



**6<sup>th</sup>**

**MAPPING COURSE**

**BELLVITGE 2023**

**NEUROSURGERY COURSE:**  
November **21<sup>st</sup>-24<sup>th</sup>** 2023

**NEUROPSYCHOLOGICAL**  
**ASSISTANCE COURSE:**  
November **22<sup>nd</sup>-24<sup>th</sup>** 2023

**University Hospital of Bellvitge**

Feixa Llarga, s/n

L'Hospitalet de Llobregat,

Barcelona (Spain)

The scientific and educational content of this event  
has been endorsed by:

## COURSE DIRECTOR:

### DR. ANDREU GABARRÓS

Chairman  
Neurosurgery Department  
Brain Mapping Program Director  
Hospital Universitari de Bellvitge  
Associate Professor of Neurosurgery  
Universitat de Barcelona

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## COURSE CO-DIRECTORS:

### DR. ALEJANDRO FERNÁNDEZ-COELLO

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Neurophysiology Unit  
Neurology Department  
Hospital Universitari de Bellvitge

### DR. GERARD PLANS

Brain Mapping Program  
Neurosurgery Department  
Hospital Universitari de Bellvitge

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## INVITED SPEAKERS:

### DR. HUGUES DUFFAU

Professor and Chairman  
Neurosurgery Department  
Centre Hospitalier Universitaire  
de Montpellier, France

### DR. EMMANUEL MANDONNET

Neurosurgery Department  
Hospital Lariboisière, Paris, France

### DR. JUAN MARTINO

Professor  
Neurosurgery Department  
Hospital Universitario Marqués  
de Valdecilla, Santander, Spain

### DR. FRANCESCO SALA

Professor and Chair  
Section of Neurosurgery,  
Department of Neurosciences  
Biomedicine and Movement Sciences  
University Hospital Verona, Italy

## SCIENTIFIC COMMITTEE:

### DR. CARLOS ALARCÓN

Neurosurgery Department  
Hospital Mútua de Tarrasa

### DR. ÀNGELS CAMINS

Neuroradiology Department  
IDI Bellvitge  
Brain Mapping Program  
Hospital Universitari de Bellvitge

### DR. XIM CERDÀ-COMPANY

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### DR. LAURA MALDONADO-MURCIANO

Postdoctoral Researcher  
at the Basic Science Department  
Universitat Internacional de Catalunya

### DR. PABLO NAVAL-BAUDIN

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Hospital Universitari de Bellvitge

### DR. IMMA RICO

Neuropsychology Unit  
Neurology Department  
Brain Mapping Program  
Hospital Universitari de Bellvitge

### DR. ANTONI RODRÍGUEZ FORNELLS

Neuropsychology  
Brain Mapping Program  
Cognition and Brain Plasticity Unit  
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### DR. ALEIX ROSSELLÓ

Neurosurgery Department  
Hospital Universitari de Bellvitge

### DR. JOSÉ LUIS SANMILLÁN

Neurosurgery Department  
Hospital Universitari de Bellvitge

### DR. JOANNA SIERPOWSKA

Cognition and Brain Plasticity Unit &  
Institute of Neurosciences (UBneuro)  
Dept. of Cognition, Development and  
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Universitat de Barcelona

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## ORGANIZING COMMITTEE OF THE NEUROPSYCHOLOGICAL ASSISTANCE COURSE:

### DR. ANNA GASA-ROQUÉ

Neuropsychology Unit  
Neurology Department  
Brain Mapping Program  
Hospital Universitari de Bellvitge

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## COLLABORATORS:

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Cognition and Brain Plasticity Unit  
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### DR. PABLO LÓPEZ-OJEDA

Neurosurgery Department  
Hospital Universitari de Bellvitge

### DR. JULIA MIRÓ

Intraoperative Neurophysiology  
Neurology Department  
Hospital Universitari de Bellvitge

### DR. LAURA PARIENTE

Anesthesia Department  
Hospital Universitari de Bellvitge





**TUESDAY | November 21<sup>st</sup>**  
**NEUROSURGERY COURSE**

Location: Dissection room

**14:30 - 15:00** Delivery of documentation

**15:00 - 15:30** Introduction: How to perform fiber dissection in cadaveric specimens  
**Dr. Juan Martino / Dr. Emmanuel Mandonnet / Dr. Alejandro Fernández-Coello**

**15:30 - 16:00** Introduction: How to perform fiber tractography in the lab  
**Dr. Àngels Camins / Dr. Pablo Naval-Baudin / Dr. Aleix Rosselló**

**16:00 - 17:30** **Group 1**  
HANDS-ON WHITE MATTER FIBER DISSECTION:  
Each participant will have one hemisphere to dissect

**Group 2**  
HANDS ON WHITE MATTER DTI TRACTOGRAPHY:  
Motor pathway tractography

**17:30 - 18:00** **COFFEE**

**18:00 - 19:30** **Group 1**  
HANDS ON WHITE MATTER DTI TRACTOGRAPHY:  
Motor pathway tractography

**Group 2**  
HANDS-ON WHITE MATTER FIBER DISSECTION:  
Each participant will have one hemisphere to dissect

# > PROGRAM

## WEDNESDAY | November 22<sup>nd</sup> NEUROSURGERY COURSE

Location: Dissection room

**09:00** How to simulate a surgical approach to the main language pathways. **Dr. Juan Martino/ Dr. Emmanuel Mandonnet / Dr. Alejandro Fernández-Coello**

### **09:30 Group 1**

HANDS ON SESSION SPECIMEN. Each participant will have one CUSA and one hemisphere to dissect

### **Group 2**

HANDS ON SESSION DTI

Language pathways tractography

### **11:00 COFFEE**

### **11:30 Group 1**

HANDS ON SESSION DTI

Language pathways tractography

### **Group 2**

HANDS ON SESSION SPECIMEN. Each participant will have one CUSA and one hemisphere to dissect

### **13:00 LUNCH**

**14:30** How to simulate a surgical approach to insular gliomas in the laboratory. **Dr. Emmanuel Mandonnet**

### **15:00 Group 1**

HANDS ON SESSION SPECIMEN. Each participant will have one CUSA and one hemisphere to dissect

### **Group 2**

HANDS ON SESSION DTI

Language pathways tractography

### **16:30 COFFEE**

### **17:00 Group 1**

HANDS ON SESSION DTI

Language pathways tractography

### **Group 2**

HANDS ON SESSION SPECIMEN. Each participant will have one CUSA and one hemisphere to dissect

## WEDNESDAY | November 22<sup>nd</sup> NEUROPSYCHOLOGICAL ASSISTANCE HANDS-ON WORKSHOP

Location: Dissection room

**08:30** Delivery of documentation

**09:00** Introduction: Intraoperative mapping and monitoring of language and cognition during awake surgery from a neuropsychological standpoint. **Dr. Anna Gasà-Roqué**

**09:30** Neuropsychological assessment of glioma patients undergoing awake brain surgery in the left-dominant hemisphere: before and after surgery. **Dr. Joanna Sierpowska**

**10:00 Workshop 1:** Cognitive and language assessment before surgery. Neuropsychological battery of tests for patients with tumors located in the perisylvian areas in the left-dominant hemisphere. **Dr. Anna Gasà-Roqué / Dr. Joanna Sierpowska / Dr. Imma Rico**

### **11:00 COFFEE**

**11:30 Workshop 2:** Cognitive and language assessment before surgery. Neuropsychological battery of tests for patients with tumors located in the supplementary motor area in the left-dominant hemisphere. **Dr. Anna Gasà-Roqué / Dr. Joanna Sierpowska / Dr. Imma Rico**

### **12:30 Discussion**

### **13:00 LUNCH**

**14:30** Assessment of language and cognition during the surgery: methodological aspects and tasks to use intraoperatively. **Dr. Anna Gasà-Roqué**

**14:45** Precision medicine: personalized electrical stimulation mapping tasks for tumor resection. **Dr. Xim Cerdà-Company**

**15:00 Workshop 3:** Cortical and subcortical mapping and intraoperative monitoring by clinical cases - hands-on intraoperative evaluation and scoring based on live surgeries (video material). **Dr. Anna Gasà-Roqué / Dr. Joanna Sierpowska / Dr. Imma Rico**

### **16:30 COFFEE**

**17:00** Crash course in psychometrics: understanding what the results mean for each person given their profile (age and education). **Dr. Laura Maldonado-Murciano**

**17:30 Workshop 4:** Scoring, interpretation and communication of cognitive and language performance before, during and after surgery. **Dr. Anna Gasà-Roqué / Dr. Joanna Sierpowska / Dr. Imma Rico**



# > PROGRAM

THURSDAY | November 23<sup>rd</sup>

**THEORY FOR BOTH COURSES:  
NEUROSURGERY & NEUROPSYCHOLOGY**

Location: Bellvitge auditorium

**08:15 – 08:45** Delivery of documentation

**08:45 – 09:00** Welcome speech

> **09:00 – 09:20** Introduction: Evolution of Neurosurgery in eloquent brain areas  
**Dr. Andreu Gabarrós**

**09:20 – 09:40** Neuroanatomy of the functional cortical brain areas  
**Dr. Alejandro Fernández-Coello**

**09:40 – 10:00** Neuroanatomy of the functional subcortical brain areas  
**Dr. Juan Martino**

**10:00 – 10:20** Functional magnetic resonance and tractography:  
Preoperative evaluation of brain function through neuroimaging  
**Dr. Àngels Camins**

**10:20 – 10:30** *Discussion*

**10:30 – 11:00** **COFFEE**

> **11:00 – 11:20** Intraoperative. Neuromonitoring  
**Dr. Isabel Fernández-Conejero**

**11:20 – 11:40** Neuroanaesthesia management during eloquent brain surgery  
**Dr. Laura Pariente**

**11:40 – 12:00** Mapping of cortical and subcortical functions in the awake patient  
**Dr. Andreu Gabarrós / Dr. Alejandro Fernández-Coello**

**12:00 – 12:20** Mapping and neuromonitoring of motor function in the asleep patient  
**Dr. Gerard Plans**

**12:20 – 12:40** Neuropsychological intraoperative evaluation of language:  
Tradition, Research. Case presentation  
**Dr. Joanna Sierpowska / Dr. Anna Gasa Roqué**

**12:40 – 13:00** *Discussion*

**13:00 – 14:30** **LUNCH**

> **14:30 – 15:00** How I do it: Tips & tricks session with the experts  
Awake brain mapping  
**Dr. Hugues Duffau**

**15:00 – 15:30** Asleep motor mapping and neuromonitoring  
**Dr. Francesco Sala**

**15:30 – 16:00** *Discussion*

**16:00 – 16:30** **COFFEE**

> **16:30 – 16:50** Intraoperative identification of the SMA in the awake patient  
**Dr. Andreu Gabarrós / Dr. Juan Martino**

**16:50 – 17:10** Mapping and neuromonitoring for extrinsic brain lesions  
**Dr. Pablo López-Ojeda / Dr. José Luis Sanmillán / Dr. Andreu Gabarrós**

**17:10 – 17:30** Mapping and neuromonitoring for insular tumors  
**Dr. Andreu Gabarrós / Dr. Alejandro Fernández-Coello**

**17:30 – 18:00** *Discussion and closing remarks*

**DINNER** (Only for the full course participants)



# > PROGRAM

FRIDAY | November 24<sup>th</sup>

FOR BOTH COURSES:  
NEUROSURGERY & NEUROPSYCHOLOGY

Location: Bellvitge auditorium

## 2 LIVE SURGERIES

### > 08:30 – 15:00 Operating Room 1 – AWAKE PATIENT

Perisylvian tumor resection assisted by neuronavigation and cortical/subcortical language brain mapping in the awake patient

### > 08:30 – 15:00 Operating Room 2 – ASLEEP PATIENT

Perirolandic tumor resection assisted by neuronavigation, intraoperative neuro monitoring and cortical/subcortical evoked motor brain mapping in the asleep patient

11:00 – 11:30 *COFFEE / LUNCH DURING SESSION*

> 15:00 Closing remarks and delivery of certificates



## VENUE

The training program will be developed in:

### UNIVERSITY HOSPITAL BELLVITGE

Feixa Llarga, s/n  
L'Hospitalet de Llobregat  
BARCELONA  
(Spain)

## TECHNICAL SECRETARIAT

### FORMEDIKA

Tel.: +34 943 468 441  
E-mail: [info@formedika.com](mailto:info@formedika.com)

**formedika**  
dental & medical education  
formación médica y dental

## REGISTRATION

The registration will be made through the website of the Technical Secretariat of **FORMEDIKA**:

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

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

## REGISTRATION OPTIONS AND FEES

### NEUROSURGERY COURSE

<b>Full course Neurosurgery: Dissection, theory and live surgeries</b> (From Tuesday 21 <sup>st</sup> to Friday 24 <sup>th</sup> ) <b>FULLY BOOKED</b>	<b>2.200€</b>	<b>*1.980€</b>
<b>Theory and live surgeries</b> (Thursday 23 <sup>rd</sup> and Friday 24 <sup>th</sup> )	<b>590€</b>	<b>*531€</b>
<b>Video streaming</b> for theory and live surgeries	<b>90€</b>	<b>*81€</b>

### NEUROPSYCHOLOGY COURSE

<b>Full course Neuropsychology on-site workshop</b> (Wednesday 22 <sup>nd</sup> ) and <b>on-site theory and live surgeries</b> (Thursday 23 <sup>rd</sup> and Friday 24 <sup>th</sup> )	<b>990€</b>	<b>**891€</b>
<b>Full course Neuropsychology on-site workshop</b> (Wednesday 22 <sup>nd</sup> ) and <b>online theory and live surgeries</b> (Thursday 23 <sup>rd</sup> and Friday 24 <sup>th</sup> )	<b>550€</b>	<b>**495€</b>

\* *Members of the EANS (European Association of Neurosurgical Societies) will get a 10% discount on the prices*

\* *Members of the COPC (Col·legi Oficial de Psicologia de Catalunya) will get a 10% discount on the price*

## COURSE ACCREDITATION:

The 6th Mapping Course - Dissection and Theory and Live Surgeries has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®). In case the participant attended the full on-site course, he/she would have two diplomas.

The course will be divided in three sections: Mapping Course Dissection/Mapping Course - Neuropsychology/Mapping Course - Theory and live surgeries.

The credits of the European Accreditation Council for Continuing Medical Education (EACCME®) have been requested for the 6th Mapping Course Neuropsychology on-site workshop and on-site theory and live surgeries. In case the participant attended the full on-site course, he/she would have two diplomas.

## Sponsored by



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## Collaborators



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### Note regarding 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.



This course is Compliant with the MedTech Europe Code of Ethical Business Practice