D.I.N.E.

The Dahlem Institute for Neuroimaging of Emotion (D.I.N.E.) is an institution of the Cluster of Excellence Languages of Emotion and the Department of Education and Psychology of the Freie Universität Berlin. It offers modern neurocognitive labs on 800 m² with cutting edge neuroimaging facilities (3T fMRI, EEG, fNIRS, TMS, high-speed eye tracking) for investigating the interaction between language, cognition and emotion. The D.I.N.E. consists of six integrated experimental labs.

Interdisciplinary Neurocognitive Research

The main function of the D.I.N.E. is to support projects of the Cluster of Excellence Languages of Emotion. On this basis, the D.I.N.E. hosts and integrates related neurocognitive research at the Freie Universität Berlin, promotes third-party funding acquisition and offers new research opportunities for scientists from various disciplines (e. g., humanities, imaging genetics, neuropharmacology, linguistics, neuroeconomics, etc.) and for public-private partnerships.

➔ fMRILAB

A central part of the D.I.N.E. is its functional imaging lab with 3T MR scanner (Siemens Trio), including a 32-channel head coil and a high-speed eye tracking system for measuring eye positions and pupil dilations during the recording of hemodynamic brain activity in response to language and emotion-relevant situations.

➔ EEGLAB

D.I.N.E. offers five EEG labs with up to 128 EEG channels for recording brain electrical activity with millisecond precision. Evoked potentials, time/frequency EEG as well as combined fMRI-EEG or eye tracking-EEG investigations are part of the portfolio.

➔ EYELAB

Three high-speed eye trackers for oculo- and pupillometric studies of language and emotion processes with millimeter and millisecond precision.

➔ MAGSTIMLAB

Three transcranial magnetic stimulators (TMS) as well as two direct-current stimulators (DCS) are used to non-invasively interact with or stimulate defined cortical brain regions of interest. D.I.N.E. offers TMS and DCS neuromodulation in conjunction with MRI as well as with neuronavigation.

➔ SIMLAB

A computer simulation lab for quantitative modeling of mental processes via artificial neural networks, e. g. simulating those hidden processes that we think do all the “unconscious” work involved in psycholinguistic and emotional processes.

➔ NIRSLAB

Featuring three functional near infrared spectroscopy (fNIRS) systems for measuring hemodynamic activity in participant groups who cannot use the fMRILAB.