



## IONM Advanced Summer School of the DGKN/FBA

- accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) for a maximum of 17.0 European CME credits (ECMEC®s) -



### Contents

The topics cover the entire spectrum of the Basics courses and serve to deepen knowledge, particularly with regard to practical application techniques and interpretation. In addition to the hands-on content of the Basics courses, there will also be a focus on intraoperative neurography and neurosonography.

### Dates

28 April to 01 May 2024

### Registration

Please send a short letter of interest along with a list/prove of previous courses/experience in the context of perioperative and intraoperative mapping and neuromonitoring to the head office of the German Society of Clinical Neurophysiology:

[sekretariat@dgkn.de](mailto:sekretariat@dgkn.de)

The acceptance of your registration will depend on the total number of applicants and your personal level of expertise.



17.0  
European CME  
credits

## Notes

The summer school is limited to 25 participants. Priority access will be granted to members of the DGKN and those enrolled in the IONM curriculum.

Each participant should bring a clinical case report (3 slides, 3-4 minutes speaking time) related to at least one of the course topics, in which he/she also briefly introduces him/herself or his/her clinical focus. The best case will be recognized with an award.

In addition, presenting a case is a key requirement for confirming participation successfully, along with: (1) case presentation, (2) practical examinations, (3) final written examination.

**- The times are Portuguese local time, i.e. CET (Berlin) +1h -**

## Networking Events

The participation in the networking events on Monday and Tuesday is voluntary. The additional fee is to be paid on-site directly to the hotel staff of the conference venue (Herdade da Urgueira).

## Programme

### DAY 1 | Sunday, 28.04.2024

Time	Programme item	Lecturer(s)	Moderation if necessary
From 10:30	Delivery and installation of devices possible (Pavillon)		
approx. 17:00	Departure bus transfer Lisbon airport		
approx. 19:15	Arrival of shuttle bus and reception at the Herdade da Urgueira		
19:30	Welcome Tour with olive oil tasting, drinks and starters		
19:50	Welcome		Szelényi, Weiss Lucas
20:00	History of neuromonitoring	Moll	
from 20:30	Dinner with discussion		
Approx. 21:00	Opening and keynote "Why we need neuromonitoring in brain surgery"	Campos	Szelényi, Weiss Lucas
approx. 23:00	Shuttle bus to the Rupestre Hotel in Vila Velha de Ródão		

**DAY 2 | Monday, 29.04.2024**

Time Station	Programme item	Lecturer(s)	Moderation if necessary
Until 08:00	Delivery and installation of devices possible (Pavillon)		
07:10-	Shuttle Bus to Summer School venue leaving at Rupestre Hotel		
07:20-	Breakfast at the Herdade		
08:00-08:50	Breakfast seminar on epilepsy surgery		Rampp, Noachtar
08:00	Neurophysiological indication	Noachtar	
08:20	Anatomical challenges in epilepsy surgery	Giampiccolo	
08:35	Practical implications of IONM for the surgical strategy (illustrative cases)	Campos	
08:50 – 09:54	Case scenarios related to supratentorial mapping and/or monitoring of sensorimotor functions (4+3 mins each)		König, Vergani
08:50	Central region tumor resection guided by nTMS	Thomas Eibl	
08:57	Mapping and Monitoring of the Motor Cortex	Ramy Amirah	
09:04	Motor Mapping/Monitoring Brain Tumour (TBA)	Tomasso Araceli	
09:11	nTMS Pediatric Motor Mapping	Laia Banyuls	
09:19	Surgical Planification based on nTMS	Cecilia Flores	
09:26	Intraoperative sensorimotor mapping and monitoring in a pediatric patient	Alejandra Climent Perin	
09:33	SMA Tumour	Christin Jungk	
09:40	Supplementary motor area resection in epilepsy surgery	Sandra Mohammed	
09:47	Sensorimotor mapping/monitoring	Thorben Homfeldt	
10:00	Hands on Block 1 - <i>1st half (2 rotations, change every 30 min)</i> Epilepsy and supratentorial resections with sensorimotor monitoring		
	1 Epilepsy: non-invasive source localisation, ECoG, sEEG	Rampp, Noachtar, Campos, Giampiccolo	
	2 Preoperative functional localisation of sensorimotor function: nTMS	Weiss Lucas, Lavrador	



Time Station	Programme item	Lecturer(s)	Moderation if necessary
3	Supratentorial vascular: sensorimotor mapping and monitoring	Szelényi, Rosahl	
4	Supratentorial tumour: sensorimotor mapping and monitoring	Seidel, Vergani	
11:00	Coffee break		
11:30	Hands on Block 1 - <i>2nd half (2 rotations, every 30 min.) - contents see above.</i> Epilepsy and supratentorial resections with sensorimotor monitoring		
12:45	Lunch		
14:00	Lunch seminar		Sabel, Lavrador
14:00	Awake mapping and monitoring of communicative functions	Vergani	
14:20	TMS language mapping - challenges and perspectives	Lavrador	
14:40	Case scenarios related to supratentorial language/cognitive mapping and/or monitoring or DBS (4+3 mins each)		Campos, Moll
14:40	Non-invasive functional language mapping to guide brain tumour resection	Phillip Keil	
14:47	DBS	Petra Heiden	
14:54	DBS	Eva Lenker	
15:00	Hands on Block 2 - <i>1st part (2 rotations, every 30 min.)</i> Cognitive mapping and monitoring, special neurophysiological techniques for deep brain stimulation indications		
1	Awake surgery of supratentorial tumours with <i>cortical</i> language/cognition mapping & monitoring (role play)	Sabel, Szelényi	
2	Preoperative speech/cognitive mapping, nTMS-supported	Weiss Lucas, Lavrador	
3	Subcortical mapping and monitoring of the speech and communication network: awake versus asleep	Seidel, Giampiccolo	
4	Functional neurosurgical indications (DBS special techniques)	Moll	
16:00	Coffee break		



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**DGKN**

Deutsche Gesellschaft  
für Klinische Neurophysiologie  
und Funktionelle Bildgebung

Time Station	Programme item	Lecturer(s)	Moderation if necessary
16:20	Hands on Block 2 - <i>2nd part (2 rotations, every 30 mins) - contents see above.</i> Cognitive mapping and monitoring, special neurophysiological techniques for deep brain stimulation indications		
17:20	Short break		
17:30	Practical examination block P1 ( <i>4 rotations, every 15 min.</i> ) Exam contents: Hands-on topics of the day		
	1 Supratentorial tumour (intraop)	Seidel, Sabel	
	2 Non-invasive functional localisation	Weiss Lucas, Pedro	
	3 Supratentorial-vascular	Szelényi, Rosahl	
	4 Functional neurosurgical indications (epilepsy, DBS)	Rampp, Moll	
18:30-19:50	<b>Networking event  </b> Vineyard tour and wine tasting at Adega 23, bus transfer included – 10€		
20:00	Evening seminar <i>with drinks and starters</i>		Weiss Lucas, Giampiccolo
20:15	TMS-EEG: on the way to a network perspective in mapping	Tscherpel ( <i>virtual</i> )	
from 20:45	Dinner with discussion		
approx. 23:00	Shuttle bus to the Rupestre Hotel in Vila Velha de Ródão		



**DAY 3 | Tuesday, 30.04.2024**

Time Station	Programme item	Lecturer(s)	Moderation if necessary
07:10-	Shuttle Bus to Summer School venue leaving at Rupestre Hotel		
07:20-	Breakfast at the Herdade		
08:00	Breakfast seminar		Pedro, Szelényi
08:00	Preoperative neurophysiology and neurosonography in the indication for nerve surgery	Nagi	
08:20	Applied Neuroanatomy KHBW/ Brainstem (Surgical Approach)	Seidel	
08:45	Case scenarios related to infratentorial / cerebellopontine angle mapping and/or monitoring (4+3 mins each)		Rosahl, Rampp
08:52	Skull base / brainstem (AEP, Facial nerve etc.)	João Leote	
08:59	IONM in medulla oblongata tumor surgery	Majd Alkhatib	
09:06	Neuromonitoring in vestibular schwannoma	Sophia Hoffmanns	
09:15	Hands on block 3 - 1st half (2 rotations, every 30 min → 60 mins total per time frame) (Cranial and peripheral) Nerve monitoring and neurosonography		
	1 Monitoring of the optical system (VEP)	Szelényi	
	2 Vestibular Schwannoma/CPA, Focus: BAEP	Rosahl	
	3 Brainstem/CPA, Focus: Facial Nerve	Rampp, Seidel	
	4 Nerve 1: Focus on neurography	Pedro, Nagi	
	5 Nerve 2: Focus on neurosonography	König	
10:15	Coffee break		
10:45	Hands on Block 3 - 2nd half (3 rotations, all 30 mins) - see above for contents. (Brain) nerve monitoring and neurosonography		
12:15	Lunch		
13:30	Lunch seminar		König, Szelényi
	Why neuromonitoring in spinal neurosurgery?	Thomé (virtual)	
13:50 – 14:46	Case scenarios related to mapping and/or monitoring during spine surgery (4+3 mins each)		König, Szelényi
13:57	Spine	Alexander Dario Solis	
14:04	Spine	Levke Steiner	



Time Station	Programme item	Lecturer(s)	Moderation if necessary
14:11	IONM in scoliosis surgery	Isabel Castro	
14:18	Scoliosis	Mirjam Omar	
14:25	Imminent but prevented peripheral median nerve lesion during spine surgery	Carl Zipser	
14:32	IONM for intramedullary cervicothoracic Zyst	Pamela Heiland	
14:39	Cauda lesion with dural tear in lumbar stenosis	Martin Schubert	
14:50	Hands on Block 4 - <i>1st part (1<sup>st</sup> rotation, 30 mins)</i> Spinal mapping and monitoring, non-invasive neuromodulation		
	1	Neuromonitoring during orthopaedic interventions	Szelényi
	2	Non-invasive neuromodulation and investigation of the excitability of the corticospinal system using nTMS	Weiss Lucas, Lavrador
	3	Mapping for intramedullary procedures	Seidel, Pedro
	4	Monitoring during intradural interventions	Rosahl, König
15:20	Coffee break		
15:45	Hands on Block 4 - <i>2nd part (3 rotations every 30 mins) - see above for contents.</i> Spinal mapping and monitoring, non-invasive neuromodulation		
17:15	Short break		
17:30	Practical examination block P2 ( <i>3 rotations, every 15 min.</i> ) Exam contents: Hands-on topics of the day		
	1	Peripheral nerves	Pedro, König, Nagi
	2	Spinal	Szelényi, Seidel
	3	Cranial nerves	Rampp, Rosahl
18:45 –	Disassembly of devices (if early departure is necessary)		
18:45-20:30	<b>Networking event</b>   Sunset cruise on the Tejo river to the Gates of Ródão (UNESCO geomonument), bus shuttle included – 16€ ( <i>optional</i> )		
20:30 –	Dinner with social programme under the motto "Neurosurgery is cooking, Neuromonitoring is..."	Sabel, Moll	Rampp
~ 23:15	Shuttle bus to the Rupestre Hotel in Vila Velha de Ródão		



**DAY 4 | Wednesday, 01.05.2024**

Time	Programme item	Lecturer(s)	Moderation if necessary
09:15 – noon	Disassembly of devices		
07:20-	Shuttle Bus to Summer School venue leaving at Rupestre Hotel		
07:30-	Breakfast at the Herdade		
08:15	Breakfast seminar: Perspectives		Rosahl, Seidel
	... of the IONM during functional neurosurgical interventions	Moll	
	... from AI in the IONM	Rampp	
08:45	Written electronic exam (30 mins)		Faculty
	In parallel: Feedback meeting of the IONM committee members		
09:15	Feedback and open discussion, farewell	all	Szelényi, Weiss Lucas
10:15	Departure bus transfer to Lisbon airport (arrival approx. 12:30)		

## Lecturers

Alexandre Campos | Lisbon  
Davide Giampiccolo | London  
Ralph König | Günzburg  
José Lavrador | London  
Christian Moll | Hamburg  
Michael Nagi | Munich  
Sohey! Noachtar | Munich  
Maria Pedro | Günzburg  
Stefan Rampp | Erlangen

Steffen Rosahl | Erfurt  
Michael Sabel | Düsseldorf  
Kathleen Seidel | Bern  
Andrea Szelényi | Munich  
Claudius Thomé | Innsbruck  
Caroline Tscherpel | Frankfurt  
Francesco Vergani | London  
Carolin Weiss Lucas | Cologne

The ratio of lecturers to participants is expected to be 1:3.

Lecturers do not receive a fee, but receive up to EUR 300 towards travel expenses and free board and lodging during the course or are exempt from the participation fee.

The group of presenters primarily consists of lecturers from the Basics courses, complemented by specially invited overview lectures.





## Transparency

The event costs are not co-financed by industry funds. The industry's contribution to the event consists solely of the provision of equipment free of charge.

### With the kind non-financial support of the following companies:

Canon (2 loan devices)  
Dr Langer (1 loan device)  
Inomed (4 loan devices)  
Nexstim (1 loan device)  
Nihon Kohden (1 loan device)  
OlphaOmega (1 loan device)  
Stryker (2 loan devices)

## Participation fees

The participation fees below **include** the bus transfer from/to Lisbon airport as well as the costs for **accommodation** (in double occupancy of twin-bedded rooms! Single rooms at extra costs upon request) **and catering** (incl. drinks flat rate; excl. high-proof spirits and cocktails). In case of external accommodation (self-organised), a discount of 100€ will be applied. The travel (from home) to and from Lisbon airport must be organised independently and is not included in the price.

<b>Non-medical staff*</b>	<b>EUR 450</b>
<b>Medical assistants</b>	<b>EUR 490</b>
<b>Specialist medical staff</b>	<b>EUR 540</b>

\* e.g. TA, students, scientists or medical staff with part-time employment and comparable income category (approx. TVL-9, 100%), e.g. on parental leave

The passive participation fee (e.g. for industry staff) is EUR 300 and includes full catering (but not accommodation). External dinner participation (e.g. of family members) is generally possible upon request at the cost of 40€ / dinner, including drinks (hot and cold non-alcoholic drinks, beer, wine).

## Location ([www.herdadedaurgueira.com](http://www.herdadedaurgueira.com))

**Accommodation: Hotel "Herdade da Urgueira" and Hotel „Rupestre“ in Vila Velha de Ródão**  
At the conference venue, flats and rooms of various sizes are available. The flats are spacious and feature a terrace and kitchenette. Due to limited on-site capacity, it is necessary for participants to share twin rooms. Please note that the venue is rented exclusively for the course.

Additional rooms have been pre-booked at <https://www.rodaohotel.com>, offering limited accommodation possibilities for family members and in single rooms (upon request).

### **Catering: Hotel restaurant "Meio do Nada"**

The participation fee includes three dinners, two lunches and four coffee breaks as well as drinks (hot and cold non-alcoholic drinks, beer, wine included).