

DiSCourse Seminar

The Digital Science Center would like to invite you to the following presentation by our guest speaker:

Lorenzo Vignali

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Spatiotemporal Dynamics of Abstract and Concrete Semantic Representations

Concreteness is a salient dimension of the semantic space, and abstract and concrete aspects of word meaning are critical to the way we represent and store semantic knowledge. In the brain, concreteness information is encoded in both low-level sensorimotor cortices as well as high-level association areas. The involvement of sensorimotor cortices in the representation of concreteness is accounted by semantic theories suggesting that concrete words engage sensorimotor simulations of perception and action. However, it is still debated when these simulations emerge during visual and spoken word recognition and whether they occur before or after the activation of higher-level semantic regions. Here, we tested these hypotheses using a multiple regression approach to magnetoencephalography (MEG) signals of visual and spoken words. Results showed that the earliest observable responses to our concreteness predictors lay in temporal and frontal brain systems, followed at later time stages by activations in somatosensory and motor cortices. Crucially this organization was observed independently from the presentation modality. The present findings indicate that abstract and concrete aspects of semantic information initially engage high-level association areas and only subsequently involve sensorimotor brain systems.

Date and Time: Friday, 19 November 2021, 12:00 (CET)

Please note: This presentation will be given **online** in [Big Blue Button](#). Participants do not need to register.

Guests are welcome!