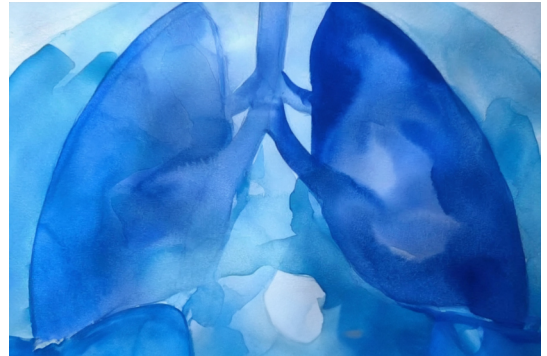




University of Crete  
School of Medicine

*University of Crete  
Summer Schools  
for International Medical Students*

**APPLIED  
RESPIRATORY  
PHYSIOLOGY**



*Heraklion, Crete  
July 8 -12 2024*

*Organized by the Department of  
Intensive Care Medicine*





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Summer School  
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PHYSIOLOGY**

*What happens during an asthma attack or a severe pneumonia? How mechanical ventilators work and how can we adjust the ventilator settings to manage respiratory failure? What is common between champagne bubbles and divers disease? How high a mountain can we climb? Why are we panting after exercise? How about snoring when sleeping? Find the answer to all these questions and more by immersing this summer into a school on*

## ***Applied Respiratory Physiology!***

### **Course Aim and Description**

*This course provides an in-depth understanding of respiratory physiology and its implications in health, in exercise and extreme environments, in disease, and mechanical ventilation. The hands-on sessions allow students to visualize and comprehend the basic physiology, and familiarize them with the cardiopulmonary exercise testing and polysomnography. Using a lung simulator and an ICU ventilator the students learn the basic principles of setting and adjusting a mechanical ventilator to support a critically ill patient with respiratory failure.*

*All courses will be given by experts in adult respiratory and intensive care medicine.*

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## ***In this course will you learn about:***

1. Mechanics of breathing and its application in the pathophysiology of respiratory failure and mechanical ventilation
2. Pulmonary circulation, ventilation-perfusion relationships and Heart-Lung interactions
3. Exercise physiology and pathophysiology of limited exercise capacity
4. Control of breathing and pathophysiology of Sleep-breathing disorders
5. Basic principles of mechanical ventilation

## ***Who should attend?***

The course is for medical students who have completed the 3rd year of their studies and have taken courses on respiratory physiology and pathophysiology.

## ***When & Where ?***

The course will take place on July 8-12, 2024, at the Medical School of the University of Crete, and the University Hospital of Heraklion, all in the beautiful island of Crete, Greece.

The daily programme runs from 10 am to 2 pm and includes three lectures and one hands-on session.

## ***Application procedure***

Online application by email to [vaporidi@gmail.com](mailto:vaporidi@gmail.com)

In your application email please include: your full name, medical school and year of studies, and a copy of your transcript showing you have passed physiology and pathophysiology courses.

Eligible students will be accepted on a first come-first served basis and notified within a week from application.

Deadline: April 30th, 2024

Cost: tuition 400€ includes all educational sessions and a welcome dinner with the faculty on July 8th. Tuition does not include travel and accommodation. Details about the registration process will be sent by email upon acceptance of your application. A local travel agency and students' organisation will help with accommodation.

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## **PROGRAMME**

Monday July 8, 10.00-14.00

Welcome - practical information about the summer school

Mechanics of Breathing

Ventilation

Oxygenation

Hands-on: Mechanics of breathing

Welcome dinner 20.00

Tuesday July 9, 10.00-14.00

Pulmonary circulation

Ventilation-perfusion matching

Heart - lung interactions

Hands-on: Heart-Lung interactions  
- visit to the ICU

Wednesday July 10, 10.00-14.00

Physiology of exercise

Exercise limitations in lung disease

Respiratory physiology in extreme environments

Hands-on: Cardiopulmonary  
Exercise Testing - visit to the CPET lab

Thursday July 11, 10.00-14.00

Respiratory muscles

Respiratory failure

Basic principles of mechanical ventilation

Hands-on: Mechanical ventilation using an ICU ventilator and a lung model

Friday July 12, 10.00-14.00

Control of breathing

Responses to hypoxia and hypercapnia

Pathophysiology of OSAS

Hands-on: Sleep disorders - visit to the Sleep lab of the University Hospital

## **FACULTY**

**Katerina Vaporidi MD. PhD.,**  
Scientific Coordinator, Associate Professor in Intensive Care Medicine, Department of Intensive Care, University of Crete, School of Medicine.

**Dimitris Georgopoulos MD. PhD.**  
Professor emeritus of the Medical School of the University of Crete, former head of the department of Intensive Care.

**Evangelia Akoumianaki MD. PhD**  
Assistant professor in Intensive Care Department of Intensive Care, University of Crete, School of Medicine.

**Eumorfia Kondili MD. PhD.**  
Professor in Intensive Care Medicine, and head of the department of Intensive Care at the University of Crete, School of Medicine.



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## ***Student testimonials from the 2023 Summer School on Applied Physiology***



*Q: What would you advise future students who would consider applying for this Summer School?*

I would advise students to apply for the Summer School. The classes gave me clear insights on the topics. The hands-on sessions are perfect to help memorize and understand the topics.

I think the advice of Professor Vaporidi to find an accommodation in the centre is a really good one :) I also think revising the basic principles of respiratory physiology would be a good idea, for me it was 3 years ago I saw the theory, so I felt like I had to catch up a bit.

I would recommend not hesitating to ask questions, and keeping it very interactive to improve learning ability. I would also advise not to overdo note-taking. It is sometimes difficult to both write and listen in a language that is not your native language.

I would also recommend reviewing some things back from the topics covered prior to summer school, such as youtube videos/ previous courses. I would also recommend taking accommodation in the Heraklion center and inquire about public transportation and fares (reduced student fare) prior to departure. And beyond that, I recommend enjoying it!

To not be afraid to ask questions. This helps the student understand better, and it helps the teacher/professor bring the content of their presentation across. To read about the subject in advance

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