Methods & models for fMRI data analysis - HS 2019

Translational Neuromodeling Unit

Universität Zürich[UZH]

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Exam details

- Date: 17.12.2019
- 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 gray 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 gray 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