SNL 2023
Society for the Neurobiology of Language
15th Annual Meeting, October 24–26
Palais du Pharo, Marseille, France
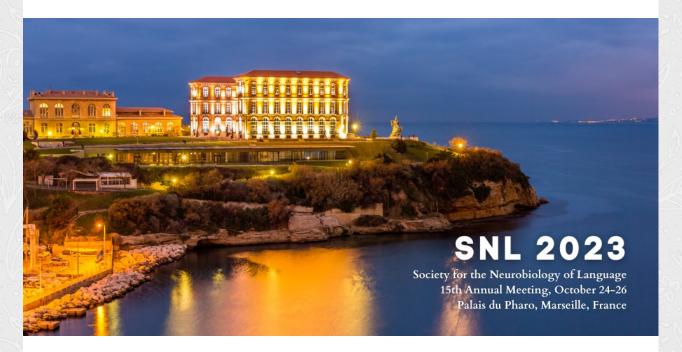
This month's highlight paper in the Neurobiology of Language is:
Cortical Tracking of Continuous Speech Under Bimodal Divided Attention
Zilong Xie, Christian Brodbeck, Bharath Chandrasekaran
Neurobiology of Language (2023) 4 (2): 318–343.

Matt Davis is interested to share this 100-word summary of the paper, written by **Chat GPT**

New research explores how dividing attention between listening and visual tasks affects speech processing. Participants performed a visual task while listening to audiobook stories. The study found that high cognitive load in the visual task led to lower speech comprehension accuracy. However, neural tracking of most acoustic and linguistic speech features remained unchanged with increasing dual-task load, suggesting that early sensory representations were not impaired. Instead, the effects of divided attention were observed at later cognitive processing stages. These findings shed light on the complex nature of bimodal divided attention and its impact on speech processing.

and another summary that he wrote:

We live in distracting times. Although we might still appear to understand speech while driving or using our mobile phones, subtle deficits in comprehension are apparent. Are we right to be frustrated when conversing with someone whose attention is directed elsewhere? Answers can come from an EEG study by Zilong Xie and colleagues. They show that engaging in a difficult visual task reduces, but does not abolish, brain responses to sounds and words in spoken stories. Despite listeners making more errors on comprehension questions after distracted listening, brain responses to spoken words remain largely unchanged. The authors suggest that disruption of comprehension during demanding dual tasks occurs due to later effects on processes involved in understanding and remembering sentences.

Other writers interested in summarising papers for the newsletter should get in touch with SNL Publications Officer **Matt Davis**.

Neurobiology of Language is the open-access journal sponsored by the Society for the Neurobiology of Language and MIT Press. Launched in March 2019, the journal provides a new venue for articles across a range of disciplines addressing the neurobiological basis of speech and language. To learn more about Neurobiology of Language and how to submit articles, go to **https://www.mitpressjournals.org/nol.**

Job Postings and Announcements

If you have a job posting, general announcement, or conference that you would like to include in the SNL Newsletter, please send it to **newsletter@neurolang.org**

Job Postings

PhD position - Neurolinguistics & Computational Modeling
University of Lille in France

We are looking for a PhD student to work on a computational modeling project in the field of neurolinguistics. The position is at the **University of Lille in France**, in collaboration with **Grenoble Alpes University**. The project aims to develop a neurocomputational model addressing the link between perception and language production. The collection of new data to test the predictions made by the model could also be considered. The computational goal is to account for the adaptation of the speech production system to perceptual inputs (musical rhythm and model speakers) in typical speakers and those with Parkinson's disease.

This 3-year position is fully funded by the French National Centre for Scientific Research (CNRS). The PhD student will be co-supervised by Anahita Basirat and Julien Diard.
Lab in Lille: **https://scalab.univ-lille.fr**
Lab in Grenoble: **https://lpnc.univ-grenoble-alpes.fr/**

The planned start date is **1 October 2023** with some leeway but definitely before January 2024. Applications will be considered until the position is filled.

Applicants must hold a master's degree at the beginning of the PhD. The candidate must have a background in computer science, applied mathematics or signal processing, with a strong affinity for cognitive science, or instead a background in cognitive science, with a strong
affinity for mathematical modeling. The candidate must have previous experience in scientific research in a laboratory. Mastery of a scientific calculus language, or of a general-purpose programming language is required (e.g., R, Python, Matlab, etc.). Previous experience in probabilistic, dynamic systems, or connectionist modeling is a plus but is not required. Previous knowledge in the field of speech sciences or psycholinguistics/neurolinguistics is also a plus. Knowledge of French is not necessary.

For details and how to apply, please see: **https://emploi.cnrs.fr/Offres/Doctorant/UMR9193-ANABAS-001/Default.aspx?lang=EN**

If you have questions, please email us **anahita.basirat@univ-lille.fr** and **julien.diard@univ-grenoble-alpes.fr**).

Lab Manager Position - Stanford University
Laboratory of Speech Neuroscience, PI Laura Gwilliams

The Laboratory of Speech Neuroscience (LySN Lab) within the Department of Psychology, Wu Tsai Neurosciences Institute and Stanford Data Science is seeking a full-time Lab Manager. The role involves assisting with psychophysics and neuro-imaging (EEG, MEG, fMRI, SEEG) research, in order to understand the neural mechanisms that support speech comprehension. Primary responsibilities: preparing IRB protocols, scheduling and screening participants, behavioral and neuro-imaging data collection, data processing, statistical analysis, help with publication preparation and submission. This is a one-year fixed term position with the possibility of renewal based on funding.

To be considered, please complete this google form, where you will also be asked to upload your CV and cover letter: **https://forms.gle/tahitsPXokMX3FBW7**

This is 100% FTE. This position will be based on the Stanford Campus.

Two Post-Doctoral Research Positions
University of South Carolina

Postdoctoral Fellows: Cognitive Neuroscience of Semantics. Two post-doctoral research positions are available in the laboratory of Dr. Rutvik Desai at the University of South Carolina, Department of Psychology. The lab focuses on cognitive neuroscience of language and neural representation of concepts using neuroimaging, brain stimulation, patient studies, lesion-symptom mapping, and computational modeling. Excellent facilities for fMRI, TMS, tDCS, EEG, and eye tracking are available. The Fellow will have an exciting opportunity to pursue collaborative and self-directed projects at the Institute for Mind and Brain (**http://mindandbrain.sc.edu/**). Opportunities to work on a large multi-modal neuroimaging dataset that includes fMRI of naturalistic language, for collaborations with computer scientists to develop cutting-edge analysis methods using machine learning methods, and for developing computational models of brain function, are available.

Candidates with a PhD in any of the cognitive sciences (e.g., Psychology, Neuroscience, Computer Science) are welcome to apply. A research background in cognitive neuroscience/cognitive science, relevant to semantic or language processing, is required. Expertise with fMRI (including MVPA; one of AFNI/SPM/FSL), or brain stimulation (TMS or tDCS) is highly desirable. Experience in one or more of lesion-symptom mapping, behavioral testing or imaging of patient populations, EEG, connectionist modeling, or machine learning is also a positive, along with skills in programming and statistics (e.g., Python, Matlab, R). A promising publication record is also desirable. Salary will be commensurate with experience. Applications should include a CV, brief statement of research experience and interests, and names of three referees (who will be asked for a reference letter if necessary; actual letters are not required initially). Expected starting date is Fall 2023, but is flexible. Applications should be sent to **rutvik@sc.edu** and will be assessed as they arrive.

The University of South Carolina is an affirmative action, equal opportunity employer. Women and minorities are encouraged to apply. The University of South Carolina does not discriminate in educational or employment opportunities or decisions for qualified persons on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation or veteran status.

Postdoctoral Position, The Hong Kong Polytechnic University

Applications are invited for a two-year postdoctoral position in the laboratory of Dr. Caicai Zhang (**https://research.polyu.edu.hk/en/persons/caicai-zhang**), in the Research Centre for Language, Cognition and Neuroscience, Department of Chinese and Bilingual Studies, at the Hong Kong Polytechnic University. The successful candidate will work with Dr. Zhang and an interdisciplinary research team on a longitudinal project funded by the Ministry of Science and Technology of PRC. This project aims to track developmental changes in brain, memory, language and sleep in 3-7 year old children.

Expected performances
• Collect and analyze multi-modal neuroimaging data (fMRI, sMRI, DTI and EEG) from young children.
• Publish first-author papers in the field of neuroscience or developmental psychology as well as regular oral/poster presentations at conferences.
• Work collaboratively with participants, their caregivers and other staff, and manage Research Assistants and students.

Qualifications and training
• PhD in cognitive neuroscience or a related field.
• Strong publication record that includes first-author publications in the field of neuroscience.
• Substantial training and experience in neuroimaging analytical tools (e.g., SPM, CAT12, FSL, AFNI), or brain oscillatory analysis during sleep.

Preferred Education, Skills, and Experiences:
• Expertise in developmental neuroscience (with MRI experience) preferred.
• Expertise in child language acquisition or developmental disorders of language preferred.
• Strong programming skills (Matlab, R, Python) preferred.

Professional development
• Possibility of developing individual projects and applying for external grants.
• Possibility of mentoring undergraduate and Master's students.

We are
Research Centre for Language, Cognition and Neuroscience is an interdisciplinary research centre that focuses on basic and translational research on the cognitive neuroscience of language. We have a strong track record in research on language processing, language evolution/development and developmental disorders of language and communication. We have state-of-the-art facilities in neuroimaging, including MRI, EEG, fNIRS, TMS and tDCS, through the University Research Facility in Behavioral and Systems Neuroscience (**https://www.polyu.edu.hk/ubsn/**) and the Speech and Language Sciences Laboratories (**https://www.polyu.edu.hk/en/cbs/facilities/speech-and-language-sciences-laboratories/**) at the Hong Kong Polytechnic University.

Application
Applications should include: a current curriculum vitae, a cover letter describing research interests and experience, and contact information for 2-3 references. Applications will be considered until the positions are filled.

Contact
Application materials should be sent by email to Dr. Zhang (mailto:**caicai.zhang@polyu.edu.hk**). Informal questions and inquiries may also be directed to Dr. Zhang by email.

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