



19TH ANNUAL MEETING OF

#### THE SAUDI ASSOCIATION OF NEUROLOGICAL SURGERY

# REVOLUTION IZING NEUROSURGICAL FRONTIERS

## **Neuroimaging Processing and Integration**

Lecture & Hands- on course

Duration: 7 - 8 hours | Schedule: 31st January, 2025

#### **Faculties:**



Dr. Abdullah AlOtaibi



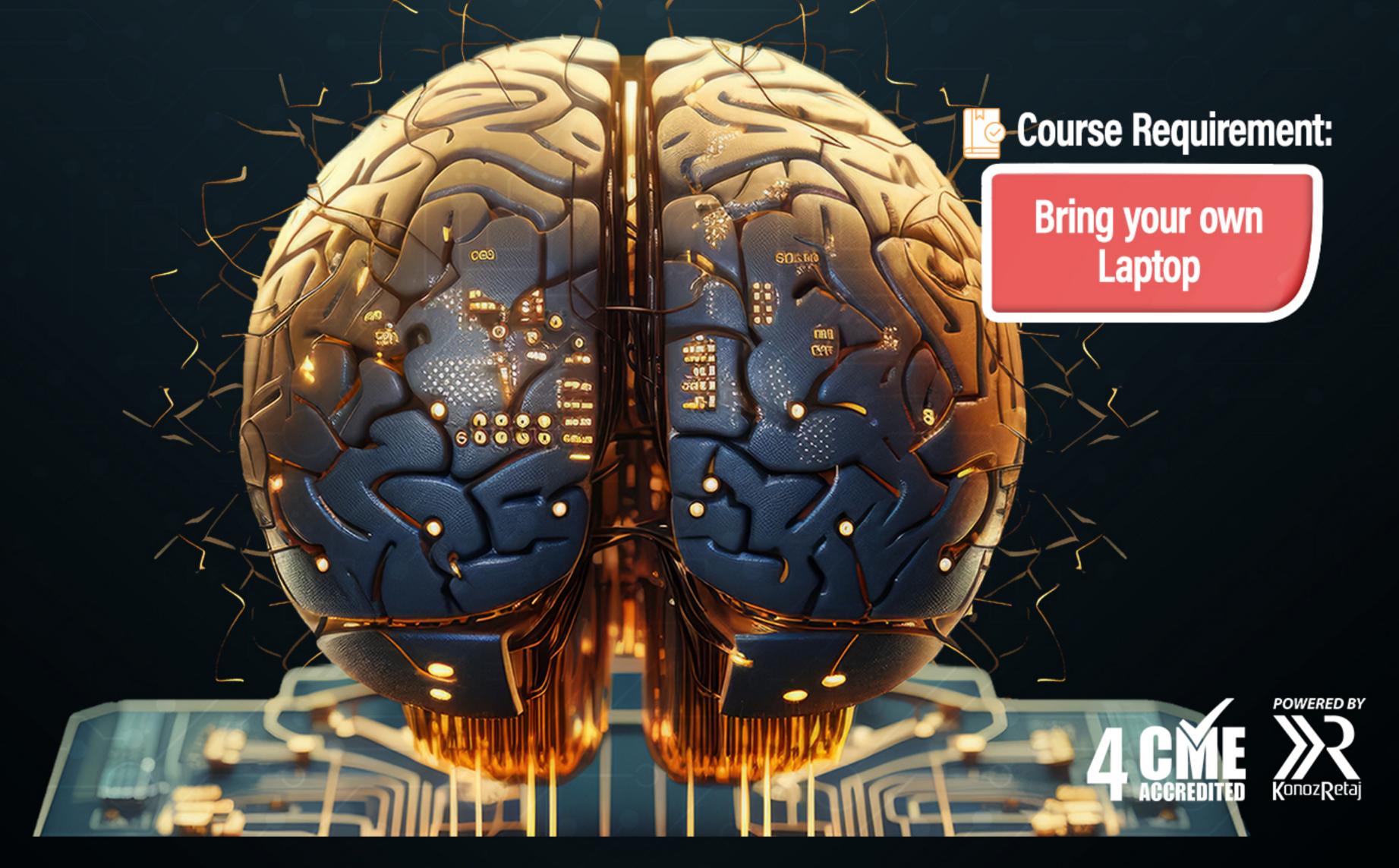
Prof. Lahbib Soualmi



Dr. Adnan AlWatban



Dr. Fahd Alsubaie





### Target Audience

Medical students, neurology residents, neurosurgery residents, psychiatry residents, researcher, neurologist, neurosurgeons, psychiatrist, psychologist, biomedical engineering, and computer science.

## Background

Now a day advanced neuroimaging processing is fundamental in all fields of neuroscience whether clinical, research, training or technical/industrial. This made neuroimaging processing related skills to be an essential competency in neuroscience related practice, training, research and technology. With the development of stereotactic and volumetric neuroimaging as well as neuro-segmentation software; creation of 3D mapping of normal and abnormal brain structures is fundamental understanding tool.

Segmenting the brain structure provide in-depth evaluation of brain anatomy of interest that can be objectively assessed, improved and studied further. Hence comes the neuroimaging processing and integration course that bring all these elements of knowledge and hand-on training to qualify independent and validated practitioner and researcher.





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Speaker **Topic** Time Dr. Abdullah AlOtaibi Introduction 08:00 - 08:15 Dr. Adnan AlWatban **MRI physics** 08:15 - 08:45 **Break** 08:45 - 09:00 **Fundemental of streotaxy** 09:00 - 09:30 Dr. Fahd AlSubaie Dr. Fahd AlSubaie **Brain Atlases** 09:30 - 10:00 **Prof. Lahbib Soualmi Neuroimage processing** 10:00 - 10:30 Image processing softwares Dr. Abdullah AlOtaibi 10:30 - 11:00 **Volumetric analysis** Dr. Fahd AlSubaie 11:00 - 11:30 Jumaa prayer time 11:30 - 13:00 Dr. Abdullah AlOtaibi **Functional anisotropy** 13:00 - 13:30 **Tractography Prof. Lahbib Soualmi** 13:30 - 14:00 **Functional MRI** Dr. Abdullah AlOtaibi 14:00 - 14:30 Neuronavigation **Prof. Lahbib Soualmi** 14:30 - 15:00 Break 15:00 - 15:15 **Full Hand-on Stations** 15:15 - 17:00 Neuronavigation **Prof. Lahbib Soualmi** 25 mins Dr. Fahd AlSubaie **Volumetri analysis** 25 mins Dr. Abdullah AlOtaibi **Brain segmentation** 25 mins

**MATLAB** 

25 mins

Dr. Adnan AlWatban





تجمع الرياض الصحي الثاني Riyadh Second Health Cluster