

# Lecture Series *Language and the Brain*

## Berlin School of Mind and Brain, Summer Term 2021

Please note: References highlighted by an asterisk (\*) are required readings and form, together with the content of the lectures, the basis of the final exam. Additional recommendations for readings are given for interested participants.

### 01. From Brain Structure to Linguistic Function 19.4

\*Pulvermuller, F. (2002). Neuronal Structure and Function. In *The neuroscience of language: on brain circuits of words and serial order* (pp. 9–32). Cambridge University Press.  
<https://doi.org/10.1017/CBO9780511615528.004>

\*Pulvermuller, F. (2002). From Classic Aphasia Research to Modern Neuroimaging. In *The neuroscience of language: on brain circuits of words and serial order* (pp. 33–49). Cambridge University Press. <https://doi.org/10.1017/CBO9780511615528.005>

Schomers, M. R., Garagnani, M., & Pulvermüller, F. (2017). Neurocomputational consequences of evolutionary connectivity changes in perisylvian language cortex. *Journal of Neuroscience*, 2693-16. doi:10.1523/JNEUROSCI.2693-16.2017

(in depth: Pulvermüller, F. (2018). Neural reuse of action perception circuits for language, concepts and communication. *Progress in Neurobiology*, 160, 1-44: Sections 1 & 2.)

### 02. Phonetics and phonology 26.4

\*Fromkin, V., Rodman, R., & Hyams, N. (2013). An introduction to language. Wadsworth: Cengage Learning (pp. 189–223).

Galantucci, B., Fowler, C. A., & Turvey, M. T. (2006). The motor theory of speech perception reviewed. *Psychonomic bulletin & review*, 13(3), 361-377.

(in depth: Pulvermüller, F. (2018). Neural reuse of action perception circuits for language, concepts and communication. *Progress in Neurobiology*, 160, 1-44, Section 3.1.)

### 03. Lexical and Semantic Word Categories 03.5

TBA (Näätänen, Marslen-Wilson)

(in depth: Pulvermüller, F. (2018). Neural reuse of action perception circuits for language, concepts and communication. *Progress in Neurobiology*, 160, 1-44, Section 3.2.)

### 04. Meaning in mind and brain 10.5.

\*Pulvermüller, F. (2013). How neurons make meaning: Brain mechanisms for embodied and abstract-symbolic semantics. *Trends in Cognitive Sciences*, 17(9), 458-470.  
[doi:10.1016/j.tics.2013.06.004](https://doi.org/10.1016/j.tics.2013.06.004)

Moseley, R. L., & Pulvermüller, F. (2014). Nouns, verbs, objects, actions, and abstractions: Local fMRI activity indexes semantics, not lexical categories. *Brain and Language*, 132, 28-42.  
[doi:10.1016/j.bandl.2014.03.001](https://doi.org/10.1016/j.bandl.2014.03.001)

(in depth: Pulvermüller, F. (2018). Neural reuse of action perception circuits for language, concepts and communication. *Progress in Neurobiology*, 160, 1-44, Section 3.2.)

**05. Constructions and Combinations 17.5**

TBA (Goldberg, Cappelle)

06. Q&A Session I 31.5

Please send your questions until 18.5.2021!

**07. Interplay between Prediction and Integration 07.6**

TVA (Pickering, Grisoni)

**08. Speech Acts and Communication 14.6**

\*Tomasello, R., Kim, C., Dreyer, F. R., Grisoni, L., & Pulvermüller, F. (2019). Neurophysiological evidence for rapid processing of verbal and gestural information in understanding communicative actions. *Scientific Reports*, 9(1), 16285. doi:10.1038/s41598-019-52158-w

Hagoort, P., & Levinson, S. C. (2014). Neuropragmatics. In M. S. Gazzaniga (Ed.), *The cognitive neurosciences* (pp. 667-674). Boston, MA: MIT Press.

**09. Language Breakdown and Therapy 21.6**

\*Blumstein, S. E. (2016). Psycholinguistic approaches to the study of syndromes and symptoms of aphasia. In G. Hickok & S. L. Small (Eds.), *Neurobiology of language* (pp. 923-933). Amsterdam: Elsevier.

Pulvermüller, F., Mohr, B., & Taub, E. (2016). Constraint-induced aphasia therapy: A neuroscience-centered translational method. In G. Hickok & S. L. Small (Eds.), *Neurobiology of language* (pp. 1025-1034). Amsterdam: Elsevier.

**10. Brain Constrained Neural Language Modelling 28.6**

TBA (Kriegeskorte)

11. Q&A Session II 05.7.

Please send your questions until 29.6.2021!

12. Final exam 12.7.