

# Basic and Intermediate Levels

## 6<sup>th</sup> International Musculoskeletal UltraSound Course

28 - 30 Nov 2019  
Athens, Greece



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

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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)****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:

**Organizing Committee****Giasna G. Kakavouli****Dimitrios Karokis****Ioannis Raftakis****Caterina Siagkri****Scientific Committee****Dimitrios Karokis****Giasna G. Kakavouli****Ioannis Raftakis****Caterina Siagkri****Faculty:**

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*Amalia Raptopoulou, Greece*  
*Andrea Delle Sedie, Italy*  
*Artur Bachtá, Poland*  
*Caterina Siagkri, Greece*  
*Dimitris Karokis, Greece*  
*Francesco Porta, Italy*  
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*Goran Radunović, Serbia*  
*Ioannis Raftakis, Belgium*  
*Nemanja Damjanov, Serbia*  
*Peter Balint, Hungary*  
*Peter Mandl, Austria*  
*Slavica Prodanović, Serbia*

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*Goran Radunović, Serbia*  
*Ioannis Raftakis, Belgium*  
*Peter Balint, Hungary*  
*Peter Mandl, Austria*  
*Slavica Prodanović, Serbia*  
*Theodoros Natskos, Greece*

**Course's opening:** Thursday, November 28<sup>th</sup>, 2019 - h 12.00

**Course's closing:** Saturday, November 30<sup>th</sup>, 2019 - h 16:30

**Participants:** The number of participants in each of the Courses will be limited to 48

**Official language:** English

**Congress Venue:** Wyndham Grand Athens, Athens, Greece

### **Organizer**

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

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**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 equipments 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

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**Thursday - November 28<sup>th</sup>, 2019**

- 12:00 - 14:00 **Registration**
- 12:00 - 13:30 **Lunch**
- 13:30 - 13:45 **Welcome**  
**A. Iagnocco, G.G. Kakavouli, D. Boumpas, D. Vasilopoulos**
- 13:45 - 14:00 Entering test of knowledge - Basic Level  
**J. Raftakis**  
Chairpersons: **A. Iagnocco, J. Raftakis**
- 14:15 - 14:45 Technical characteristics and setting of ultrasound equipments for Musculoskeletal diseases  
**J. Raftakis**
- 14:45 - 15:00 **Mini break - hall changing**  
Chairpersons: **F. Porta, A. Bachta**
- 15:00 - 15:25 History and basic physics of MSUS  
**A. Bachta**
- 15:25 - 16:00 Musculoskeletal anatomy. Sonographic pattern of the musculoskeletal tissues  
**P Mandl**
- 16:00 - 16:30 Artifacts and misinterpretation in MSUS  
**F. Porta**
- 16:45 - 17:00 **Coffee break**
- 17:00 - 18:00 **Workshop:** Supervised use of the US equipment and settings
- 18:00 - 19:00 **Workshop:** Supervised Ultrasound assessment of the normal musculoskeletal tissues  
Chairpersons: **A. Iagnocco, D. Karokis**
- 19:00 - 19:30 Application of US in the management of Musculoskeletal Diseases  
**A. Iagnocco**
- 19:30 - 21:00 **Workshop:** Supervised ultrasound scanning in people with Musculoskeletal Diseases
- 21:00 **Dinner**

## SCIENTIFIC PROGRAM

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**Friday, November 29<sup>th</sup>, 2019**

Chairpersons: **A. Iagnocco, G.G. Kakavouli**

- 09:00 - 09:30 Sonographic semiology: US and correlative anatomy and histology: articular cartilage lesions, cortical abnormalities; Basic pathology of tendons and ligaments (tendinosis, calcifications, tears)  
**N. Damjanov**  
**Live demo - A. Delle Sedie**
- 09:30 - 10:00 Basic synovial US lesions: synovitis, synovial hypertrophy, tenosynovitis and bursitis; Definition, detection and quantification  
**A. Iagnocco**
- 10:00 - 10:30 Basic synovial US lesions: Enthesitis and enthesopathy  
**P. Balint**
- 10:30 - 11:00 **Coffee break**
- 11:00 - 12:45 **Workshop:** US semiology: normal and basic pathological findings (abnormalities of hyaline cartilage, cortical bone, synovial membrane, tendons, ligaments, bursae)  
Chairpersons: **N. Damjanov, C. Siagkri**
- 12:45 - 13:15 Standardized scanning of the shoulder normal and basic pathological findings  
**C. Siagkri**  
**Live demo - N. Damjanov**
- 13:15 - 13:45 Standardized scanning of the elbow: normal and basic pathological findings  
**A. Raptopoulou**  
**Live demo - N. Damjanov**
- 13:45 - 14:30 **Lunch**
- 14:30 - 17:00 **Workshop:** Supervised scanning of the shoulder and the elbow. Normal and basic pathological findings  
Chairpersons: **P. Balint, D. Karokis**
- 17:00 - 17:30 Standardized scanning of the wrist and hand: normal and basic pathological findings  
**D. Karokis**  
**Live demo - P. Balint**
- 17:30 - 18:00 Standardized scanning of the hip: normal and basic pathologic findings  
**G. Kampakis**  
**Live demo - P. Balint**
- 20:00 **Dinner**

## SCIENTIFIC PROGRAM

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**Saturday, November 30<sup>th</sup>, 2019**

- 09:00 - 10:45 **Workshop:** Supervised Ultrasound scanning of the hand, wrist and hip.  
Normal and basic pathological findings.
- 10:45 - 11:00 **Coffee Break**  
Chairpersons: **A. Iagnocco, S. Prodanovic**
- 11:00 - 11:30 Standardized scanning of the knee: normal and basic pathological findings  
**J. Raftakis**  
**Live demo - A. Delle Sedie**
- 11:30 - 12:00 Standardized scanning of the ankle and foot: normal and basic  
pathological findings  
**S. Prodanovic**  
**Live demo - A. Delle Sedie**
- 12:00 - 12:30 Image documentation; reporting of US findings  
**G. Radunovic**
- 12:30 - 13:30 **Light lunch**
- 13:15 - 14:45 **Workshop:** Supervised ultrasound scanning of the knee, ankle and foot.  
Normal and basic pathological findings.  
Chairpersons: **G.G. Kakavouli, N. Damjanov**
- 14:45 - 15:15 Basic skills in sonographic guided arthrocentesis  
**N. Damjanov**
- 15:15 - 16:15 **Workshop:** Basic skills in sonographic-guided arthrocentesis
- 16:15 - 16:30 Exit test of knowledge
- 16:30 - 16:45 Closing remarks and certificate issue

**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



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**SCIENTIFIC PROGRAM**

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**Thursday, November 28<sup>th</sup>, 2019**

- 12:00 - 14:00 **Registration**
- 12:00 - 13:30 **Lunch**
- 13:30 - 13:45 **Welcome**  
**A. Iagnocco, G.G. Kakavouli, D. Boumpas, D. Vasilopoulos**
- 14:00 - 14:15 Entering test of knowledge - Intermediate Level  
**J. Raftakis**  
Chairpersons: **A. Iagnocco, J. Raftakis**
- 14:15 - 14:45 Sonographic pattern of the musculoskeletal tissues and technical characteristics and setting of ultrasound equipments for rheumatology  
**J. Raftakis**
- 14:45 - 15:00 **Mini break - hall changing**
- 15:00 - 16:45 **Workshop:** Supervised ultrasound scanning. How to use and set the ultrasound equipment. The choice of appropriate probe and of the Doppler modalities. Optimisation of Doppler settings. Doppler ultrasound artefacts
- 16:45 - 17:00 **Coffee break**  
Chairpersons: **A. Iagnocco, G. Filippou**
- 17:00 - 17:25 Doppler physics, technology and artefacts. Doppler setting optimization  
**G. Filippou**
- 17:25 - 17:50 Application, indications and limitations of Doppler in musculoskeletal US  
**G. Katsifis**
- 17:50 - 18:15 Colour Doppler and power Doppler. Correlations between US imaging and histopathological findings  
**A. Delle Sedie**  
Chairpersons: **A. Iagnocco, P. Balint**
- 18:15 - 18:45 B-mode and Doppler synovitis. Definition, detection, quantification and pitfalls  
**A. Iagnocco**
- 18:45 - 19:15 B-mode and Doppler tenosynovitis. Definition, detection, quantification and pitfalls  
**F. Porta**
- 20:00 **Dinner**

## SCIENTIFIC PROGRAM

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**Friday, November 29<sup>th</sup>, 2019**

- 09:00 - 11:00 **Workshop:** Supervised ultrasound scanning of patients with synovitis and tenosynovitis  
Chairpersons: **P. Mandl, G.G. Kakavouli**
- 11:00 - 11:25 Tendinosis and tendon tear. Definition, detection, quantification and pitfalls  
**G.G. Kakavouli**
- 11:25 - 11:50 US bone abnormalities. Definition, detection, quantification and pitfalls  
**C. Siagkri**
- 11:50 - 12:15 B-mode and Doppler enthesopathy and enthesitis. Definition, detection, quantification and pitfalls  
**P. Balint**
- 12:15 - 12:45 US cartilage abnormalities. Definition, detection, quantification and pitfalls  
**G. Radunovic**
- 12:45 - 14:15 **Workshop:** Supervised ultrasound scanning of patients enthesopathy/enthesitis, tendinosis and tendon tear, bone and cartilage abnormalities
- 14:15 - 15:00 **Lunch**  
Chairpersons: **G.G. Kakavouli, C. Siagkri**
- 15:00 - 15:30 US diagnosis of hip pathology  
**P. Mandl**  
**Live demo - P. Balint**
- 15:30 - 16:00 US diagnosis of knee pathology  
**G.G. Kakavouli**  
**Live demo - P. Balint**
- 16:00 - 16:30 US diagnosis of ankle and foot pathology  
**C. Siagkri**  
**Live demo - P. Balint**
- 16:30 - 17:00 **Coffee Break**
- 17:00 - 19:30 **Workshop:** Supervised hands-on scanning of patients with lower extremity pathology
- 20:00 **Dinner**

## SCIENTIFIC PROGRAM

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**Saturday, November 30<sup>th</sup>, 2019**

Chairpersons: **J. Raftakis, D. Karokis**

09:00 - 09:30 US diagnosis of shoulder pathology  
**G.G. Kakavouli**

**Live demo - P. Mandl**

09:30 - 10:00 US diagnosis of elbow pathology  
**J. Raftakis**

**Live demo - P. Mandl**

10:00 - 10:30 US diagnosis of wrist and hand pathology  
**D. Karokis**

**Live demo - P. Mandl**

10:30 - 10:45 **Coffee Break**

10:45 - 12:45 **Workshop:** Supervised hands-on scanning of patients with upper extremity pathology

12:45 - 13:30 **Light Lunch**

Chairpersons: **P. Mandl, N. Damjanov**

13:30 - 14:00 US: a tool for diagnosis and outcome measure in Rheumatology  
**P. Mandl**

14:00 - 14:30 US in therapy monitoring  
**S. Prodanovic**

14:30 - 15:00 Basic skills in sonographic-guided arthrocentesis  
**N. Damjanov**

**Live demo - N. Damjanov**

15:00 - 16:15 **Workshop:** Basic skills in sonographic-guided arthrocentesis

16:15 - 16:30 Exit tests of knowledge

16:30 - 16:45 Closing remarks and certificate issues

## Scientific Director

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## Local Organizer



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## Conference Secretariat:



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