



SANT PAU  
Campus Salut  
Barcelona



Dr. de Quintana Schmidt  
ESPECIALISTA EN NEUROCIRUGÍA

# Masters of Brain Ultrasound in Neurosurgery

*Fourth Edition*

*Barcelona, Spain  
18<sup>th</sup>-19<sup>th</sup> April, 2024*

*"The course has been granted **7.5 European CME credits**  
by the European Accreditation Council for Continuing Medical Education (EACCME)"*

[www.ultrasoundneurosurgery.com](http://www.ultrasoundneurosurgery.com)

*Declared of Scientific Interest by:*



# THE COURSE

There is a growing interest in **intraoperative images in the neurosurgery field**. In Neuro-Oncology this interest becomes a necessity to evaluate the grade of resection and the possibility of residual tumor.

In this aspect, **neuronavigated ultrasound is an excellent tool** because having a very high-quality image, quick acquisition (you do not need to stop the surgery to use it), cost-effectiveness, portability, and reproducibility (as many times as you need).

However, sometimes neurosurgeons do not use ultrasound because there is a learning curve to the spatial orientation and interpretation of images. **The reason for this course, eminently practical, is teaching the necessary skills to use intraoperative ultrasound in Neuro-Oncology.**

The main difference between this course and other ones related to ultrasound is that not only it provides the participants with the theoretical knowledge, but specially highlights the practical side of it.

This is achieved thanks to the expert faculty invited for a maximum number of 20 participants. Moreover, the attendants will have at their disposal a few ultrasound equipments and practical phantoms which will allow them to train image orientation and interpretation.

# OBJECTIVES

- Enhance the understanding of the basic principles of ultrasound.
- Apply these principles to the reduction of common artifacts and the improvement of high-quality diagnostic ultrasound images.
- Orientation in neuronavigated ultrasound.
- Differentiation between the most common subtypes of brain tumors.
- Coregistration of images (MRI-US...), tractography and segmentation in neuronavigated ultrasound.
- Evaluation of residual tumor in the operating room.
- Application of ultrasound contrast and elastography in brain tumors.
- Guided puncture with neuronavigated ultrasound (biopsies, ventricular punctures (slid ventricles),...).



# GUEST SPEAKERS



**Geirmund Unsgård**  
*Neurosurgeon*  
Norwegian University of  
Science and Technology (NTNU)  
Trondheim, Norway



**Francesco DiMeco**  
*Neurosurgeon*  
Fondazione I.R.C.C.S.  
Istituto Neurologico Carlo Besta  
Milan, Italy



**Aliasgar Moiyadi**  
*Neurosurgeon*  
Tata Memorial Centre  
Bombai, India



**Llewellyn Padayachy**  
*Neurosurgeon*  
University of Pretoria Steve Biko  
Academic Hospital  
Pretoria, South Africa



**Francesco Prada**  
*Neurosurgeon*  
Fondazione I.R.C.C.S.  
Istituto Neurologico Carlo Besta  
Milan, Italy



**Alessandro Perin**  
*Neurosurgeon*  
Fondazione I.R.C.C.S.  
Istituto Neurologico Carlo Besta  
Milan, Italy



**Juan Ángel Aibar Durán**  
*Neurosurgeon*  
H.U. Santa Creu i Sant Pau  
Barcelona, Spain



**Brian Nahed**  
*Neurosurgeon*  
Massachusetts General Hospital  
Harvard Medical School  
Boston, USA



**Berta Freixer**  
*Neurosurgeon*  
H.U. Santa Creu i Sant Pau  
Barcelona, Spain

# COURSE DIRECTOR



**Cristian de Quintana**  
*Neurosurgeon*  
H.U. Santa Creu i Sant Pau  
Barcelona, Spain

# VENUE

Sala Polivalente  
H. U. Santa Creu i Sant Pau  
Carrer de Sant Quintí 89  
08041  
Barcelona, Spain



# PROGRAM

## 18<sup>th</sup> April, 2024

- 16:00 - 16:30 • Introduction of the course  
*Dr. De Quintana*
- 16:30 - 17:00 • Mastering IOUS - Skill required - practical guidelines  
*Dr. Moiyadi*
- 17:00 - 17:30 • 2D ultrasound in resection of brain tumors (image interpretations and anatomical landmarks)  
*Dr. DiMeco*
- 17:30 - 18:00 • Neuronavigated ultrasound in Neuro-Oncology  
*Dr. De Quintana*
- 18:00 - 18:30 • Coffee break
- 18:30 - 19:00 • Experiences from everyday use of navigated 3D ultrasound in brain tumor surgeries (tricks and tips, use in LGG)  
*Dr. Unsgård*
- 19:00 - 19:30 • Contrast-enhanced ultrasound, elastography  
*Dr. Prada*
- 19:30 - 20:00 • Ultrasound guidance in hydrocephalus, endoscopy and Chiari I decompression  
*Dr. Padayachy*
- 20:00 - 20:30 • Advantages for intraoperative ultrasound vs other imaging, other technology? (online)  
*Dr. Nahed*
- 21:00 • Dinner (included)

## 19<sup>th</sup> April, 2024

- 10:00 - 10:15 • Presentation of the case (live surgery)  
*Dr. Aibar / Dr. Freixer*
- 10:15 - 10:45 • Prediction of histologic tumor in the operating room using iUS and Gliolan (5-ALA)  
*Dr. Aibar*
- 10:45 - 11:15 • Simulation training in IOUS  
*Dr. Perin*
- 11:15 - 11:30 • Resection of the tumor (live surgery)  
*Dr. Aibar / Dr. De Quintana*
- 11:45 - 12:15 • Coffee break
- 12:15 - 14:15 • Hands-on
  - a) Module 1: Setup ultrasound machine
  - b) Module 2: Special ultrasound skills
  - c) Module 3: Resection control and artifact avoidance
  - d) Module 4: Neuronavigated ultrasound / practical cases
- 14:15 - 14:30 • Q&A

# FEE

*Limited places!*  
*Registrations on first come first-served basis*

REGISTRATION FEE	850 €
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Please note that it is necessary to register in advance on the online simulation platform **NeuroStream Academy** in order to participate and fully enjoy the simulation session on IOUS. This is the link <https://neurostream.academy/auth/register>

It is also necessary **to bring your own laptop and smartphone** in order to simulate IOUS during the course.

#### NOTE ON COVID-19

Formedika is continuously monitoring the situation related to COVID-19 in order to avoid the interruption of planned events. However, taking into account the current situation, Formedika cannot exclude the possibility that the scheduled courses or congresses are postponed, canceled or interrupted due to external causes. Formedika strives to duly notify the news that may be in this regard, but recommends that you ensure that the trips and accommodation you reserve are refundable, since it will not be responsible for the expenses incurred by the assistant in case of change, modification or cancellation.

## INFORMATION AND REGISTRATION

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