**SEMINAR FRIDAY 24.04.2015**

**PLACE:** MedViz Facilities., Møllendalsbakken 7, 5th floor  
**TIME:** 12:00-13:00

**SPEAKERS/TITLE**

**Seminar title:** Neuroimaging in cognitive aging - a report on findings, challenges and perspectives

- **Judit Haász**  
  **Subtitle:** Medical and biological issues - present findings

- **Arvid Lundervold**  
  **Subtitle:** Methodological challenges and perspectives

**ABSTRACT**

**Haász**

The population in developed countries is aging and this represents huge medical and socioeconomic challenges. With increasing age the brain undergoes neurobiological changes that contribute to cognitive decline, and occasionally also the development of neurodegenerative disorders such as dementia. A popular model posits that disconnection of brain areas is an important factor in age-related cognitive decline. Magnetic resonance imaging methods such as diffusion tensor imaging and resting-state fMRI allow the investigation of disconnection hypothesis at the macroscopic level. This talk will describe findings on connectivity patterns in normal aging and age-associated diseases.

**Lundervold**

We are about to bring our project on "Aging - cognition, imaging and genetics"  
[https://sites.google.com/site/agingcognitionimaging/](https://sites.google.com/site/agingcognitionimaging/)  
a step further, towards "longitudinal data analysis using mixed-effects models and graph theory". Being involved in this endeavour – comprising more than 100 healthy middle-aged and older people, participating in three study waves, three years apart - the talk will discuss multidisciplinarity and methodological challenges.

Finally, some perspectives will be given on how this methodological machinery and experience might interact with other MedViz projects such as the “Brain-Gut” and the “Kidney” projects.