Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

EMOTIONAL LEARNING AND MEMORY
GRK / RTG 2753

Workshop "Bayesian Statistics"

Prof. Dr. Timo von Oertzen, Thomas Bayes Institute
23rd to the 24th of April 2026, 09:00-16:00

Day 1:

Foundations
- Revision of pre-master knowledge
- Frequentism vs. modern probability theory
- Probability and randomness
- Random variables

Thinking Bayesian
- Belief Update
- Science Theory

The Math Behind Bayesian
- Probability Updating
- Bayes' Theorem
- Models
- Bayesian parameter estimation

How to Interpret Bayesian Results
- Interpreting posterior Distributions
- Probability of Hypotheses
- Point Estimators
- Credibility Intervals

Day 2:

Picking a Prior
- Properties of priors (proper, objective, informative)
- The Flat Prior (and why it's really a good idea) Other Methods for Bayesian Estimation
- Conjugate Priors
- Likelihood Ratio Approximation
- Monte Carlo Markov Chains

Programs to do Bayesian
- Bayesian with R (Blavaan)
- Bayesian with Onyx
- Bayesian with likelihood-based programs