



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG



Representational Similarity Analysis (RSA) course

11th to the 13th of November 2026, 09:00-13:00 on all days

Dr. Arjen Alink, UKE & Universität zu Lübeck

Ivana Tanasic, UKE

Nahid Hasan, UKE

Course Itinerary

Day 1: Fundamentals & Data Handling in Colab

- Introduction to RSA, representational distances, and decoding analyses
- Interactive discussion and Q&A
- Getting started with Google Colab: environment setup and workflow basics
- Practical session: Using Colab to read, view, and perform basic manipulations on fMRI data, including an introduction to using existing MNI atlases for extracting fMRI data from pre-defined regions of interest (ROIs)

• Day 2: GLM Basics & Applied MVPA (PBL Format)

- Basic hands-on introduction to computing betas via the General Linear Model (GLM)
- Hands-on basic MVPA using an open-source fMRI dataset (in MNI space with pre-defined ROIs)
- Implementation of correlation-distance RDMs, SVM decoding, and related foundational techniques

• Day 3: Computing & Comparing Representational Distance Measures (PBL Format)

- Hands-on introduction to computing pre-whitened beta values
- Learning to compute (and compare) Euclidean, correlation, Mahalanobis, and cross-nobis distances, alongside a quick and simple full-brain "searchlight-like" MVPA analysis
- *Optional:* Additional analysis pipelines on a secondary dataset