THE LANGUAGE CIRCLE

MPI FOR HUMAN COGNITIVE AND BRAIN SCIENCES, STEPHANSTRASSE 1A, LEIPZIG

30.10.2024, 13:00 CET

Wilhelm Wundt Room and Zoom: https://zoom.us/j/94686183586

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Investigating the neuro-cognitive implementation of visual word recognition underlying efficient reading

Visual word recognition is essential for efficient information processing in everyday reading. The talk will present our recent work on how we achieve efficient visual word recognition on visual and orthographic processing levels. We describe the underlying neuro-cognitive processes using transparent computational models that allow (i) a detailed understanding of how we implement visual word recognition, (ii) neuro-cognitive phenotyping to describe individual differences on the neuro-cognitive level, and (iii) to motivate training procedures with the potential to increase reading skill in groups of need. We conceptualized the model in a predictive coding framework involving explicit descriptions of efficient representations combined with evidence accumulation and categorization algorithms. Evaluation studies presented in the talk rely on brain activation measurements and behavioral data from typical readers, language learners, models, baboons, and pigeons.

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