



APPLICATION FOR 2024  
CLINICAL / LABORATORY  
SUMMER SCHOOLS,  
MEDICAL SCHOOL,  
UNIVERSITY OF CRETE



Title of Summer School:

Basic Electroencephalography Course

Scientific coordinator:

Ioannis Karakis, MD, PhD, MSc

Coordinating Department / Laboratory:

Neurology

Interdisciplinary:    Yes        No

If yes, please name other Departments / Laboratories participating and their scientific coordinators:

No

General Description (up to 200 words):

In collaboration with 10 academic institutions in the United States, this hybrid (in-person and via zoom) course will review the basics in electroencephalography (EEG) across the age spectrum. It will include the fundamental tenets of signal generation, technical considerations of signal acquisition, types of EEG recordings and reporting standards. Normal EEG examples and their variants across various age groups will be presented and contrasted with artifacts. Both non epileptiform and epileptiform abnormalities will be demonstrated and their relationship with underlying neurologic disorders will be discussed. The applications of EEG in the epilepsy monitoring unit (EMU), intensive care unit (ICU), intracranial monitoring service (ICM) and operative room (OR) will be reviewed. The course will include hands-on workshop by registered EEG technicians on the application of EEG electrodes and hands-on review session of EEG cases to complement the formal lectures. Students will also rotate through the EEG laboratory of the University Hospital of Heraklion. There will be an optional welcome dinner on Tues 25 June evening and an optional excursion to the island of Spinalonga on Sat 29 June morning.

Purpose of Training (What will the trainees have learned at the end of the course):

-Understand the fundamental tenets of Electroencephalography (EEG) in terms of signal generation, technical considerations of signal acquisition, types of EEG recordings and reporting standards

- Recognize normal EEG examples and their variants across various age groups and differentiate them from artifacts
- Identify non epileptiform and epileptiform EEG abnormalities and demonstrate their relationship with underlying neurologic disorders
- Review the applications of EEG in the epilepsy monitoring unit (EMU), intensive care unit (ICU), intracranial monitoring service (ICM) and operative room (OR)

Who is it for (pre-graduate: pre-clinical or clinical, postgraduate, PhD level):

Medical Students, Residents, Attendings, Nurses, Technicians

Duration / location (1-4 weeks, how many cycles, dates of each cycle, places of training):

The course will take place in the Medical School of the University of Crete. It will include hands-on workshops by registered EEG technicians on the application of EEG electrodes and hands-on review session of EEG cases to complement the formal lectures. Students will also rotate through the EEG laboratory of the University Hospital of Heraklion.

Scientific-Organizing Committee:

Ioannis Karakis, University of Crete, Heraklion, Greece  
Panagiotis Mitsias, University of Crete, Heraklion, Greece  
Spyros Zafeiris, University of Crete, Heraklion, Greece  
Georgios Livas, University of Crete, Heraklion, Greece  
Melitini Agiovarvaritaki, University of Crete, Heraklion, Greece

Educators:

Ioannis Karakis, University of Crete, Heraklion, Greece  
Spyros Zafeiris, University of Crete, Heraklion, Greece  
Vasileios Kokkinos, Northwestern University, Chicago, IL, USA  
Adrianna Bermeo-Ovalle, Rush University, Chicago, IL, USA  
Sonam Bhalla, Emory University, Atlanta, GA, USA  
Keith Morgan, Neurotech Foundation, Waukesha, WI, USA  
Georgios Livas, University of Crete, Heraklion, Greece  
Melitini Agiovarvaritaki, University of Crete, Heraklion, Greece  
Fabio Nascimento, Washington University, St. Louis, MO, USA  
Dan Weber, St. Louis University, St. Louis, MO, USA  
Aline Herlopian, Yale University, New Haven, CT, USA  
Tammy Tsuchida, George Washington University, Washington, DC, USA  
Rebecca Matthews, Emory University, Atlanta, GA, USA  
Angelica Rivera Cruz, University of South Florida, Tampa, FL, USA  
Abed Alwaki, University of Pittsburgh, Pittsburgh, PA, USA

Draft educational program (detailed by day):

	<b>Tues 25 June</b>	<b>Wed 26 June</b>	<b>Thurs 27 June</b>	<b>Fri 28 June</b>
<b>1-2 pm</b>	Course orientation (Karakis)	Hands-on EEG application (Morgan/Livas/ Agiovarvaritaki)	Hands-on EEG review (Karakis/Zafeiris)	EEG in the ICM (Rivera Cruz)
<b>2-3 pm</b>	EEG signal generation and recording and technical considerations (Kokkinos)	EEG normal variants (Nascimento)	Abnormal neonatal and pediatric EEG (Sonam Bhalla)	EEG in the OR (Alwaki)
<b>3-4 pm</b>	Normal adult EEG (Bermeo-Ovalle)	EEG artifacts (Weber)	EEG in the EMU (Matthews)	EEG Test and Scoring (Karakis)
<b>4-5 pm</b>	Normal neonatal and pediatric EEG (Tammy Tsuchida)	Abnormal adult EEG (Herlopian)	EEG in the ICU (Haider)	Summary, resources, feedback (Karakis)

Draft social program (excursions, evenings, dinners, etc.):

There will be an optional welcome dinner on Tues 25 June evening and an optional excursion to the island of Spinalonga on Sat 29 June morning.

Student selection process (maximum number of students, evaluation criteria):

30 students maximum

Evaluation of CV and motivation letter by the scientific committee

Application procedure:

Online application (by email to [ioannis.karakis@uoc.gr](mailto:ioannis.karakis@uoc.gr) and [yianniskarakis@yahoo.com](mailto:yianniskarakis@yahoo.com))

Deadline: May 31st, 2024

Budget (eg. educational material, fees for educators):

400 euros per participant (includes welcome dinner but does not include travel, accommodation, and an optional excursion with lunch)

Additional comments: Accommodation and travel cost not included in the tuition fees; however, we aim to provide relevant information to participants.