SUMMER SCHOOLS 2022

MEDICAL SCHOOL,

UNIVERSITY OF CRETE

https://dev.med.uoc.gr:8443/summer-schools/

Title of Summer School:

INTRODUCTION IN 4D FETAL ECHOCARDIOGRAPHY

Scientific coordinator:

Ioannis Germanakis

Assoc. Professor of Pediatrics-Pediatric Cardiology

Faculty of Medicine, University of Crete

Coordinating Department / Laboratory:

Medical School University of Crete

General Description

Stepwise introduction in fetal echocardiography, from the basic recommended views as essential part of the fetal anatomy imaging to the advanced techniques of four dimensional imaging (4D) of the fetal heart and vessels. Indications of fetal echocardiography, recommended views of basic fetal heart imaging and normal fetal heart anatomy will be presented. Technical aspects of successful fetal heart sonographic imaging will be presented in detail, regarding both basic and advanced techniques. The technique of spatial temporal image correlation (STIC) allowing for off-line reconstruction of potentially any fetal heart view following a 4D volume acquisition by designated sonographic probes will be presented. Technical aspects of successful volume acquisition and off-line reconstruction will be discussed. The current research regarding 4D fetal echocardiography and its applications will be summarized and the potential of developing research cooperation based on telediagnosis and remote evaluation of 4D volumes will be discussed.

The teaching course will be based on theoretical lectures (including live and synchronous e-learning) and hands on practice (reconstruction of stored 4D volumes) along with live demonstration of image acquisition by modern ultrasound systems. It is based on small group, supervised and interactive teaching.

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

1. Knowledge of **recommended basic fetal heart imaging** views
2. Identification of **normal anatomy**
3. **Indications** of referral for detailed fetal echocardiography
4. Recognition of suspicious findings in basic imaging, requiring further evaluation
5. Understanding the physics of ultrasound and **how to achieve the best quality** imaging in various conditions

6. Understanding the principles of **advanced 4D fetal echocardiography** (STIC) and how to achieve best imaging
7. **Efficacy** in acquisition and off line reconstruction of 4D fetal echocardiographic images
8. Becoming a **member of a group of scientists** wishing to **cooperate** and continue a long term cooperation in the **research** of **fetal cardiology** based on advanced echocardiographic techniques, including telediagnosis and teleconsultation.

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

Postgraduate level, including master degree, PhD students as well as **physicians**, technical **experts** and **researchers** active in the clinical and research applications of fetal ultrasound imaging, including obstetricians, pediatric cardiologists, radiologists, sonographers etc.

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

1 week (**September 2022, Monday 12th-Friday 16th**)

Place: Medical Faculty, Heraklion Crete

Scientific-Organizing Committee:

Ioannis Germanakis

Emmanouil Galanakis

Antonis Makrigianakis

Teacher:

Ioannis Germanakis (Assoc. Prof. UOC) / Further invited experts in the field (to be announced)

Instructors:

Eirini Fenekou (Technical Expert, GE Healthcare)

Ioannis Dimitrakopoulos (Technical Expert, GE Healthcare)

Spyridon Pepes (PhD Candidate, UOC)

Preliminary educational program (detailed by day): 9am-2pm

Monday 12.9: Introduction in recommended views of basic fetal heart imaging *

Tuesday 13.9: Indications for fetal echocardiography. Advanced views of fetal heart imaging *

Wednesday 14.9 : Technical aspects and image settings of image acquisition in basic and advanced fetal heart imaging WORKSHOP 9 am-2pm

Thursday 15.9: Hands on practice – 4D fetal echocardiography WORKSHOP 9am-2pm

Friday 16.9: Hands on practice-4D fetal echocardiography-certification exams-course validation 9am-2pm

* *Theory lectures will be also available through synchronous interactive e-learning*

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

Maximum 20

Evaluation criteria: Previous experience in ultrasound imaging (clinical or research) is required. Previous experience and clinical / research interest in medical fields related to sonographic imaging, prenatal diagnosis, obstetrics, pediatric cardiology etc. Level of English proficiency, participation in research projects, postgraduate courses and titles.

Application procedure:

Application for participation should be accompanied by a brief CV in English (1 page), with emphasis on how the candidate satisfies the main evaluation criteria, and providing evidence that the candidate is familiar with ultrasound imaging and prenatal ultrasound imaging (clinical and/or research). Proof of English language proficiency, when available (not strictly limited to formal diplomas, previous work experience abroad or attendance of international courses can be also included).

Applications should be sent to : yannis.germanakis@gmail.com

Evaluation process: Applications who will be received by July 10th 2022 will be evaluated up to July 15th when the selected participants will be announced. Further applications can be accepted (waiting list) also after July 10th in case of remaining free positions for the course and/or cancellations of applicants.

Budget

The courses will be held in the Faculty of Medicine University of Greece (with the permission of the Faculty) The scientific coordinator and teacher (s)-instructors will receive no funding for their participation in the summer school.

The technical support (equipment, technical experts) for the required hardware and software (including ultrasound systems, laptop PC, designated 4D image reconstruction software) will be provided by Industry (GE Healthcare A.E) at no cost for the purposes of the summer school.

Accommodation, subsistence and transfer costs for participants are not covered. Discount hotel prices for summer school participants are already available.

Tuition costs per participant: FREE

Additional comments

This represents a preliminary program.

Further information

You might contact the scientific coordinator for any further details to : yannis.germanakis@gmail.com