Cross-Movie Prediction of Individualized Functional Topography
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Background
◆ Category-Selective Topographies
  ➢ Category-selective topographies are mostly similar across individuals but are idiosyncratic in terms of their precise conformation and location (Zhen et al., 2015, 2017).
  ➢ Functional localizer scans are often included to map individualized topographies, using contrasts between responses to different categories (e.g., faces vs. objects).
◆ Naturalistic Stimuli
  ➢ Efficient. Naturalistic stimuli (e.g., movies) evoke a rich variety of brain states and engage multiple brain systems in parallel.
  ➢ Friendly. More friendly and engaging for special populations, such as young children.
◆ Using Naturalistic Stimuli to Predict Individual’s Topographies
  ➢ Individualized topographies can be estimated with high fidelity using response hyperalignment (RHA) while participants watch the same movie (Jiahui et al., 2020).
  ■ Movie contents need to be tailored.
  ■ Stimuli need to be shortened or edited to fit the schedule.
  ■ Different institutes, scanner models, parameters.

Datasets
◆ Movies
  1 Forrest Gump
  2
  3
◆ Localizers
  Category-Selective Localizers

Procedures Based on Connectivity Hyperalignment (CHA)

Cha Enables Cross-Movie Predictions

Best Prediction Performance in Highly Reliable Areas