



A task force for Greek Rheumatologists  
Musculoskeletal Imaging Techniques - Ongoing Sonography

BASIC AND INTERMEDIATE LEVELS

UNDER THE AUSPICES



01-03  
December  
2022



Scientific  
Program

8<sup>th</sup>

International  
Musculoskeletal  
UltraSoundCourse



Wyndham Grand Athens, Greece

Scientific Endorsed by

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Course Secretariat

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A task force for Greek Rheumatologists  
Musculoskeletal Imaging Techniques - Ongoing Sonography

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International  
Musculoskeletal  
UltraSoundCourse

◆ Wyndham Grand Athens, Greece



## GENERAL INFORMATION

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### ORGANIZATION AND COMMITTEE

#### Scientific Director

**Prof. Annamaria Iagnocco**

Dipartimento Scienze Cliniche e Biologiche, Università degli Studi di Torino, Turin - Italy

**e-mail:** annamaria.iagnocco1@gmail.com

#### Local Organizer

**M.I.T.O.S. (Musculoskeletal Imaging Techniques: Ongoing Sonography - a Task Force for Greek Rheumatologists)**

#### Organizing Committee

**Giasna Giokits Kakavouli**

**Dimitrios Karokis**

**Ioannis Raftakis**

**Caterina Siagkri**

#### Scientific Committee

**Giasna Giokits Kakavouli**

**Dimitrios Karokis**

**Ioannis Raftakis**

**Caterina Siagkri**

#### Faculty

The speakers will come from major European musculoskeletal ultrasound research centers and are rheumatologists mostly involved in previous EULAR courses. The contacted faculties are:

#### Faculties

*Annamaria Iagnocco, Italy*

*Ahmed Abogamal, Egypt*

*Amalia Raptopoulou, Greece*

*Andrea DelleSedie, Italy*

*Andreas Diamantopoulos, Norway*

*Athanasios Fortis, Greece*

*Caterina Siagkri, Greece*

*Dimitris Karokis, Greece*

*Dimos Merinopoulos, Greece*

*Francesco Porta, Italy*

*Georgios Filippou, Italy*

*Giasna Giokits-Kakavouli, Greece*

*Ioannis Raftakis, Belgium*

*Nemanja Damjanov, Serbia*

*Peter Mandl, Austria*

#### Instructors

*Ahmed Abogamal, Egypt*

*Amalia Raptopoulou, Greece*

*Andrea DelleSedie, Italy*

*Andreas Diamantopoulos, Norway*

*Athanasios Fortis, Greece*

*Caterina Siagkri, Greece*

*Christos Georgakopoulos, Greece*

*Dimitris Karokis, Greece*

*Dimos Merinopoulos, Greece*

*Francesco Porta, Italy*

*Georgios Filippou, Italy*

*Giasna Giokits-Kakavouli, Greece*

*Ioannis Raftakis, Belgium*

*Nemanja Damjanov, Serbia*

*Panagiotis Bozios, Greece*

*Peter Mandl, Austria*

*Theodoros Natskos, Greece*

## GENERAL INFORMATION

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**Course's opening****Course's closing****Participants****Official language****Congress Venue**

Thursday, December 1<sup>st</sup>, 2022 - h 11.30

Saturday, December 3<sup>rd</sup>, 2022 - h 16:45

The number of participants in each of the levels is limited

English

Wyndham Grand Hotel, Athens, Greece

**Organizer****M.I.T.O.S. GROUP**

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**Co Organizer****Rheumatology Association  
of Serbia**

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**Contact and Technical Organizer**

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## SPEAKERS – INSTRUCTORS

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### **Annamaria Iagnocco**

Professor, Dipartimento Scienze Cliniche e Biologiche, Università degli Studi di Torino, Turin, Italy

### **Ahmed Abogamal**

Professor of Rheumatology, Consultant Rheumatologist, EULAR Certified MSUS Instructor, Cairo, Egypt

### **Amalia Raptopoulou**

MD, PhD, Rheumatologist, Veroia, Greece

### **Andrea Delle Sedie**

MD, Rheumatologist, Azienda Ospedaliero Universitaria Pisana, Pisa, Italy

### **Andreas P. Diamantopoulos**

MD, Ph.D., MPH, Consultant Rheumatologist, Division of Internal Medicine, Section of Rheumatology, Akershus University Hospital, Oslo, Norway

### **Athanasios Fortis**

MD, PhD, FEBOT, Clinical Director Orthop. Dept., Panarkadian Hospital, Tripolis, Greece

### **Caterina Siagkri**

Rheumatologist, Scientific Associate of Hippocraton Hospital of Thessaloniki, Private Practice Thessaloniki, Greece

### **Christos Georgakopoulos**

MD, MSc, Medical Resident in Rheumatology, KAT General Hospital, Attica, Greece

### **Dimitris Karokis**

MSc, Rheumatologist, General Secretary of the M.I.T.O.S. Group (Musculoskeletal Imaging Techniques: Ongoing Sonography), Patras, Greece

### **Dimos Merinopoulos**

BS, MSc, MD, MRCP, Rheumatologist, Athens, Greece

### **Francesco Porta**

Rheumatologist, Interdisciplinary Pain Medicine Unit, Santa Maria Maddalena Hospital, Occhiobello, Italy

### **Georgios Filippou**

MD, PhD, Assistant Professor, Department of Clinical and Experimental Medicine, Section of Rheumatology, Careggi University Hospital, University of Florence, Italy

### **Giasna Giokits Kakavouli**

MD, Consultant Rheumatologist, Scientific Associate of Hippocraton Hospital of Thessaloniki, 4<sup>th</sup> Department of Pathology, Private Practice Katerini, Greece

### **Ioannis Raftakis**

Rheumatologist, Deputy Head of Clinic, Department of Rheumatology, CHU Brugmann, Brussels, Belgium

### **Nemanja Damjanov**

MD, PhD, Full Professor of Internal Medicine, Rheumatology, Belgrade University School of Medicine, Director of Institute of Rheumatology, Belgrade, Serbia

### **Panagiotis Bozios**

MD, MSc, PhD, Rheumatologist, University of Ioannina, Greece

### **Peter Mandl**

MD, PhD, Privatdozent, Division of Rheumatology, 3<sup>rd</sup> Department of Internal Medicine, Medical University of Vienna, Wien, Austria

### **Theodoros Natskos**

Rheumatologist, Veroia, Greece

## SCIENTIFIC PROGRAM INFORMATION

### CONGRESS SECRETARIAT OPENING HOURS

<b>Thursday, 1 December 2022</b>	13:00 - 21:00
<b>Friday, 2 December 2022</b>	08:30 - 19:00
<b>Saturday, 3 December 2022</b>	08:30 - 15:15

### CERTIFICATE OF ATTENDANCE

Participants can receive their certificate of attendance during the closing session on the 3<sup>rd</sup> of December 2022.

To receive the certificate of attendance, it is mandatory to complete and submit the evaluation form, at the Course Secretariat, before the closing session and to show the congress badge.

### CONGRESS HALLS

Theory	<b>Hera Meeting room</b>	1 <sup>st</sup> floor
Workshop	<b>Athina Meeting room</b>	1 <sup>st</sup> floor
Exhibition	<b>Foyer</b>	1 <sup>st</sup> floor



## BASIC LEVEL

### OBJECTIVES:

- To learn technical characteristics and setting of ultrasound equipment for rheumatology.
- To learn the systematic standardized sonographic scanning method of each anatomical region, according to the EULAR guidelines.
- To learn basic normal musculoskeletal ultrasonographic (MSUS) anatomy.
- To learn basic pathological MSUS findings.

### MAIN TOPICS:

- Ultrasound physics and technology, technical characteristics of ultrasound equipment in rheumatology, applications, indications and limitations of MSUS.
- MSUS anatomy, artifacts and misinterpretation in MSUS.
- Standardized sonographic scanning method of each anatomical region (shoulder, elbow, wrist and hand, hip, knee, ankle and foot) according to the EULAR guidelines.
- Basic pathological sonographic findings (tendinosis, tenosynovitis, partial and complete tendon tear, enthesopathy, bursitis, calcifications, articular cartilage lesions, cortical abnormalities, erosions and joint synovitis).
- Reporting MSUS findings and diagnosis.

### WORKSHOPS:

- Practical handling of the ultrasound machine settings.
- Supervised identification of musculoskeletal sonoanatomy.
- Supervised standardized sonographic scanning of the shoulder, elbow, wrist and hand, hip, knee, ankle and foot.
- Supervised hands-on scanning of patients with basic musculoskeletal lesions.

## SCIENTIFIC PROGRAM

Thursday - December 1<sup>st</sup>, 2022

## BASIC LEVEL

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**13.00 - 14.00** Registration - Lunch

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**14.00 - 14.15** Welcome  
**A. Iagnocco, G. Giokits-Kakavouli, D. Karokis**

**14.15 - 14.30** **J. Raftakis** Entering test of knowledge - Basic Level

Chairpersons: **A. Iagnocco, J. Raftakis**

**14.30 - 15.00** **J. Raftakis** Technical characteristics and setting of ultrasound equipments for Musculoskeletal diseases

**15.00 - 16.30** **Workshop:** Supervised practical handling of the ultrasound machine settings

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**16.30 - 17.00** Coffee break

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Chairpersons: **F. Porta, G. Filippou**

**17.00 - 17.25** **G. Filippou** History and basic physics of MSUS

**17.25 - 18.00** **P. Mandl** Normal tissue and joint anatomy; Sonographic pattern of the musculoskeletal tissues

**18.00 - 18.30** **F. Porta** Artifacts and misinterpretation in MSUS

**18.30 - 19.00** **D. Merinopoulos** Image documentation; reporting US findings and diagnosis

**19.00 - 21.00** **Workshop:** Supervised practical handling of the normal MSUS anatomy and basic pathological findings





## SCIENTIFIC PROGRAM

Friday, December 2<sup>nd</sup>, 2022

## BASIC LEVEL

Chairpersons: **A. Iagnocco, A. Diamantopoulos**

**09.00 - 09.30 N. Damjanov** Sonographic semiology; US and correlative anatomy and histology: articular cartilage lesions, cortical abnormalities; Basic pathology of tendons and ligaments (tendinosis, calcifications, tears)

**09.30 - 10.00 A. Iagnocco** Basic synovial US lesions: synovitis, synovial hypertrophy, tenosynovitis and bursitis; Definition, detection, and quantification

**10.00 - 10.30 A. Diamantopoulos** Enthesitis and enthesopathy

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**10.30 - 11.00** Coffee break

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**11.00 - 12.45 Workshop:** US semiology: normal and basic pathological findings

Chairpersons: **G. Giokits-Kakavouli, C. Siagkri**

**12.45 - 13.15 C. Siagkri** Standardized scanning of shoulder normal and basic pathological findings

**13.15 - 13.45 A. Raptopoulou** Standardized scanning of the elbow: normal and basic pathological findings

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**13.45 - 14.30** Lunch

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**14.30 - 17.00 Workshop:** Supervised scanning technique of shoulder; supervised scanning technique of elbow; Normal and basic pathological findings

Chairpersons: **A. Iagnocco, D. Karokis**

**17.00 - 17.30 D. Karokis** Standardized scanning of the wrist and hand: normal and basic pathological findings

**17.30 - 18.00 A. Iagnocco** US Application in management of Musculoskeletal Disorders

**18.00 - 18.30 N. Damjanov** Basic skills in sonographic guided arthrocentesis

## SCIENTIFIC PROGRAM

Saturday, December 3<sup>rd</sup>, 2022

## BASIC LEVEL

**09.00 - 10.45**    **Workshop:** Supervised hands-on scanning of patients with inflammatory and degenerative hand, wrist and hip

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**10.45 - 11.15**    Coffee break

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**11.15 - 11.45**    Chairpersons: **J. Raftakis, A. Fortis**  
**A. Fortis** Standardized scanning of the hip: normal and basic pathological findings

**11.45 - 12.15**    **J. Raftakis** Standardized scanning of the knee: normal and basic pathological findings

**12.15 - 12.45**    **J. Raftakis** Standardized scanning of the ankle and foot: normal and basic pathological findings

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**12.45 - 13.15**    Lunch

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**13.15 - 14.15**    **Workshop:** Supervised hands-on scanning of patients with inflammatory and degenerative knee, ankle and foot

**14.15 - 15.00**    **Workshop:** Basic skills in sonographic-guided arthrocentesis

**15.00 - 15.15**    Exit test of knowledge & closing remarks



## INTERMEDIATE LEVEL

### OBJECTIVES:

- To review the systematic standardized sonographic scanning method of each anatomical region, according to the EULAR guidelines.
- To learn Colour and Power Doppler physics, application, indications and limitations.
- To learn definition, ultrasound presentation and quantification of synovitis, synovial hypertrophy, effusion, erosion, tendinopathy, tenosynovitis, enthesopathy and degenerative lesions.
- To assess, quantify and/or score joint lesions.
- To learn basic skills to perform sonographic-guided musculoskeletal injections.
- To understand the role of musculoskeletal US in clinical and research practice.

### MAIN TOPICS:

- Role of Colour and Power Doppler in rheumatology.
- Colour and Power Doppler physics and technology.
- Applications, indication and limitations of Colour and Power Doppler.
- Ultrasound presentation of synovitis, effusion, erosions, tendinopathies, tenosynovitis, enthesitis and degenerative lesions.
- Role of ultrasound in diagnosis and monitoring of metabolic arthritis.
- Role of ultrasound in monitoring patients with inflammatory joint diseases.
- Standards of safety of ultrasound-guided punctures and injections sonographic system.

### WORKSHOPS:

- Practical handling of the ultrasound machine settings and use of Colour and Power Doppler technology.
- Supervised scanning of the patients with inflammatory and degenerative joint disease focused on detection of synovitis, effusion, erosions, tendinopathies, tenosynovitis, enthesitis and degenerative lesions.
- Supervised basic sonographic-guided musculoskeletal injections.

## SCIENTIFIC PROGRAM

Thursday, December 1<sup>st</sup>, 2022

## INTERMEDIATE LEVEL

<b>13.00 - 14.00</b>	Registration - Lunch
<b>14.00 - 14.15</b>	Welcome <b>A. Iagnocco, G. Giokits-Kakavouli, D. Karokis</b>
<b>14.15 - 14.30</b>	<b>J. Raftakis</b> Entering test of knowledge - Intermediate Level  Chairpersons: <b>G. Giokits-Kakavouli, J. Raftakis</b>
<b>14.30 - 15.00</b>	<b>J. Raftakis</b> Technical characteristics and setting of ultrasound equipment for Musculoskeletal diseases  Chairpersons: <b>A. Iagnocco, A. Diamantopoulos</b>
<b>15.00 - 15.20</b>	<b>A. Diamantopoulos</b> Application, indications and limitations of Doppler in musculoskeletal US
<b>15.20 - 15.40</b>	<b>A. Iagnocco</b> B-mode and Doppler synovitis. Definition, detection, quantification and pitfalls
<b>15.40 - 16.10</b>	<b>F. Porta</b> B-mode and Doppler tenosynovitis. Definition, detection, quantification and pitfalls
<b>16.10 - 16.30</b>	Coffee break
<b>16.30 - 18.30</b>	<b>Workshop:</b> Supervised practical scanning of the different Doppler modalities. How to use and set the ultrasound equipment. The choice of the appropriate probe. Optimisation of Doppler settings. PDUS artefacts  Chairpersons: <b>A. Iagnocco, A. DelleSedie</b>
<b>18.30 - 18.50</b>	<b>G. Filippou</b> Doppler physics, technology and artefacts. Doppler setting optimization
<b>19.00 - 19.20</b>	<b>A. DelleSedie</b> Colour Doppler and Power Doppler. Correlations between US imaging and histopathological findings



## SCIENTIFIC PROGRAM

Friday, December 2<sup>nd</sup>, 2022

## INTERMEDIATE LEVEL

Chairperson: **G. Giokits-Kakavouli**

**08.30 - 09:00** **N. Damjanov** Basic skills in sonographic-guided arthrocentesis

**09.00 - 11.00** **Workshop:** US semiology - pathological findings  
Supervised hands-on scanning of patients with inflammatory and degenerative joint disorders; How to detect and quantify synovitis (including Power Doppler), cartilage and bony lesions

Chairpersons: **P. Mandl, G. Giokits-Kakavouli**

**11.00 - 11.25** **P. Mandl** B-mode and Doppler tendinosis and tendon tear. Definition, detection, quantification and pitfalls

**11.25 - 11.50** **A. Abogamal** US bone abnormalities. Definition, detection, quantification and pitfalls

**11.50 - 12.15** **A. Diamantopoulos** B-mode and Doppler enthesopathy and enthesitis; Definition, detection, quantification and pitfalls

**12.15 - 12.45** **A. Abogamal** US cartilage abnormalities. Definition, detection, quantification and pitfalls

**12.45 - 14.00** **Workshop:** Supervised hands-on scanning of patients with synovitis and tenosynovitis, enthesopathy / enthesitis, tendinosis and tendon tear, bone and cartilage abnormalities

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**14.00 - 15.00** Lunch

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Chairpersons: **G. Giokits-Kakavouli, C. Siagkri**

**15.00 - 15.30** **P. Mandl** US diagnosis of hip pathology

**15.30 - 16.00** **G. Giokits-Kakavouli** US diagnosis of knee pathology

**16.00 - 16:30** **C. Siagkri** US diagnosis of ankle and foot pathology

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**16.30 - 17.00** Coffee Break

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**17.00 - 19.00** **Workshop:** Supervised hands-on scanning of patients with lower extremity pathology

## SCIENTIFIC PROGRAM

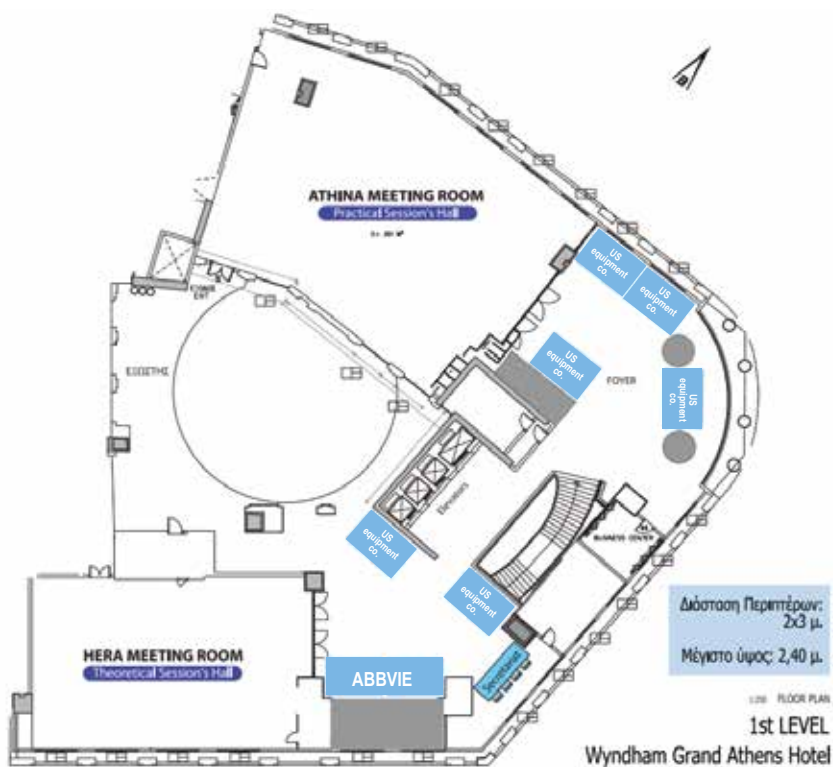
Saturday, December 3<sup>rd</sup>, 2022

## INTERMEDIATE LEVEL

	Chairpersons: <b>P. Mandl, G. Giokits-Kakavouli</b>
<b>09.00 - 09.30</b>	<b>A. Iagnocco</b> US: a tool for diagnosis and outcome measure in Musculoskeletal ultrasound
<b>09.30 - 10.00</b>	<b>P. Mandl</b> Role of US in the diagnosis of crystal arthropathy and periarticular tissue (gout, CPPD)
<b>10.00 - 10.30</b>	<b>G. Giokits-Kakavouli</b> US diagnosis of shoulder pathology
<b>10.30 - 11.00</b>	<b>D. Karokis</b> US diagnosis of wrist and hand pathology
<b>11.00 - 11.15</b>	Coffee break
<b>11.15 - 12.45</b>	<b>Workshop:</b> Supervised hands-on scanning of patients with upper extremity pathology
	Chairpersons: <b>G. Giokits-Kakavouli, J. Raftakis</b>
<b>12.45 - 13.15</b>	<b>J. Raftakis</b> US diagnosis of elbow pathology
<b>13.15 - 14.00</b>	Lunch
<b>14.30 - 15.00</b>	<b>Workshop:</b> Basic skills in sonographic-guided arthrocentesis
<b>15.00 - 15.15</b>	Exit test of knowledge & closing remarks



## FLOORPLAN



## SPONSORS

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