

You may answer in Finnish, Swedish or English.

1. Explain
 - a. the neurophysiological basis of MEG/EEG signals (3p)
 - b. the neurophysiological basis of fMRI BOLD signal (3p)
2. Explain
 - a. **why** and **how** the general linear model can be employed in fMRI data analysis (4p)
 - b. what is a 'functional localizer' and give an example of one (2p)
3. Compare and give examples of the appropriate use of
 - a. Block design vs. event-related experimental design (3p)
 - b. Categorical vs. parametric experimental design (3p)
4. Explain briefly in the context of MEG/EEG source modeling
 - a. forward problem (1p)
 - b. L1 minimum norm estimation (2p)
5. Discuss the benefits and drawbacks of using directed interaction measures in MEG functional connectivity analysis? (3p)

(24 p in total)