MedViz
seminar series
http://medviz.uib.no

SEMINAR FRIDAY 18.03.11

PLACE: Aud 2, BBB
TIME : 12:00-13:00

SPEAKERS:

1. 1200 - 1230 Arvid Lundervold, Dep. of Biomedicine (UiB) & Department of Radiology (HUH)
2. 1230 - 1240 Mona Beyer, University of Stavanger
3. 1240 – 1300 Alexander Lebedev, I.P. Pavlov State Medical University, Dept. of Psychiatry

TITLE:

Lundervold: Multidisciplinary challenges and opportunities in a longitudinal study of cognitive aging using multimodal MRI

Lebedev: Prospects of using neuroimaging methods in diagnosis of psychiatric disorders

ABSTRACT LUNDERVOLD

The ongoing 'From cognitive aging to dementia' is a follow-up project of the RCN-supported 'Cognitive aging, brain function and genetic markers' that combines multiple approaches in a longitudinal study of how physical brain processes, as assessed with multimodal MRI, and genetics influence cognitive aging. We are into the third study wave of about 100 healthy elderly participants (age range 50-80 yrs at inclusion). Both the research opportunities and the cross-disciplinary and cultural challenges of such a project will be discussed, where the team has collaborated on (i) associations between neuropsychological function and genetic profiles, (ii) relationships between neuropsychological and quantitative MRI measures, (iii) associations between functional MRI and genetics, and (iv) methodological developments in the analysis of multimodal MRI data, including automated workflows and graph-theoretical analysis of structural and functional brain connectivity. Several PhD students with their basic training from psychology, neuroscience, medicine, and mathematics, as well as ERAMUS students from abroad, have been (still are) working in the project, contributing to a diverse and stimulating environment regarding knowledges and skills.

ABSTRACT LEBEDEV

In the beginning of the presentation I would like to provide a brief review of our work in Saint Petersburg. I and my colleagues from Medical Military Academy performed the study on pathogenesis of depression and its pharmacological resistance using several neuroimaging techniques (PET, fMRI, DTI, anatomical MRI). Analyzing the study design, methods results and their clinical value, I would like to discuss our potential collaboration and prospects of using machine learning techniques for neuroimaging data which could provide us an opportunity to improve practical values of our studies and to use neuroimaging as a diagnostic tool.