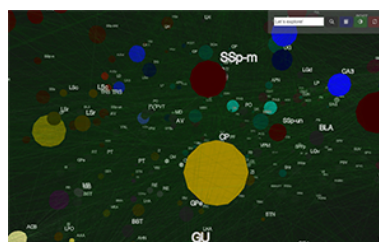
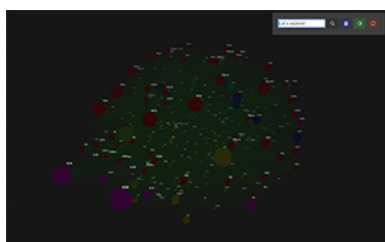


Connectome Informatics

Goal and approach

The final goal of our research is to establish artificial general intelligence (AGI) modelling the real brain. To this end, we seek to bridge between neuroscience and artificial intelligence (AI) so that AI researchers and engineers can make use of neuroscience knowledge to advance development of AGI. We will particularly focus on brain network analysis to direct development of AGI based on the approach from the whole brain architecture (WBA), which hypothesizes that information processing in the whole brain is implemented by connection and integration of machine-learning modules. We will also develop methods to effectively and efficiently conduct brain network analysis.



We are currently engaged in:

Analysis of static aspects of WBA

- Upgrading the whole brain reference architecture exploiting knowledge from connectome
- Constructing frameworks of brain organs (such as cortical areas, the hippocampus or the basal ganglia)

Analysis of dynamic aspects of WBA

- Identifying temporal evolution of neural activities underlying behaviourally externalized abilities
- Mapping between neuronal activity data and engineering models

Constructing measures to evaluate biological plausibility of models