



WS03 Imaging and Functional Neurosurgery Workshop

Monday, June 24, 2019

This course provides a theoretical framework for translational applications of functional neuroimaging for Stereotactic & Functional Neurosurgery specifically diffusion magnetic resonance imaging (MRI), functional MRI, nuclear medicine imaging. The hands-on component allows participants to practice steps involved in integration of diffusion MRI for stereotactic targeting: preprocessing, co-registration and tract visualization. At the end of this course, participants will become familiar with the role of functional neuroimaging in improving stereotactic targeting and learn its potential pitfalls.

08:00 - 12:00

Mercury

Coordinator: Vibhor Krishna (USA)

Chair: Mojgan Hodaie (Canada)

Chair: Vibhor Krishna (USA)

08:00 **Introduction**

Invited Speaker: Mojgan Hodaie (Canada)

08:15 **Principles underlying DTI and its accuracy – “Tracks and Traps”**

Invited Speaker: Jessica Barrios-Martinez (USA)

08:35 **DTI based VIM targeting**

Invited Speaker: Vibhor Krishna (USA)

08:55 **Improving targeting accuracy- atlases in image registration**

Invited Speaker: Stephan Chabardes (France)

09:15 **Post-operative imaging after lesioning and DBS**

Invited Speaker: Ashwin Viswanathan (USA)

09:35 **Structural MRI sequences to improve targeting in DBS**

Invited Speaker: Tejas Sankar (Canada)

09:50 **Hands-On Integration**

Invited Speaker: Vibhor Krishna (USA)

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Invited Speaker: Tejas Sankar (Canada)

10:25 **Break**

10:35 **fMRI and resting-state fMRI - Paradigms, accuracy and clinical application**

Invited Speaker: Dario Englot (USA)

10:55 **MRI and Nuclear Medicine imaging in movement disorders**

Invited Speaker: David Eidelberg (USA)

11:15 **MRI and Nuclear Medicine imaging in Epilepsy and Memory dysfunction**

Invited Speaker: Effie Kapsalaki (Greece)

11:35 **7T and Proton imaging**

Invited Speaker: Michael Park (USA)

11:55 **Closing remarks**

Invited Speaker: Vibhor Krishna (USA)