1 Review

[1] Basic Idea: The Virtual Brain (TVB), allows modeling based simulation, analysis and inference of neurophysiological mechanisms over several brain scales underlying the generation of macrsocopic neurlogical signals such as electroencephalography (EEG).

Background: Observations of signals emitted by neurons and neuronal populations is a common approach to analyzing brain function. The physiological behavior at microscopic (synaptic and neuron) levels are important for understanding neuronal computation, while the whole-brain scale and brain network activity are important for understanding integration and cognition. These macroscopic signal features emerge from the interaction of neuronal popuations at local and global scales and the link to function still remains unclear. **How are biophysical activities, neuronal population activity and brain function related?**

References

[1] Petra Ritter, Michael Schirner, Anthony Randal McIntosh, and Viktor K. Jirsa. The virtual brain integrates computational modeling and multimodal neuroimaging. *Brain connectivity*, 3(2):121–145, 2013.