



Basic Neuroscience Chapter Pre-Congress Workshop



Assoc Prof Dr Ibrahim Faye
Universiti Teknologi Petronas

SPEAKER

Overview of the International Neuroinformatics Coordinating Facility (INCF)



Assoc Prof Dr Tang Tong Boon
Universiti Teknologi Petronas

SPEAKER

Functional near Infrared Spectroscopy (fNIRS) as an Alternative Neuroimaging Technique

Time	Programme
2.30pm-5.00pm	<p>Pre-congress Workshop: INCF Resources, FAIR principles and fNIRS human brain measurements</p> <p>Chairs: Assoc Prof Dr Michael Ling King Hwa Universiti Putra Malaysia</p> <p>Overview of the International Neuroinformatics Coordinating Facility (INCF) Assoc Prof Dr Ibrahim Faye, Universiti Teknologi Petronas</p> <p>Functional near Infrared Spectroscopy (fNIRS) as an Alternative Neuroimaging Technique Assoc Prof Dr Tang Tong Boon Universiti Teknologi Petronas</p>

The workshop will consist of two parts.

The first part will present an overview of the International Neuroinformatics Coordinating Facility (INCF). It will describe its governance model, partners, main activities and its resources. The FAIR (findability, accessibility, interoperability, and reusability) principles will then be discussed in detail. Beyond the theory framework, implementation issues such as ethics, standardization, interoperability, governance, automation, provenance will be discussed. Some successful infrastructure and data sharing initiatives will be highlighted and some possible solutions to the challenges related to FAIR adoption within the community will be presented.

The second part will present an introduction to functional near infrared spectroscopy (fNIRS) as an alternative neuroimaging technique. The basic concept, operating principle, types and technology progression will be presented. Different fNIRS data analysis methods to extract evoked, neuronal brain activation signals, and how to remove non-evoked neuronal and systemic signals from cerebral/extracerebral regions will be shared. A fNIRS software named POTATo (Platform on Optical Topography Analysis Tool by HITACHI) will be introduced. Some example applications of fNIRS in dementia and mental stress assessment will be presented.