Facility

Registration and admission fee

Azienda provinciale per i servizi sanitari (APSS), Trento

Over the last 15 years the knowledge about the brain functional organization experienced a steady and remarkable advancements, as effect of technical and conceptual improvements that lead us in the connectome era. The comprehension of this network is a core medical and clinical challenge and the exploration of the new concepts about the connectome organization to the clinical-neurosurgical practice, are two crucial steps to tailor and improve surgical strategies and treatments of brain diseases. The aim of this course is to provide, reciprocally, competences and knowledges. Based on the experience of the previous edition on 2015 we designed the ConnectBrain Volume II, a theorico-practical course providing an updated overview about tools and concepts coming from neuroscientific research, and the most reliable mapping and monitoring techniques used in brain surgery.

Aims of the practical session are to provide:
- a detailed and complete overview about the recent models of organization of brain functions and the structural and functional connectivity of the main networks.
- theoretical and practical principles for the clinical application of neuroimaging (fMRI, resting-state fMRI, tractography), neurophysiological (pre-operative assessment, intracranial tasks, follow-up) and neurophysiological (cortical and subcortical) mapping and monitoring techniques.
- open question with attentions devoted to use, experience and reliability of the main tools for brain anatomofunctional monitoring and monitoring (using brain surgery).

Aims of the practical session are to provide the general principles of:
- Human white matter anatomy.
- Human anatomy and neurophysiology of transcranial non-invasive brain mapping with tMS/tVMS.

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Congress Venue for Theoretical Session
Sala Stringa - FBK
Via Sommarive, 18
Povo Trento

13:00 Registration and welcome drink
13:30 Authorities welcome
14:15 Course Introduction: Silvio Sarubbo and Franco Chioffi (Division of Neurosurgery, “Santa Chiara” Hospital, Trento APSS)

SESSION I
Exploration of brain structures and functions – Principles
Chairmen: Bruno Giometto, Laurent Petit
14:30 Principles of RS-fMRI for human brain mapping
Bernard Mazoyer (GIN, University of Bordeaux)
14:50 Techniques and limitations in tractography
Maxime Descoteaux (University of Sherbrooke)
15:10 How to track the brain: tools
Pablo Avesani (NLab, FBK)
15:30 Discussion and Questions
16:00 Coffee break

SESSION II
Exploration of brain structures and functions – Tools
Chairmen: Domenico D’Avella, Franco Guida
11:20 Visual and spatial-perception: pathways and functions
Lorenzo Bello (University of Milan)
11:40 Insula and temporal stem anatomy
Emmanuel Mandonnet (Lariboisière University-Hospital, Paris)
12:00 Discussion and Questions
12:30 Lunch

SESSION III
Brain mapping for surgery
Chairmen: Alessandro Ducati, Silvio Sarubbo
09:00 Lecture
Awake surgery for brain gliomas: cognition through the anatomy
Hugues Duflau (University of Montpellier)
09:40 Pre-surgical mapping with fMRI and rs-fMRI
Natalie Voets (Oxford University)
10:00 Language and motor mapping: intra-operative techniques
Rocco Quatrale (Ospedale dell’Angelo, Mestre-Venice)
10:20 Discussion
10:30 Coffee break

SESSION IV
Principles of functional anatomy of the human brain
Chairmen: Domenico D’Avella, Franco Guida
11:00 Language networks: anatomy and functions
Alessandro De Benedictis (Bambino Gesù Pediatric Hospital, Rome)
11:20 Motor networks: physiology and surgical mapping
Lorenzo Bello (University of Milan)
11:40 Insula and temporal stem anatomy
Emmanuel Mandonnet (Lariboisière University-Hospital, Paris)
12:00 Discussion and Questions

SESSION V
Surgical Techniques
Chairmen: Marco Cenzato, Rocco Quatrale
12:20 Insular tumors: techniques and pitfalls
Miran Skrap (”S. Maria della Misericordia” Hospital, Udine)
12:40 Awake surgery for unruptured cerebral aneurysms
Franco Chioffi, (“S. Chiara” Hospital, APSS Trento)
13:00 Discussion and Questions
13:30 Lunch

Friday June 21st, 2019
SESSION VI
Epilepsy Surgery
Chairmen: Marco Farneti, Alberto Morini
11:00 Extensive neuropsychological monitoring for resection of brain gliomas
Tamara kui (“S. Maria della Misericordia” Hospital, Udine)
11:20 Cognitive rehabilitation: techniques and tools
Lorella Battielli (Italian Institute of Technology, Trento)
11:40 Discussion and Questions
12:00 Coffee break

12:40 Disconnection approaches in epilepsy surgery
Carlo Maira (Bambino Gesù Children Hospital, Rome)
13:00 Imaging post-processing in epilepsy surgery
Michele Rizzi, Francesco Cardinale (“C. Munari” Epilepsy Surgery Center, Milan)
13:20 Discussion and Questions
13:40 Lecture (introduced by Franco Chioffi, APSS Trento)
Brain Mapping, extent of resection and new trends in neuro-oncological surgery
Mitchell Berger (University of California, San Francisco)
14:00 Closure and Certificates

Saturday June 22nd, 2019
SESSION I
Epilepsy Surgery
Chairmen: Flavio Anglieri, Andreas Schwarz
09:00 General principles of white matter tracking
Laurent Petit (GIN, University of Bordeaux) and Silvio Sarubbo (“S. Chiara” Hospital, APSS Trento)
09:15 RS-fMRI: practical notions
Natalie Voets (Oxford University) and Jorge Jovicich (CiMeC, University of Trento)

SESSION VII
Epilepsy Surgery Center, Milan)
09:30 Pyramidal tract and motor network
Mitchell Berger (University of California, San Francisco)
11:00 Coffee break
11:20 Visual and spatial-perception: pathways and networks
13:00 Lunch

SESSION II
09:40 Language pathways and language network (part 1)
Jorge Jovicich, Natalie Voets, Luciano Amnicchiaro, Luca Zigolito, Francesco Corsini
Introduction
09:00 General principles of white matter tracking
Laurent Petit (GIN, University of Bordeaux) and Silvio Sarubbo (“S. Chiara” Hospital, APSS Trento)
09:15 RS-fMRI: practical notions
Natalie Voets (Oxford University) and Jorge Jovicich (CiMeC, University of Trento)

11:00 Language pathways and language network (part 2)

12:40 Language pathways and language network (part 2)
14:00 Language pathways and language network (part 1)
16:00 Coffee break
16:20 Language pathways and language network (part 2)
18:00 Coffee break
18:20 Language pathways and language network (part 1)