

# 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

[www.synthesispc.com/mitocourse2019](http://www.synthesispc.com/mitocourse2019)

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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**

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**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.

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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**
- 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



**SCIENTIFIC PROGRAM**


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

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

**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 pathology12:45 - 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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