Course: Integrative Neuroscience (5 ECTS/5 op)

Organizers:

Teija Kujala, Professor of Cognitive Neuroscience and Its Applications, University of Helsinki, and
Yoshio Okada, Professor of Neurology and Neurosciences, University of New Mexico

Course Description:

This course provides opportunities for post graduate students and undergraduate students in psychology and other related disciplines to learn the methodological basis for the major neuroimaging tools and their applications in neuroscience. The course will consist of a series of lectures to be given by experts in the field and of literature (to be announced later). As prerequisite, the students should have taken introductory undergraduate courses in neuroscience. The lectures will have two 45-min presentations with a 15 min break. All the lectures will be given at the University of Helsinki, Department of Psychology (Room K69). The course will be also available to all interested eligible graduate and post graduate students of psychology in Finland via Psykonet. In the greater Helsinki area, the maximum of 45 students will be included (unlimited for the rest of the country).

Lecturers:

Prof. Kimmo Alho, Prof. Riitta Hari, Prof. Risto Ilmoniemi, Prof. Teija Kujala, Prof. Yoshio Okada, Prof. Josef Rauschecker, Dr. Doc. Simo Vanni

Course Schedule:

1) 17.9. at 12-14 Teija Kujala and Yoshio Okada
   Introduction: Non-invasive neuroimaging techniques and integrative neuroscience
2) 24.9. at 14-16 Yoshio Okada
   CNS Electrophysiology and Physiological basis of MEG and EEG
3) 26.9. at 12-14 Yoshio Okada
   MEG and EEG in human brain development research
4) 10.10. at 12-14 Josef Rauschecker
   Neurophysiological single-unit recording: still the gold standard?
5) 15.10. at 12-14 Riitta Hari
   Brain in time: MEG studies of human congition
6) 27.10 at 13-15 Risto Ilmoniemi
   TMS: Techniques and applications
7) 31.10. at 14-16 Simo Vanni
   fMRI in brain research
8) 7.11. at 14-16 Kimmo Alho

Applications of fMRI in Cognitive Neuroscience