

Methods & models for fMRI data analysis – HS 2018



Translational Neuromodeling Unit



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Exam details

- Date: 18.12.2017
- Time: 10:00 – 11:30
- Location: ETZ E6 (same as the lecture hall).
- Bring with you: Something to write (pen), your Legi and an ID.
- No other material is allowed
- 36 MC questions, 90 min time

Example questions

The following three example questions give you an idea of the type of questions in the exam.

!!! Important: These are three fictitious questions that do not give any indication of the content and/or difficulty of the real exam questions !!!

Which of the following answers is correct?

- a) fMRI measures the magnetic properties of glia cells.
- b) fMRI measures the ratio between grey and white matter movement.
- c) fMRI measures the BOLD signal.
- d) fMRI measures blood flow averaged over cortex.
- e) fMRI measures the total amount of blood in a cortical area.

Which of the following statements is NOT correct?

- a) fMRI measures the magnetic properties of glia cells.
- b) fMRI measures a signal that depends on blood oxygenation.
- c) fMRI measures the BOLD signal.
- d) fMRI measures a signal that depends on the relative blood volume in a voxel.
- e) fMRI measures a signal that depends indirectly on neural activity.

Which combination of the following statements is correct?

- (1) fMRI measures the magnetic properties of glia cells.**
 - (2) fMRI measures the total amount of blood in a cortical area.**
 - (3) fMRI measures a signal that depends on blood oxygenation.**
 - (4) fMRI measures the BOLD signal.**
 - (5) fMRI measures the ratio between grey and white matter movement.**
- a) All five are correct**
 - b) (1), (3) and (4) are correct.**
 - c) Only (4) is correct**
 - d) (3) and (4) are correct.**
 - e) (2) and (4) are correct.**

Solutions

C, A and D