PhD Program between Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2026

Department/Institute: Education and Psychology

Subject area: Cognitive Neuroscience

Name of Supervisor: Prof. Dr. Radoslaw Cichy

Number of open PhD positions: 2

Type of the PhD Study: Full-time

Project title: **Dissecting the role of feedforward and recurrent processing in human visual cortex**

PhD Project description:

Humans recognize everyday visual objects without effort and in the blink of an eye. Empirical work has shown that the interplay of feedforward and recurrent processing in the visual brain mediates this ability. However, the role of feedforward and recurrent processing remain unclear, as feedforward and recurrent processes overlap strongly in space and time. The goal of the PhD position is to reveal the distinctive roles of feedforward and feedback processing in the visual brain. This will be achieved by leveraging advances in AI-driven neuroscience to control the activity of single visual brain regions (Gifford et al., 2025). Combined with the classical technique of backward masking this will allow determining the role each visual area plays specifically in mediating vision: we will determine the visual contents that are processed feedforward, versus those that are processed recurrently.

Language requirements:

- IELTS: 6,5 oder TOEFL: 95 ibt or Test Daf 16 bzw. DSH 2

Academic requirements:

Suitable subject areas: cognitive neuroscience, psychology, cognitive science, computer science or related

A Bachelor degree may be sufficient based on the demonstrated skills of the applicant – you need to have reached the highest possible grade and go through additional evaluation. A Master's degree is therefore strongly preferred.

Information of the professor or research group leader (website, awards etc.):

Website of the research group:
https://www.ewi-psy.fu-berlin.de/en/einrichtungen/arbeitsbereiche/neural_dyn_of_vis_cog/index.html

Awards:

2024: ERC Consolidator Grant 101123101 (PI, 2.3M€) A theory and model of the neural transformations mediating human object perception (TRANSFORM)
2022: Early Career Impact Award from the Federation of Associations in Behavioral and Brain Sciences (FARBS)
2020: Scout of the Henriette Herz Scouting Program of the Alexander von Humboldt Foundation
2020: Neuroimage Paper of the Year
2019 Fellow of the Research Group "Cognitive Behavior of Humans, Animals and Machines: Situation Model Perspectives" (Center for Interdisciplinary Research, University Bielefeld)

Key publications:
Xie S, Singer JJD, Yilmaz B, Kaiser D*, **Cichy RM*** (2025) *Recurrence affects the geometry of visual representations across the ventral visual stream in the human brain. PloS Biol 23: e3003354.*

Gifford AT, Jastrzębowska MA, Singer JJD, **Cichy RM** (2025) *In silico discovery of representational relationships across visual cortex.* Nat Human Behav; doi: 10.1038/s41562-025-02252-z

Lu Z*, Doerig A*, Bosch V*, Krahmer B, Kaiser D*, **Cichy RM*,** Kietzmann TC* (2025). *End-to-end topographic networks as models of cortical map formation and human visual behaviour.* Nat Human Behav; doi: 0.1038/s41562-025-02220-7.

Lahner B, Dwivedi K, Iamshchinina P, Graumann M, Lascelles A, Roig G, Gifford AT, Pan B, Jin S, Murtz NAR, Kay K, Oliva A*, **Cichy RM*** (2024) *BOLD Moments: modeling short visual events through a video fMRI dataset and metadata*. Nat Comm 15: 6241; doi: 10.1038/s41467-024-50310-3.

Graumann M, Ciuffi C, Dwivedi K, Roig G, **Cichy RM** (2022) *The spatiotemporal neural dynamics of object location representations in the human brain.* Nat Human Behav 6: 796–811; doi 10.1038/s41562-022-01302-0.

Cichy RM, Oliva A (2020) *A M/EEG-fMRI Fusion Primer: Resolving Human Brain Responses in Space and Time*. Neuron 107(5): 772-781; doi: 10.1016/j.neuron.2020.07.001.

Cichy RM & Kaiser D (2019) *Deep neural networks as scientific models*. Trends Cogn Sci 23(4): 305-317; doi: 10.1016/j.tics.2019.01.009.

Please note:
In a first step, the complete application should be uploaded to the online portal (https://fuberlin.moveon4.de/form/60acfece5d328710e40bdbd5/eng) for evaluation by December 15th, 2025.