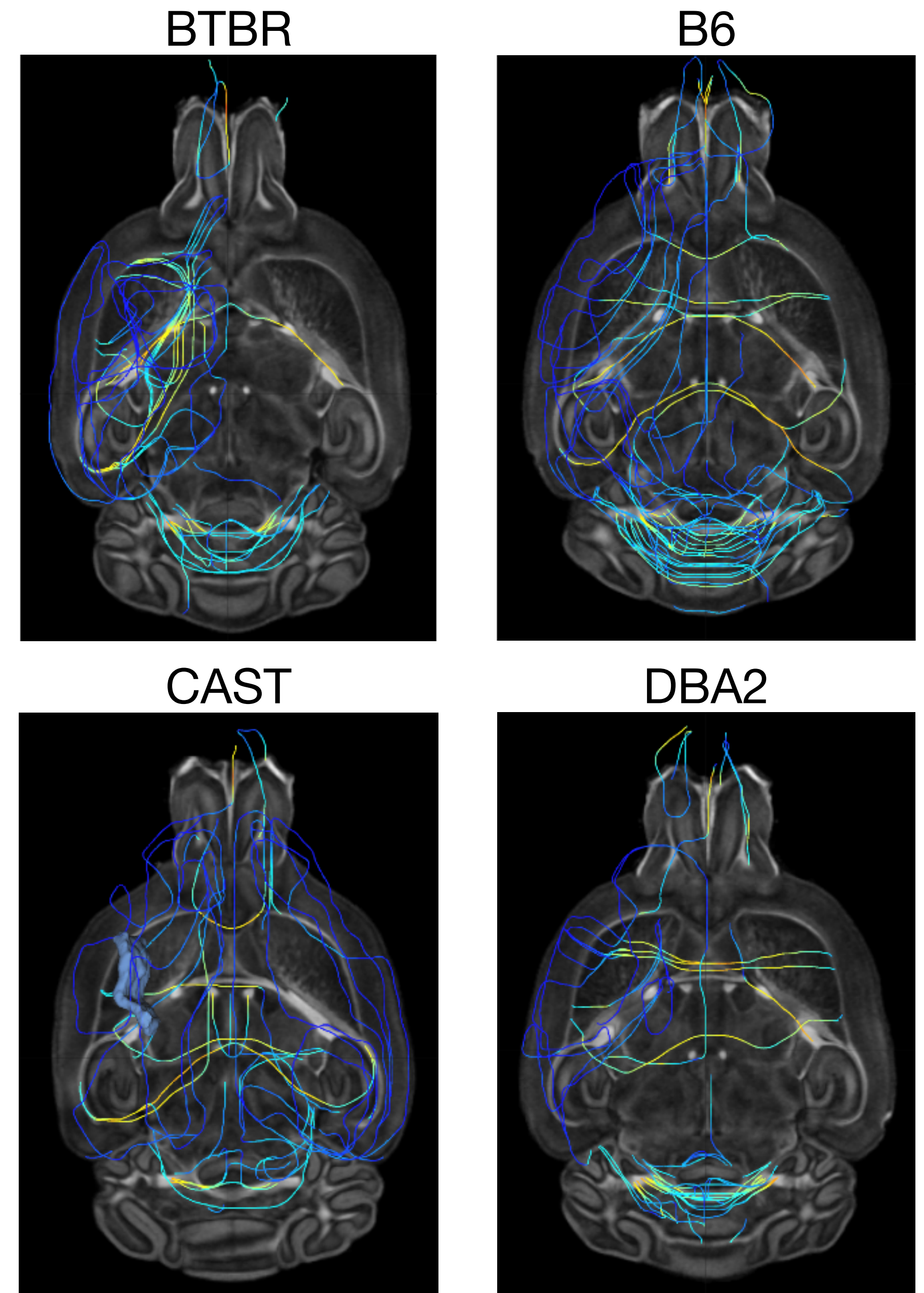
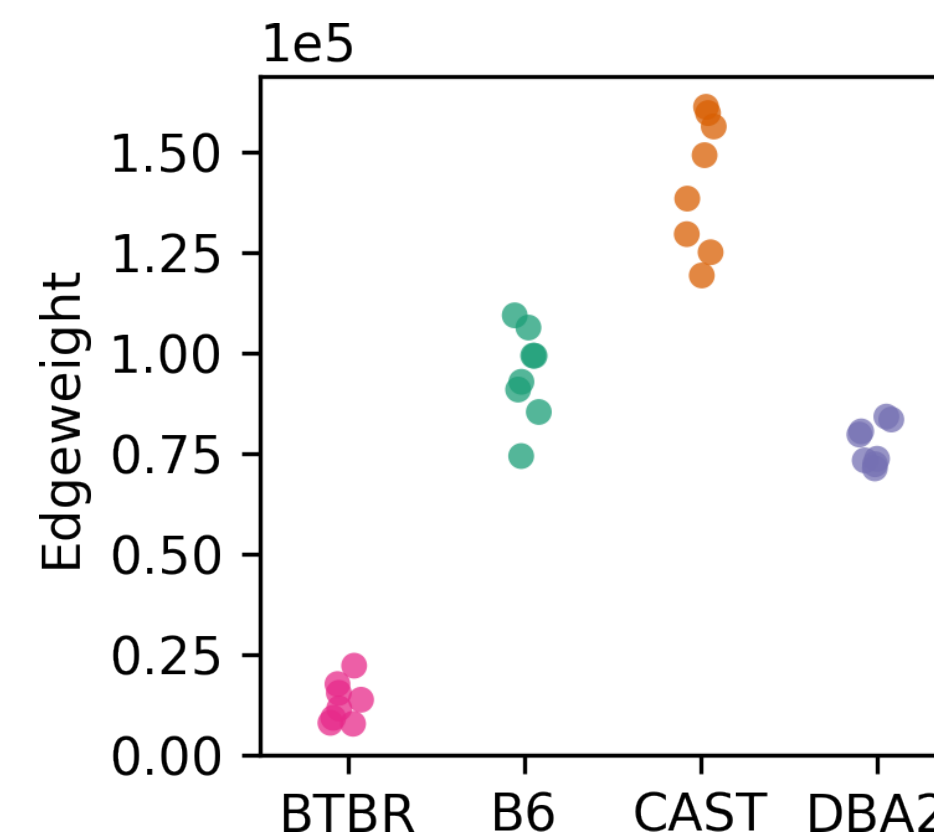


# Identifying signal edges

## Model: Erdős–Rényi

- Assume all edges are i.i.d
- Serial univariate statistical tests
- Distance Correlation outperforms traditional tests (ANOVA, Kruskal — Wallis)
  - Simulation



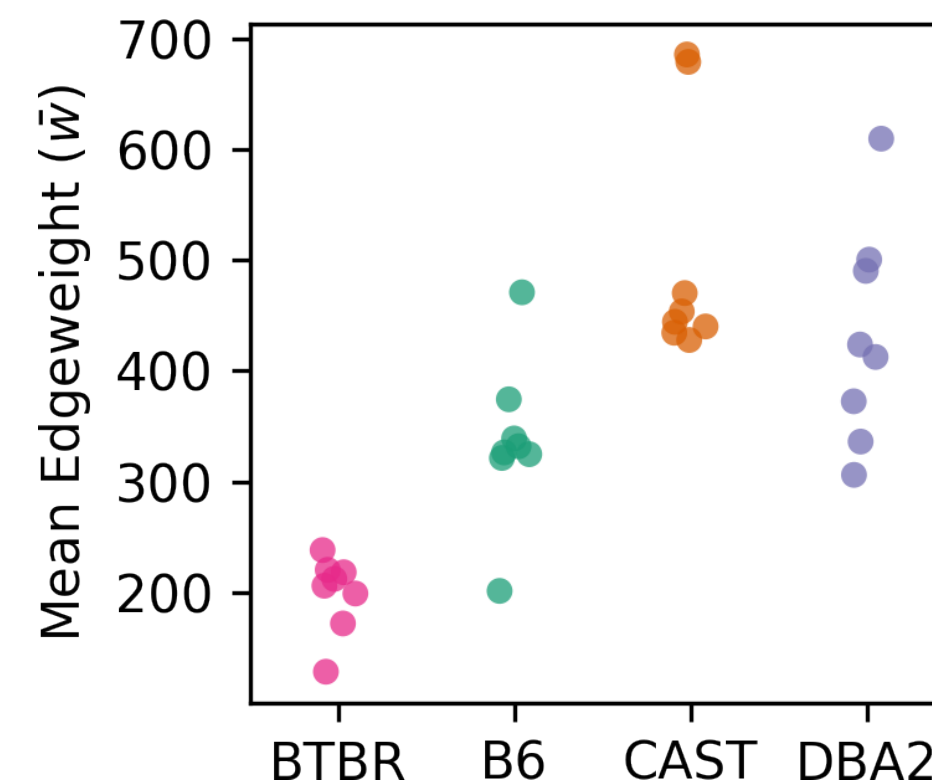
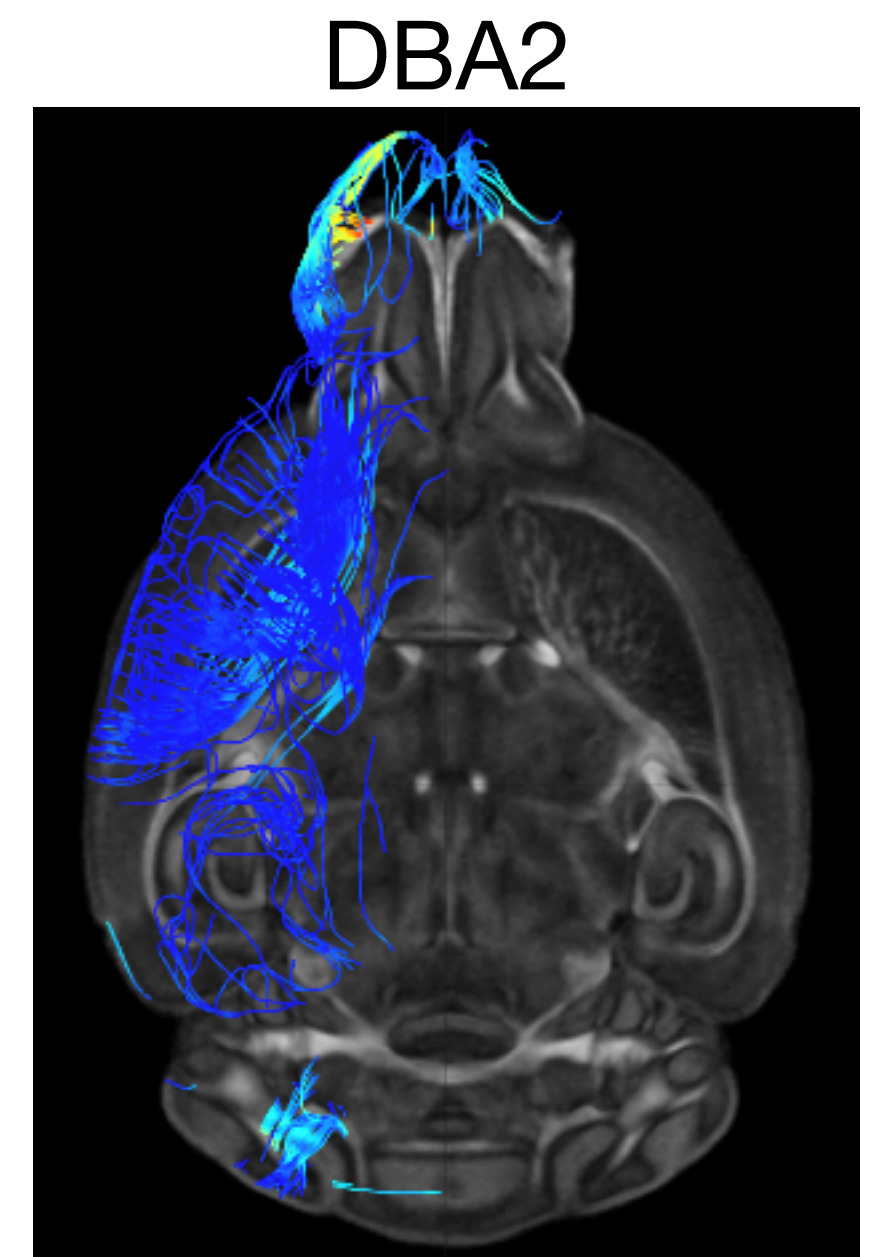
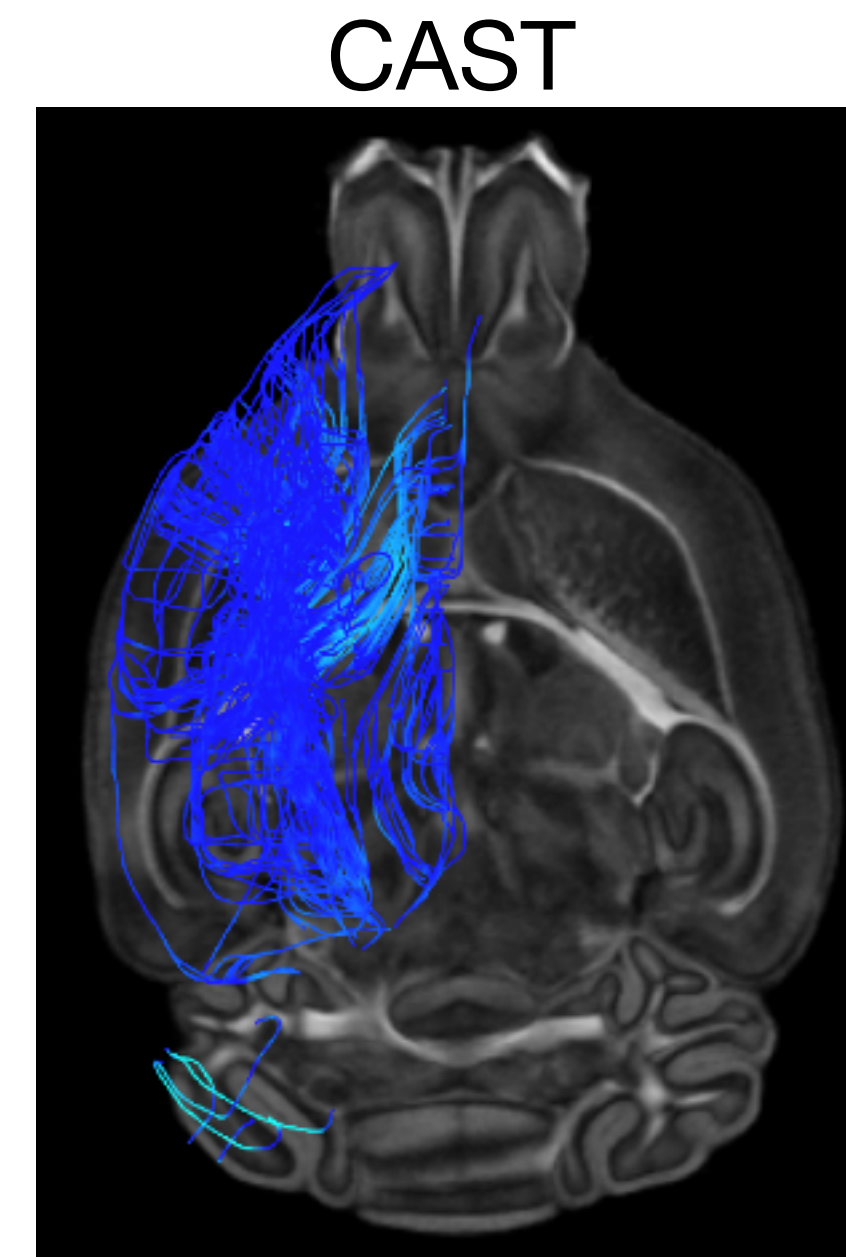
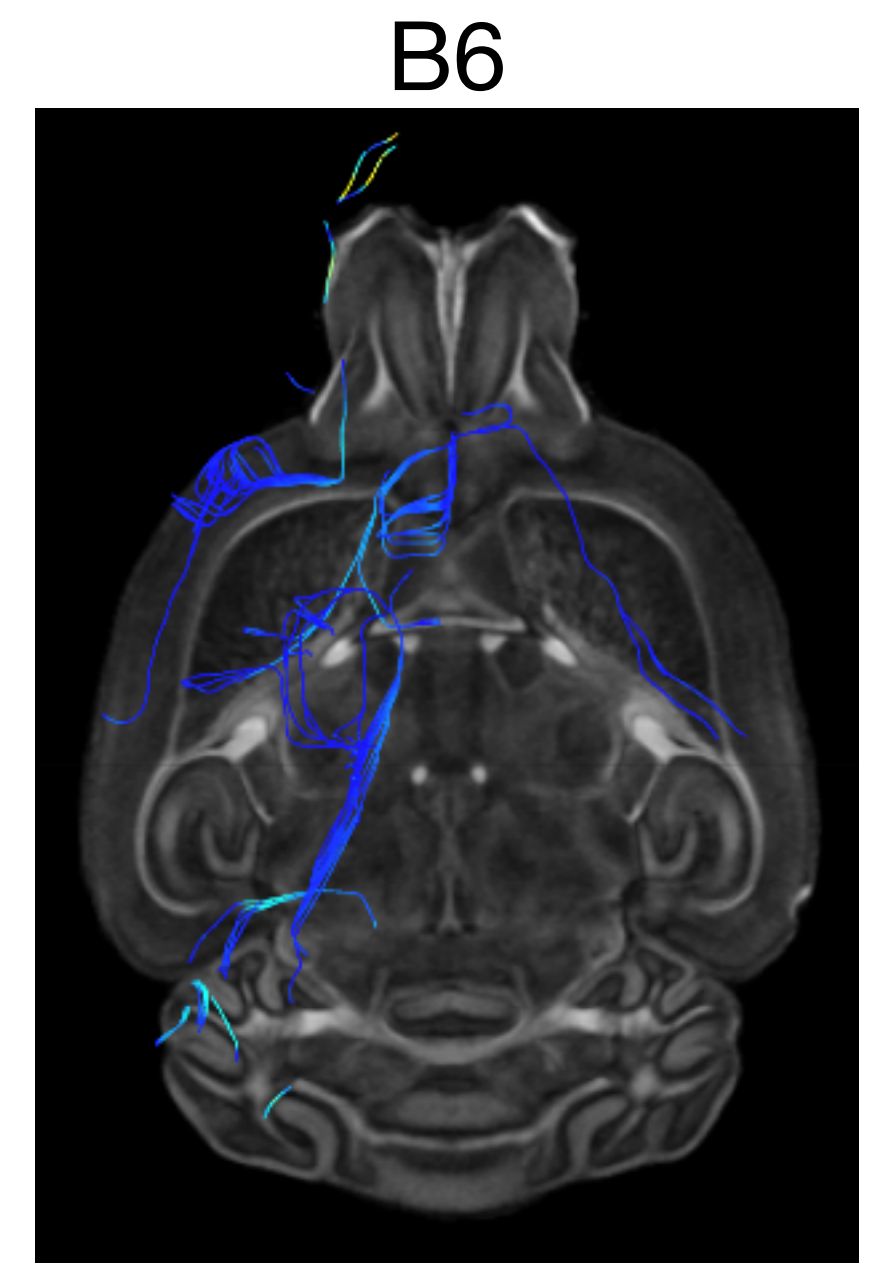
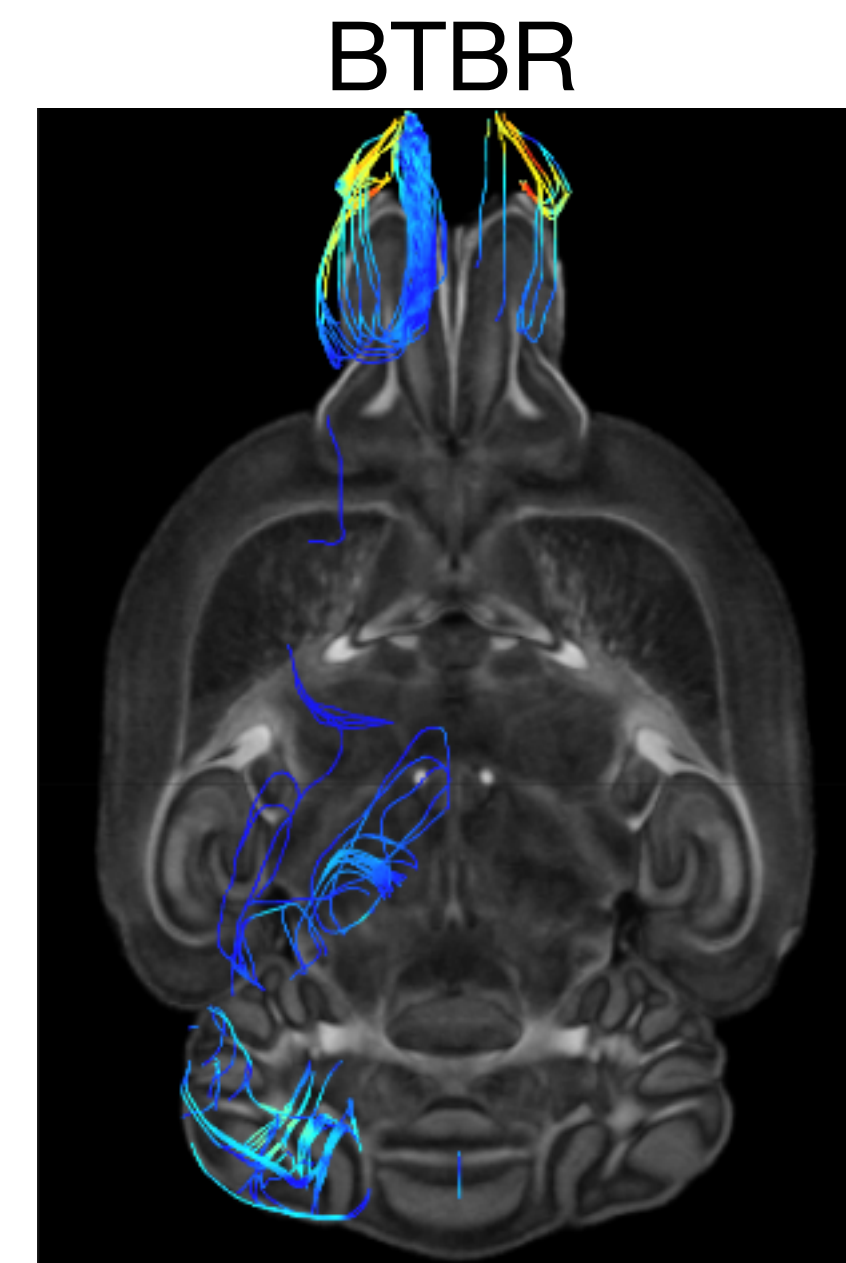
Primary somatosensory cortex dysgranular zone (L) to hemisphere inferior cerebellar peduncle (L)



# Identifying signal communities

## Model: Stochastic Block Model (SBM)

- Assume communities are known *a priori*
- Compared univariate and multivariate community representations
- Distance Correlation outperforms traditional tests (ANOVA, Kruskal Wallis)
  - Simulation



Isocortex (L) to Hindbrain (L)