković, Ž - B20  
 Bøyum, M - A36  
 Brahmachari, R - A2, D69  
 Brambati, SM - E13, E19  
 Brancazio, L - C28  
 Branigan, H - C5  
 Branzi, FM - **E25**  
 Brauer, J - E7, E8  
 Braze, D - D63, E48

Breining, B - D31  
 Brennan, D - A51, A76  
 Brennan, JR - **B76**, C14, D11  
 Brenner, D - E26  
 Brickman, AM - C57  
 Brodbeck, C - **D62**  
 Broderick, M - **E28**  
 Brookshire, G - **C76**  
 Brothers, T - **B46**, C48, E42  
 Brouwer, H - D37  
 Brown, M - D25  
 Brown, TT - C37  
 Bruckert, L - D21, **D22**  
 Brunellière, A - C58, **E45**  
 Bryer, A - D17  
 Buchwald, A - **B58**  
 Burchert, F - A28  
 Buxbaum, L - A3, Slide B1

## C

Cabana, Á - **A46**, C38  
 Caffarra, S - C61  
 Caffo, B - B35  
 Cafiero, R - E8  
 Calabrese, A - B47  
 Calhoun, H - B58  
 Callaghan, M - D73  
 Calloway, R - **D47**  
 Cantor, M - B76  
 Cao, J - A8  
 Capasso, R - A28, B25  
 Caplan, D - A14, B29  
 Cardin, V - **D15**  
 Carey, D - D76  
 Carpenter, J - Slide B4  
 Carreiras, M - A67, E68  
 Cartei, V - D76  
 Casasanto, D - C76  
 Caspers, J - E59  
 Caspers, S - E60  
 Caverzasi, E - **A29**  
 Ceballos, JM - **A66**, A68, E63  
 Centanni, T - **B51**, D25  
 Centanni, TM - C71  
 Chai, X - **C67**, C69  
 Chai, XJ - A62  
 Chaire, A - D50  
 Chambers, CE - Slide B4  
 Chang, C-T - **D20**, D35  
 Chang, EF - B50, **B22**, D78, E77, Slide A2  
 Chanoine, V - D4  
 Chao, P-C - **C49**  
 Chapman, C - **A25**  
 Chartier, J - **D78**  
 Chatterjee, A - B28  
 Chaturvedi, S - **B36**  
 Cheema, K - **B68**  
 Chen, A - E58  
 Chen, ES - C66  
 Chen, F - B51  
 Chen, H-C - A8, B9  
 Chen, J-K - A62  
 Chen, K - D26  
 Chen, L - **A15**, **B45**  
 Chen, M-H - C9, D3  
 Chen, P-H - A60  
 Chen, W-F - C49  
 Chen, Y - **D26**, D58  
 Cheng, L - A71  
 Cheng, Q - **D23**  
 Chernenok, M - E42  
 Chertkow, H - A56, E12  
 Cheung, SW - A79  
 Chiang, C-Y - E41  
 Chiou, R - **B67**  
 Chiu, H-C - A8, B9  
 Choi, H - **A47**  
 Choi Perrachione, A - Slide A4  
 Chou, C-J - D20, **D35**  
 Chou, T-L - A59, A60, C51, C64, E41  
 Chrabaszczyk, A - **B14**  
 Christidi, F - C59  
 Christidou, P - A28  
 Ciccarelli, G - A4  
 Claussenius-Kalman, H - **E66**  
 Coan, B - B37  
 Cobigo, Y - D28  
 Coderre, E - **E42**  
 Coelho, C - **E54**  
 Coen, R - A21  
 Cogan, G - **C78**  
 Cogburn, A - E2  
 Colella, B - A35  
 Collins, JA - D39  
 Colomer, M - E1  
 Cong, Y - D66  
 Conroy, P - B33  
 Cook, B - C28  
 Corbeil, K - D17  
 Coslett, HB - E80  
 Costello, B - **E68**  
 Coulson, S - D41  
 Coulter, M - A38  
 Coutout, C - E52  
 Covey, L - **A20**, E32  
 Crinion, J - D27, D73  
 Crocker, MW - C40, C45, D37, D57  
 Cross, A - **C15**  
 Crosson, BA - A38, A52, A54  
 Cucu, MO - **C73**  
 Cummine, DJ - B68  
 Curran, B - B10  
 Cutting, L - C18, D18

**D**

Dastolfo-Hromack, C - D77  
 Datta, H - **A63**  
 Dave, S - **C48**  
 Davenport, T - C13  
 Davidenko, T - D15  
 Davis, MH - E78  
 Dawson, J - C31  
 de Aguiar, V - **B25**, E23  
 de Almeida, RG - D48  
 De Deyne, S - A39  
 Deem, MW - C41  
 Delaney-Busch, N - E44, Slide A4  
 Delgado, T - **D41**  
 Delgaizo, J - E53  
 Delikishkina, E - **E40**  
 Dell, GS - B11  
 Delogu, F - C45, **D37**  
 de los Angeles, C - C66  
 Delrue, L - E45  
 Del Tufo, S - C18  
 DeLuca, V - **E64**  
 DeMarco, AT - E22  
 Demir-Lira, ÖE - B30  
 Dempsey, J - D54  
 Deniz, F - A44  
 Den Ouden, D-B - B17, **E18**, E53  
 de Pellegrin, S - A28  
 Desai, RH - E46  
 De Santo, A - **C39**  
 Desautels, A - E19  
 Deschamps, I - E71  
 Deschamps, T - C29  
 Descoteaux, M - E71  
 Devereux, B - A42, A47  
 Devlin, JT - E75  
 Dial, H - C30  
 Diaz, M - A7, C60, D54  
 Dick, AS - **C20**, E71  
 Dickey, MW - A34, B31, D77, E15  
 Dighero, M - C16  
 Di Liberto, GM - A21, E28  
 Ding, G - E4  
 Ding, J - B27, D26  
 Dockree, P - A21  
 Donnelly Adams, K - **A61**  
 Dosenbach, N - B71  
 Dougherty, B - D13  
 Doyle, P - A34, B31, E15  
 Drenhaus, H - C40, C45, D57  
 Dreyer, F - E52  
 Drijvers, L - **B74**  
 Dromerick, AW - Slide B4  
 Dronkers, N - B10  
 Drury, JE - C39, C52, D65  
 Dubarry, A-S - D4, E43  
 Duncan, J - D73  
 Dupont, P - A39  
 Durvasula, K - D61  
 Dutton, EM - E59

Dworetzky, A - C31

Dye, C - **C24**

Dyer, S - A24

**E**

Earle, FS - **D55**  
 Eberhardt, SP - B73  
 Ekerdt, CEM - **E7**, E8  
 Ekves, Z - **D42**, E31  
 Elli, GV - A41, **D51**  
 Elsner, A - B21  
 Embick, D - B76  
 Emmorey, K - C70, Slide A3  
 Engemann, DA - E29  
 Eppes, A - A7  
 Eriksson, DK - A32, E22  
 Ertuğrul, S - **B60**  
 Estrada, V - D50  
 Eulitz, C - **A13**  
 Europa, E - A14, **C6**  
 Evans, D - B1  
 Evans, JL - B57, B49, C37, E36  
 Evdokimidis, I - C59  
 Eviatar, Z - **B64**, E79

**F**

Fahey, D - **B17**  
 Fama, ME - C11  
 Fan, L-Y - **C51**  
 Fang, S-Y - E65  
 Fang, X - **D46**  
 Fang, Y - B27  
 Fargier, R - **A40**  
 Faseyitan, O - E80  
 Federmeier, KD - A10, B65, C44, D49  
 Fedorenko, E - C68  
 Feldman, HM - D21, D22  
 Felker, H - C31  
 Feng, L - A15  
 Feng, W - **E33**  
 Feng, X - E4  
 Fernandes-Cabral, D - A34  
 Fernandez, C - **D67**  
 Fernandez-Miranda, J - A34  
 Fernandino, L - B40  
 Feroce, N - **E32**  
 Ferragne, E - D70  
 Ferreira, F - E34  
 Ferreira, V - D14  
 Ferré, P - **B39**  
 Ficek, BN - **B35**, B66  
 Fiebach, CJ - A37, C54, D12, E29, E51, E73, Slide B2  
 Fiez, J - D77  
 Fillmore, P - **A49**, **D72**  
 Finestrat, I - B15  
 Fiorentino, R - A20, E32  
 Fischer-Baum, S - **A58**, C41  
 Flick, G - **D6**  
 Fló, E - A46, **C38**  
 Fonteneau, E - E52

Forman, S - E15

Forseth, K - Slide A1

Fotiadis, P - C59

Fox, N - Slide A2

Frangakis, C - B66

Fratantoni, J - **E36**

Frederick, J - A23

Fridriksson, J - A57, B32, D75,

E18, E21, E46, E49, E53

Friederici, AD - B16, B21, B24, C25, C3, E16, E7, E8

Friedrich, M - C25

Frijters, JC - C15

Frishkoff, GA - D34

Fromont, L - **A17**

Frost, S - A76

Fu, Y - A15, **C63**

Fuhrmeister, P - C72

Fung, AW - B57, C37

Fusaroli, R - C35

Fyndanis, V - **A28**

**G**

Gabriele, A - A20, E32

Gabrieli, JDE - B51, C66, C71, D25, E9

Gagl, B - C54, **E73**, Slide B2

Gaillard, WD - Slide B4

Gallant, J - A44

Gamez-Djokic, V - **B44**

Gandini Wheeler-Kingshott, CA - A29

Gandolfi, M - A28, B25

Ganga, R - **E58**

Gao, S - **D44**

Gao, Y - C26, C65, E4

Gao, Z - **E35**

Garel, K - C66

Garic, D - C20

Garret, C - A30

Gaskell, MG - D19

Gaston, P - **D9**

Gatens, H - B8

Ge, EH - E58

Geng, Y - A33, B36

Gertel, V - **C60**

Ghosh, S - A4

Giannelli, V - C16

Gilbert, A - **E67**

Gitelman, DR - C6

Glatz, T - B23

Glazer, J - A35

Gleichgerricht, E - E18, **E53**

Glushko, A - **B23**

Goh, JOS - D3

Gökçay, D - B60

Golch, J - E73

Goldin-Meadow, S - D74

Goldthwaite, I - D17

Gómez, L - A48

Goncalves, M - A4

Gonzalez-Martinez, J - E43

Gopinath, K - A52, A54

Gor, K - B14

Gordon, B - E42

Gorno-Tempini, ML - A29, A30, C30, C57, D28

Gotts, SJ - C56

Gou, T - D44

Goucha, T - C3

Goutsos, D - C59

Gracco, V - A62

Grant, A - **A65**, E65

Grasemann, U - E69

Grassp, S - C30

Graves, W - **B62**, **E14**

Graves, WW - B41

Gravier, M - A34, **B31**, **E15**

Green, R - A35

Greenberg, D - E50

Greenwald, A - Slide B4

Griffin, S - A43

Grigorenko, E - D52, E11

Grillou, C - C59

Grimm, S - B40

Grossman, M - E74

Gruberg, N - D14

Gryllia, S - A71

Guediche, S - C72

Guerra, R - A48

Guerrero-Mosquera, C - E1

Guigelaar, E - **D65**

Gullifer, J - **C69**

Gumbert, M - C4

Gunter, TC - B24

Guo, Q - D26

Guo, T - C63

Gwilliams, L - **B63**

**H**

Haan, S - Slide B2

Haase, V - **D36**

Haglund, M - C78

Hagoort, P - D45

Halai, A - B33, C34

Hale, J - B38, **C14**

Halgren, E - C13, D23

Hallikainen, M - C32

Hamalainen, M - Slide A4

Hamilton, AC - B52

Hampton, JM - B71

Han, M - C66

Han, Z - B27, D26

Hänninen, T - C32

Hansen, P - **A36**

Hart, J - E36

Hartwigsen, G - B21, C3

Harvey, DY - **E20**

Hatrak, M - C13

Hauk, O - **E52**

Hawelka, S - E73

Hayden, EP - C15

Hańczur, P - B59

Heald, S - **C75**, D74, E76

Hedger, SV - D74

Heidlmayr, K - **D70**



Heikel, E - **A37**, **E51**  
 Heim, S - **E60**  
 Helou, L - D77  
 Helpern, J - E21  
 Henderson, L - D19  
 Hendren, R - A29  
 Henry, M - C30  
 Hernandez, AE - E10, E66  
 Herrmann, CS - A11  
 Hestvik, A - D61  
 Hi, Z - A6  
 Hickok, G - A70, A75, B32, D10, D75, Slide A1  
 Higby, E - C32  
 Hillis, A - B66, **D31**  
 Hindy, N - D42  
 Hinkley, L - A30  
 Hintz, F - C1  
 Hirzel, M - A18  
 Hodgetts, DW - B68  
 Hoeft, F - A29  
 Hoffman, P - E25  
 Hogan, TP - B51  
 Holcomb, PJ - A64, C70  
 Holt, L - D77  
 Holt, R - D17  
 Honma, S - A30  
 Hoon, Y-O - D27  
 Hope, TMH - Slide B3  
 Horne, M - C74  
 Hortman, K - A38  
 Hosokawa, E - C5  
 Houde, JF - A30, A79  
 Houghton, C - C73  
 Howard, C - Slide B1  
 Hoyt Drazen, C - B71  
 Hsieh, S-K - A59, A60, C64, **E41**  
 Hsu, C-T - C42, **D43**  
 Hu, J - **C26**  
 Huang, R - B27  
 Huang, X - B54  
 Hubbard, HI - C57, D28  
 Hubbard, I - A30, **C30**  
 Hula, W - **A34**, B31, E15  
 Humphreys, GF - E25  
 Humphries, CJ - B56, B77  
 Hynd, GW - A2, D69  
 Hyun, J - **C32**

## I

Ilkbasaran, D - C13  
 Indefrey, P - E26  
 Inuy, Y - **E23**  
 Irwin, J - B78, **C28**  
 Isel, F - D70  
 Ito, T - D60

## J

Jachmann, T - **D57**  
 Jackson, A - D40  
 Jackson, CN - **A22**  
 Jaeger, TF - D53

Jahn, AA - **B7**, C33, E48  
 James, E - **D19**  
 Janacek, K - C24  
 Jeltema, H-R - C36  
 Jensen, J - E21  
 Jensen, O - B74, C43  
 Jester, C - E74  
 Jiang, X - B73, E62  
 Joannette, Y - B39, C55  
 Joannis, MF - C15, C19, C65  
 Jockwitz, C - E60  
 Johari, K - **A12**, D75  
 John, H - E37  
 Johns, CL - C33, D63, **E48**  
 Johnson, J - A33, B36  
 Jokel, R - C29  
 Jones, C - A35  
 Jones, HR - E48  
 Jones, M - B71  
 Jones, P - D77  
 Jonkers, R - C57  
 Jordan, K - A43  
 Jouravlev, O - **C68**  
 Julia, E - E37  
 Julie, F - E37

## K

Kaan, E - A69  
 Kahn, S - Slide A4  
 Kaloustian, Z - B43  
 Kanber, E - D76  
 Kandylaki, KD - B79, **D68**  
 Kang, H - A15  
 Kanjlia, S - E6  
 Karaminis, T - **C1**  
 Karanassou, S - C59  
 Karavasilis, E - C59  
 Karimi, H - **E34**  
 Karni, A - E79  
 Kasselimis, D - C59  
 Kazanina, N - C73  
 Kelekis, N - C59  
 Kelley, P - D66  
 Kelly, A - **C31**  
 Kendrick, K - E35  
 Kenett, YN - **B43**  
 Kennedy-Higgins, D - A50, E71, **E75**  
 Kepinska, O - **E59**  
 Kerlin, J - C79  
 Kerry, S - **D27**  
 Khoshkhoo, S - E77  
 Kibby, MY - A2, A24, D69  
 Kielar, A - **C29**  
 Kilgard, MP - B51  
 Killmer, H - A28  
 Kim, ES - A53  
 Kim, JS - **A41**  
 Kim, M - Slide A4  
 Kim, S - **D38**  
 King, J-R - B63  
 Kiran, S - A33, B34, B36, C6, E24, E69

Kireev, M - B14  
 Kiyama, S - B18  
 Klein, D - A62, A79, C67, C69, E67  
 Kleinman, D - **A10**  
 Kleunder, K - B49  
 Klimovich-Smith, A - **A42**  
 Klooster, NB - **B28**  
 Knight, R - A43, E39  
 Kobor, A - C24  
 Koizumi, M - B18  
 Komarova, A - D15  
 Kook, JH - A58  
 Korczyk, M - B59  
 Kornilov, S - D52, E11  
 Koski, J - D39  
 Kothare, H - **A79**  
 Kotloff, E - E74  
 Kotz, S - A21  
 Koussaie, S - **A62**, C67, E67  
 Kraegel, P - B56, B77  
 Kreitewolf, J - C3  
 Kremnova, E - D15  
 Krethlow, G - A40  
 Krieger, A - B8  
 Krishnamurthy, L - A52, **A54**, **E50**  
 Krishnamurthy, V - **A52**, A54, E50  
 Kroczeck, LOH - **B24**  
 Kuhl, U - **E16**  
 Kühn, C - E7, **E8**  
 Kuhnke, P - B21  
 Kujala, T - D16  
 Kukona, A - D63  
 Kuperberg, GR - C43, **C47**, D53, **E44**, Slide A4  
 Kurteff, G - B22  
 Kush, D - B7, E48  
 Kutas, M - E27

## L

La, A - A30  
 Laforce, RJ - E13  
 Laganaro, M - A40  
 Lai, C-H - **A59**, **A60**, C64  
 Lai, MK - **D49**  
 Lakke, EAJF - E59  
 Lally, C - D76  
 Lalor, EC - A21, B40, E28  
 Lambon Ralph, MA - A26, B33, B67, C34, E25  
 Landau, B - Slide B4  
 Landi, N - B78, C28  
 Lane, C - D51, E6  
 Lapinskaya, N - A18  
 Lau, E - **A18**, D9, E44  
 Law, SP - E61  
 Lawlor, B - A21  
 Ledoux, K - E42  
 Lee, A - **A69**  
 Lee, C-L - A59, A60, C64, C9, D3, E41

Lee, C-Y - C49, D20, D35  
 Lee, HK - E3  
 Lee, J - **A23**, A78, C5, **D14**  
 Lee, Y - A58, D17, **E74**  
 Leff, AP - D27, D73, Slide B3  
 Legault, J - **E65**  
 Lehtonen, M - C32  
 Leonard, J - E9  
 Leonard, M - **E77**, Slide A2  
 Leppik, I - A6  
 Leppänen, P - D16  
 Lerma-Usabiaga, G - **E56**  
 Levine, S - B30  
 Levinson, H - **B41**  
 Lewis, A - **A1**, B7  
 Li, H - E4  
 Li, J - **B38**, C14  
 Li, K - E35  
 Li, L - D58  
 Li, M - **B27**, C22, **D63**  
 Li, P - A61, A65, C42, D43, D58, E65  
 Li, X - **A45**  
 Li, Y - B45, E35  
 Liao, C-H - D9  
 Lidz, J - A18  
 Liegeois-Chauvel, C - E43  
 Limones, R - E36, **E37**  
 Lin, V - B40  
 Lin, W-T - **D3**  
 Lingnau, A - E40  
 Lipski, W - **D77**  
 Litt, B - B8  
 Liu, L - C26, C65  
 Liu, Q - C66  
 Liu, T-H - A59, A60, **C64**, E41  
 Liu, W - **C2**  
 Liu, X - C26  
 Liu, Y - C32  
 Liuzzi, AG - **A39**  
 Lo, C-W - **D11**  
 Logvinenko, T - E11  
 Long, Y - C2  
 Lönnqvist, L - **D16**  
 Lorimor, H - A22  
 LoTurco, JJ - B51  
 Lovett, MW - C15  
 Lowe, MS - B58  
 Lu, C-R - A59, A60, C2, C63, C64, E41  
 Lucanie, J - A32  
 Lucas, II, TH - B8  
 Luh, W-M - C14  
 Lukic, S - **D28**  
 Lum, JAG - D55  
 Luo, L - E3  
 Luque, A - B15  
 Luthra, S - **C72**  
 Lv, Y - D26  
 Lyu, J - C52

## M

Ma, X - E35

Mack, JE - C27  
Mackey, A - E62, E9  
MacRoy-Higgins, M - E2  
MacSweeney, M - B69  
Magnotti, J - **D56**  
Magnuson, JS - C22, D63, E48  
Maguire, M - E47  
Magwood, G - A57  
Maher, C - B37  
Malins, J - A51, A76  
Malyutina, S - E18  
Mammino, K - A38  
Man, G - A23, **C5**, D14  
Mandelli, ML - A29, A30, C30, C57, D28  
Männel, C - **C25**  
Manuel, C - E56  
Marco, EJ - A29  
Marcotte, K - E19  
Marebwa, BK - **A57**  
Marino, S - A6  
Marslen-Wilson, W - A42  
Martin, AE - A73, C56  
Martin, C - **C61**  
Martin, RC - A25, A27, B52, C41, D30, D71  
Matchin, W - A75, **C13**, **D10**, D9  
Mattheiss, S - B41  
Max, L - C17  
May, S - D25  
May, SC - B51, C71  
Mayberry, R - C13, D23  
Mayer, A - A63  
McCandliss, BD - D21  
McCarron, A - A72  
McGettigan, C - **D76**  
McGregor, K - A54  
McKinnon, E - **E21**  
McPartland, J - B78  
Meade, G - **A64**, C70  
Medaglia, J - E80  
Medvedev, S - B14  
Meier, E - **A33**, **B34**, B36  
Meltzer, J - C29  
Ménétré, E - A40  
MencI, E - A51, **A76**  
MencI, WE - D63, E48  
Méndez, A - **A48**  
Meng, X - E4  
Mesgarani, N - E77  
Messinis, L - A28  
Mesulam, MM - C27  
Methqal, I - **C55**  
Metoki, A - D39  
Meyer, L - **B21**, **C4**  
Meyer, M - A29  
Miceli, G - A28, B25, C36, E40  
Middleton, EL - C53  
Midgley, KJ - C70  
Miikkulainen, R - E69  
Miller, BL - A29, A30, C57  
Miller, K - D17  
Miller, Z - A30

Milne, A - **D64**  
Min, N-E - E74  
Mineroff, Z - C68  
Miquel, M - D76  
Mishkin, M - D29  
Mizui, D - A30, A79  
Moberly, A - C79  
Molfese, PJ - C72, E48  
Molnar, AE - A2, D69  
Monahan, P - **B53**, **C77**  
Monchi, O - C55  
Montembeault, M - **E13**, E19  
Morett, L - **B78**  
Morgan, E - E44  
Morgan-Short, K - B15, E62  
Morris, R - A51, A76, E50  
Mostofsky, SH - C24  
Mott, M - **C70**  
Mozeiko, J - E54  
Mueller, L - E54  
Mullins, P - A77  
Munding, D - D4  
Murphy, S - A38  
Musola, D - C16  
Myers, EB - B70, B75, C72, D55, E72

## N

Nacar, L - **E1**  
Nagarajan, S - A30, A79  
Najm, I - E43  
Narayan, C - C77  
Nardo, D - **D73**  
Navarro-Torres, C - A7  
Nemeth, D - C24  
Newman, AJ - E62  
Newman, S - C8  
Newport, EL - C11, E62, Slide B4  
Nguyen, E - **C10**  
Nguyen, TH - **C18**, D21  
Nichols, E - **C65**  
Nicole, L - C33  
Nielsen, K - B12  
Niikuni, K - B18  
Nikelski, J - E12  
Nikitopoulou, Z - C59  
Nikolaev, A - C32  
Niziolek, C - **E24**  
Nocera, JR - A38  
Noonan, N - **C19**  
Nozari, N - A80  
Nugiel, T - D39  
Nusbaum, H - C75, E76  
Nuttall, HE - A50, **E57**

## O

Obler, LK - C57  
Obleser, J - A11, A9  
Ogane, R - **D60**  
Oganian, Y - **B50**  
Okada, K - **A75**

Okta, K - C60, D54  
Olguin, A - **B5**  
Oliver, M - A67  
Olson, I - **D39**  
Ono, H - B18  
Onyike, C - B66  
Ortiz-Mantilla, S - B48  
Ovchinnikova, I - D52, **E11**  
Overath, T - C78  
Ozernov-Palchik, O - B51, C71, **D25**  
Ozyurek, A - B74

## P

Pablos, L - A71  
Pallier, C - B38, C14  
Panagea, E - A28  
Panesar, S - A34  
Panick, R - B37  
Pant, R - **E6**  
Pantazis, D - B51, C71  
Papathanasopoulos, P - A28  
Pappa, K - D73  
Parham, M - A49  
Park, J - **D5**  
Parker, K - B10  
Parrish, A - **B13**, **D66**, D8  
Partanen, E - D16  
Pathak, S - A34  
Paul, R - C22  
Paulraj, S - B10  
Pavani, F - C16  
Payne, J - **A77**  
Paz-Alonso, PM - A67, D42, E68  
Pearson, J - C78  
Pedro M., P-A - E56  
Peelle, JE - B71, E74  
Peeters, R - A39  
Penaloza, C - **E69**  
Peng, G - B54  
Penny, W - D27  
Pérez, A - C61  
Perfetti, C - B45, D46, D47  
Peristeri, E - **A31**  
Perrachione, TK - C66, C71  
Perron, M - E71  
Perry, D - A43  
Perry, K - D17  
Peterson, D - B12  
Petkov, C - D64  
Petrosino, R - **B47**  
Petrova, A - E61  
Phillip, L - D75  
Phillips, N - A62  
Piai, V - A43, B8, **E39**  
Pilania, A - B28  
Pillay, SB - **B56**, B77  
Pinet, S - **A80**, **B11**  
Pinna, G - C36  
Pinsard, B - C55  
Pirnia, T - D77  
Pitt, M - C79

Pivneva, I - C69  
Pliatsikas, C - E64  
Poeppel, D - B23, E73  
PolaKampalli, A - D17  
Politzer-Ahles, S - B54  
Popov, S - C7, **D7**  
Potagas, C - C59  
Prat, CS - A66, A68, E63  
Price, CJ - B69, Slide B3  
Probst, S - A56, E12  
Provost, J-S - C55  
Prystauka, Y - **E31**  
Pugh, KR - A51, A76, D63  
Purcell, J - D71, **E55**  
Pustina, D - **E80**  
Pylkkänen, L - D38, D6, Slide A3

## Q

Qi, Z - **C66**  
Quatieri, T - A4

## R

Rabs, E - **C45**  
Raczy, K - **B59**  
Raghavendra, M - C31  
Raharjo, I - A79  
Raizada, R - B40  
Ramachandra, V - **B37**  
Ramdajal, R - C15  
Ramos-Nuñez, A - A58  
Ranasinghe, K - **A30**, A79  
Randall, B - A42, A47  
Rapp, B - B66, D32, **D71**, E55, E70  
Rasenberg, M - C46  
Rawski, J - C39  
Reichenbach, T - B79, D68  
Reifegerste, J - A12  
Reilly, J - C31  
Revill, KP - **B4**  
Ribu, IS - A36  
Riccardi, N - **E46**  
Richards, T - A5, **B12**  
Richardson, M - D77  
Richlan, F - Slide B2  
Rickles, B - **D34**  
Ries, S - **A43**  
Riesenhuber, M - B73  
Rimikis, S - B58  
Ritter, M - D72  
Rizio, A - D54  
Robinson, S - E9  
Rochon, E - A35  
Rodriguez, AD - **A38**, A54  
Rofes, A - **A21**, B25  
Rogers, CS - **B71**  
Roland, J - B71  
Roll, M - C74  
Romeo, R - **E9**  
Rommers, J - C46, E39  
Roncero, C - **A56**, **E12**

Rorden, C - D75, E18, E21, E46, E49, E53  
 Rose, NS - B52  
 Rossi, G - B25  
 Roth, A - C13  
 Rothermich, K - B70, **E72**  
 Rothman, J - E64  
 Rouleau, I - E13  
 Roussos, P - C59  
 Rowe, M - E9  
 Rowthu, V - A34  
 Royle, P - A17  
 Ryherd, K - **C33**

## S

Sadowska, A - B59  
 Sakai, H - D61  
 Saltzman, D - **B70**, E72  
 Sandberg, C - **B42**  
 Santini, B - C36  
 Saraff, E - B76  
 Sassenhagen, J - A37, **C54**, **D12**, **E29**, E51, E73, Slide B2  
 Sato, M - B18  
 Saunders, J - D59  
 Saverino, C - A35  
 Saxena, S - D31  
 Scharenborg, O - C1  
 Scheppele, M - B49, C37  
 Schertz, J - B53  
 Schiller, NO - A71, E59  
 Schlak, JE - **A2**, D69  
 Schloss, B - **C42**, D43  
 Schmitt, L-M - A11  
 Schneck, SM - **A32**  
 Schneider, J - **E47**  
 Schnur, T - **A27**, C50  
 Scholl, C - **D40**  
 Schoot, L - Slide A4  
 Schuchard, J - **C53**  
 Schuler, KD - **C11**  
 Schumacher, R - **A26**  
 Schwam, D - E50  
 Schwartz, J-L - D60  
 Schwartz, MF - E20  
 Schwartz, R - E2  
 Sebastian, R - D31  
 Sebastian-Galles, N - E1  
 Semenza, C - A28  
 Seo, R - **E63**  
 Service, E - A56  
 Sevcikova Sehyr, Z - C70  
 Shafer, V - A78, B48, **E2**  
 Shah, PA - B8  
 Shahin, A - C79  
 Shaiman, S - D77  
 Shankweiler, DP - D63, E48  
 Shao, J - B55  
 Shapiro, K - A29  
 Shattuck, KF - E62  
 Shatzer, H - **C79**  
 Sheehan, A - E13  
 Shetreet, E - C47  
 Shinohara, Y - **D61**  
 Simic, T - A35  
 Simmons, E - **C22**  
 Simmons, RA - D30  
 Simon, JZ - D62  
 Sinha, S - C78  
 Sitek, K - **A4**  
 Siu, D - B30  
 Sjerps, M - Slide A2  
 Skeide, MA - E16  
 Slevc, LR - **D30**  
 Sloan, AM - B51  
 Small, SL - B30  
 Smania, N - A28, B25  
 Smith, CM - **B65**  
 Smith, K - B13, D66, **D8**  
 Smith, L - Slide B1  
 Smolka, E - A13  
 Smyth, MD - B71  
 Snider, L - **A19**  
 Snyder, J - C75  
 Soderstrom, P - **C74**  
 Soininen, H - C32  
 Soliman, T - A3, Slide B1  
 Solomon, S - D42  
 Song, C - B57  
 Song, L - B27  
 Spence, J - E36  
 Spreng, RN - C14  
 Sprouse, J - **A16**, A19, B20, B47, C10, D5  
 Srivastava, S - **D1**  
 Stacy, M - **A24**  
 Stager, CL - C15  
 Staples, R - **A51**  
 Stark, B - **E49**  
 Staudte, M - C40, D57  
 Steffener, J - B39  
 Steinbach, KA - C15  
 Steinhauer, K - A17, B23  
 Stern, Y - B39  
 Stilp, C - B49  
 Stokes, R - **A70**  
 Stoll, H - **A3**  
 Stookey, L - A69  
 Storms, G - A39  
 Strijkers, K - **D4**  
 Struiksma, M - E58  
 Stumme, J - E60  
 Su, I-F - **E3**  
 Su, I-W - A59, A60, C64, E41  
 Sudhyadhom, A - A54  
 Sumera, E - B59  
 Swaab, TY - B46, C48, E34  
 Szewczyk, J - B59  
 Szwed, M - B59

## T

Tabor, WA - D63, E48  
 Tagarelli, KM - **E62**  
 Tainturier, M-J - A77  
 Takacs, A - C24  
 Talić, A - B20

Tan, Y - **D45**  
 Tandon, N - Slide A1  
 Tang, AA-y - B18  
 Tao, Y - **D32**  
 Teixeira, M - C25  
 Teoh, E - A21  
 Tessel, C - E2  
 Theil, A - E12  
 Themistocleous, C - C59  
 Theodore, R - C22  
 Thiede, A - D16  
 Thiel, A - A56  
 Thompson, CK - A14, C27, C6, D13  
 Thompson-Schill, SL - B43  
 Thothathiri, M - **B1**, **B2**  
 Tian, F - B57  
 Tian, M - E4  
 Tian, X - D74  
 Tippet, D - D31  
 Titone, D - A62, C67, C69  
 Travis, HL - A2, **D69**  
 Travis, KE - D21, D22  
 Traxler, MJ - B46, C48  
 Tremblay, P - **E71**  
 Trezza, G - B37  
 Troche, J - **E38**  
 Troyer, M - **E27**  
 Trébuchon, A - D4  
 Tsai, I-N - A59, A60, C64, E41  
 Tsai, J-L - C49, D20, D35  
 Tsapkini, K - A31, B35, **B66**  
 Tseng, C - **A44**  
 Tseng, W-YI - D3  
 Tseng, Y-H - E41  
 Tsimpli, I-M - A31  
 Tsolakopoulos, D - C59  
 Tune, S - **A9**  
 Tuomainen, O - E57  
 Turbide, J - D48  
 Turcios, J - C28  
 Turkeltaub, PE - C11, E62, Slide B4  
 Turner, R - D77  
 Twomey, T - **B69**  
 Tyler, LK - A42, A47

## U

Udden, J - **B19**  
 Uddin, S - C75, **E76**  
 Ullman, MT - A12, C24, D55, E62  
 Usherwood, B - E57

## V

Valle-Lisboa, JC - A46, C38  
 van Bergen, G - **C46**  
 van Casteren, M - E52  
 Vandenbergh, R - A39  
 van der Burgt, CL - **C3**  
 Van Dyke, JA - A1, B7, C33, D63, E48

Van Hedger, S - C75  
 van Hell, JG - A22, A61, C23, D67  
 van Ierschoot, F - **C36**  
 VanMeter, JW - E62  
 Vannucci, M - A58  
 Vargha-Khadem, F - D29  
 Varkanitsa, M - **B29**, C59  
 Vaughn, KA - **E10**, E66  
 Veenstra, W - C36  
 Velonakis, G - C59  
 Venezia, JH - A70  
 Verdonschot, R - D61  
 Verhoef, T - D41  
 Vespignani, F - C16  
 Vidal, N - E2  
 Villwock, A - C13  
 Vinogradova, V - D15  
 Virtala, P - D16  
 Vonk, JMJ - **C57**  
 Vossel, K - A30  
 Vosskuhl, J - A11  
 Vulchanov, V - D24  
 Vulchanova, M - D24

## W

Wagemakers, M - C36  
 Wagner, M - **A78**, **B48**  
 Walenski, M - A12, **A14**, C24, **C27**, **D13**  
 Walker, E - D41  
 Walker, G - **B32**  
 Walker, N - **B49**, **C37**  
 Walsh, C - **C56**  
 Wang, I - E43  
 Wang, J - A8, B9  
 Wang, L - **C43**, Slide A4  
 Wang, R - D58  
 Wang, X - B40  
 Wang, Y - C66, D39  
 Wang, Z - B35  
 Warnke, L - Slide A4  
 Wartenburger, I - A28  
 Waters, D - B69  
 Waters, S - D76  
 Watkins, H - B57  
 Watson, C - A29  
 Webster, K - B35, B66  
 Weed, E - **C35**  
 Wehbe, L - A44  
 Wehling, E - B44  
 Wehr, M - **D59**  
 Wei, T - **C50**  
 Weiss, B - E52  
 Weiss, P - A38  
 Weiss, Y - **E5**  
 Weissbart, H - **B79**, D68  
 Welch, A - A30, D28  
 Wellner, R - B58  
 Weng, C-H - D3  
 Weng, Y-L - **C9**  
 Wenger, E - E8  
 Werning, M - D36



Whitfield-Gabrieli, S - C66  
 Whitford, V - C69  
 Wicha, NYY - D50  
 Wiley, RW - **E70**  
 Williams, ST - **B8**  
 Wilson, B - D64  
 Wilson, MA - C55, E13  
 Wilson, SM - A32, **A72**, B22, E22  
 Wingfield, A - E74  
 Winter, S - **D54**  
 Wiseman-Hakes, C - A35  
 Wlotko, E - B2, Slide A4  
 Wolk, DA - B28  
 Woll, B - D15  
 Wolmetz, M - D40  
 Wolpert, M - B23, E67  
 Wong, AW-K - **A8, B9**  
 Wong, S-S - A8, B9  
 Wood, M - **D50**  
 Woodhead, Z - D27  
 Wöstmann, M - **A11**, A9  
 Wright, A - D31  
 Wu, C-Y - **B16**  
 Wu, H - **C52**  
 Wu, K - **B61**  
 Wu, Y - C63  
 Wurmbrand, S - A16

## X

Xia, J - A45  
 Xie, X - **B75**, E72  
 Xiong, Y - **C8**  
 Xu, Y - B27

## Y

Yagle, K - B12  
 Yamasaki, BL - A66, **A68**, E63  
 Yan, S - **D53**  
 Yang, C - C8  
 Yang, Q - D26, E35  
 Yang, X - E4, E54  
 Yang, Y - **A71**, B3, B38  
 Yanilmaz, A - C52  
 Yano, M - **B18**  
 Yasunaga, D - B18  
 Yeh, C - A60  
 Yeh, F-C - A34  
 Yen, M - **E22**  
 Yip, V - E58  
 Yoon, SO - **C44**  
 Yourganov, G - E49  
 Yu, H - E33  
 Yu, K - **D58**  
 Yu, Y - E2  
 Yue, Q - **B52**, **C41**  
 Yum, YN - **E61**

## Z

Zaccarella, E - B16  
 Zeidman, P - D73  
 Zepeda-Rivera, L - B26  
 Zetina, H - C20  
 Zhang, C - **B54**, **B55**  
 Zhang, H - **A7**  
 Zhang, J - B54  
 Zhang, M - E4  
 Zhang, Y - B27, D26, D58  
 Zhao, H - C2  
 Zhao, L - **B3**  
 Zhao, Y - **C34**  
 Zhen, A - **D74**  
 Zheng, L - C2  
 Zhou, X - E33  
 Zhou, Y - C26, D58, E3  
 Zhukova, M - **D52**, E11  
 Zmeikina, E - D15  
 Zoefel, B - **E78**  
 Zuckerman, B - C31  
 Zugarramurdi, C - A46  
 Zur, N - **E79**



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