

Colloquium/Seminar

## **Progress in Brain Language Research**

Friedemann Pulvermüller

2 SWS, Seminar/Colloquium, WiSe 2023

Zeit/Time: Mi/Wed 16-18 h (start: 16:15h)

Ort/Location: FU Berlin, room JK 26/035 in the Brain Language Laboratory 2 (Habelschwerdter Allee 45)

On Webex: <https://fu-berlin.webex.com/meet/friedemann.pulvermuller>

### **Colloquium/Seminar *Progress in Brain Language Research***

In the winter term 2023/2024, Prof Pulvermüller is on sabbatical. However, to ensure a degree of professorial teaching during this semester at the Institute, the colloquium will be offered in reduced form. Please find this reduced program below, together with a general description of the course's aims and the related technicalities.

This seminar is for BA, MA and PhD students and for researchers interested in language science. The course will focus on reviewing and discussing recent progress in the cognitive neuroscience of language and in the fields of semantics and pragmatics. The seminar has four main strands:

1. BA and MA candidates working in the field of semantics, pragmatics or brain language research will present their work plans and first results,
2. Researchers at the FU Berlin's Brain Language Laboratory will present their ongoing work and explain their recent findings or summarize their recent publications,
3. Recently published remarkable research articles in the fields of brain language research, semantics and pragmatics will be reviewed by the participants to highlight the progress in the field,
4. National and international expert speakers will present their research in cognitive neuroscience of language and linguistics.

This term, there will be a focus on research related to the ongoing ERC Advanced Grant Project *Material Constraints Enabling Human Cognition (MatCo)*, where we are trying to specify the mechanistic neuronal circuits underlying human language use. Ongoing research from a range of other current research endeavors will also be featured. Work from the EU's International Training Network *Conversational Brains (CoBra)* and the French-German research initiative on *Phonological Networks in Speech Production and Understanding (PhoNet)*, will be in focus in two sessions jointly held with Prof Kristof Strijker's group at the CNRS Laboratoire Parole et Langage of Université Aix-Marseille. In addition, work from the DFG-projects on *Brain Signatures of Communication (BraiSiCo)*, *The Sound of Meaning (SOM)* and *Intensive Language Action Therapy of Aphasia (ILAT)* will be covered. Generous funding support by the European Research Council, the European Union and the Deutsche Forschungsgemeinschaft is kindly acknowledged.

Most presentations will be given in English, but presentations in German are welcome too. Students and researchers who are interested to participate in this colloquium are kindly requested to contact [Verena.Arndt@fu-berlin.de](mailto:Verena.Arndt@fu-berlin.de) or Friedemann Pulvermüller.

#### **Seminar related recent publications:**

Constant, M., Pulvermüller, F., & Tomasello, R. 2023. Brain constrained modelling explains fast mapping of words to meaning. *Cerebral Cortex*, in press.

Henningsen-Schomers, M. R., Garagnani, M., & Pulvermüller, F. 2023. Influence of language on perception and concept formation in a brain-constrained deep neural network model. *Philosophical Transactions of the Royal Society B: Biological Sciences*. doi: <https://doi.org/10.1098/rstb.2021.0373>

Pulvermüller, F. 2024. Neurobiological Mechanisms for Language, Symbols and Concepts: Clues From Brain-

Colloquium/Seminar

## Progress in Brain Language Research

Friedemann Pulvermüller

2 SWS, Seminar/Colloquium, WiSe 2023

Zeit/Time: Mi/Wed 16-18 h (start: 16:15h)

Ort/Location: FU Berlin, room JK 26/035 in the Brain Language Laboratory 2 (Habelschwerdter Allee 45)

On Webex: <https://fu-berlin.webex.com/meet/friedemann.pulvermuller>

constrained Deep Neural Networks. Prog Neurobiol, 102511.

<https://doi.org/10.1016/j.pneurobio.2023.102511>

## Technicalities

The course is part of the teaching offered by the Freie Universität's FB Philosophy and Humanities and by the Berlin School of Mind and Brain at the Humboldt Universität. It is open to interested students from all departments. It will be chaired by Friedemann Pulvermüller under the admin support of Verena Arndt.

To obtain a certificate of attendance, it is necessary to

- attend most of the sessions (maximum misses: three),
- pre- and reprocess the session content by reading the recommended key papers, and
- present a key paper, own research or a research plan addressing language related topics.

Contact and more information:

Verena Arndt (Sekretariat), online or rm JK 31/234; phone: +49 (0)30 838 58140 E-mail:

[verena.arndt@fu-berlin.de](mailto:verena.arndt@fu-berlin.de)

Friedemann Pulvermüller, online or rm JK 31/232; Office hour: Wed 12-13 h

For more information and updates, please visit:

<http://www.brainlang.fu-berlin.de/teaching>

<http://www.geisteswissenschaften.fu-berlin.de/v/brainlang/teaching/index.html>

## Comments on the Seminar Program

This term, most of the seminars will be held at the Freie Universität 'in-presence'; however, some sessions where speakers cannot come to Berlin will be 'virtual' seminars (as indicated by *blue text*). We will start with a session on Webex (<https://fu-berlin.webex.com>). In preparation, please install the free version of 'Cisco Webex Meetings' available from the FU website if you haven't already done so, and make sure that you have communicated your email address to [verena.arndt@fu-berlin.de](mailto:verena.arndt@fu-berlin.de)!

You can partake in the virtual sessions by clicking the link:

<https://fu-berlin.webex.com/meet/friedemann.pulvermuller>

For non-virtual 'in Präsenz' sessions of this seminar, the following time slot and room have been reserved: **Wednesdays, 16:15 – 17:45 h, in room JK 26/035 (BLL2) of the main building of the Freie Universität Berlin, Habelschwerdter Allee 45, 14195 Berlin.**

Colloquium/Seminar

**Progress in Brain Language Research**

Friedemann Pulvermüller

2 SWS, Seminar/Colloquium, WiSe 2023

Zeit/Time: Mi/Wed 16-18 h (start: 16:15h)

Ort/Location: FU Berlin, room JK 26/035 in the Brain Language Laboratory 2 (Habelschwerdter Allee 45)

On Webex: <https://fu-berlin.webex.com/meet/friedemann.pulvermuller>

**Seminar Program**

sessions will be **virtual only (blue)** or in real life ('in presence')

**Webex link to the colloquium and lecture room: see header above.**

**11.10. Research talks by Anna-Thekla Jäger and Johanna Knechtges**

Practice presentations in preparation for the annual conference of the Deutsche Gesellschaft für Aphasie und ihre Behandlung, GAB

**06.12. Research talk by Dr Effrosyni Ntemou**

"Effects of linguistic properties in language mapping: Evidence from VLSM, nTMS, and DES"

**07.02. Research talk by Anna-Thekla Jäger**

"Reduced Long-Range Temporal Correlations in the BOLD signal reflect Language and Mood Improvements following intensive language action therapy (ILAT) in patients with chronic aphasia after stroke"

**Project proposal by Kubra Fatullayeva**

"Short term structural plasticity following intensive language action therapy (ILAT)"

**28.02. Journal club session**

Presentation by Effrosyni Ntemou: "The Wernicke conundrum"