General information and Course programme of the 2\textsuperscript{nd} \textbf{MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS - INTERMEDIATE LEVEL -}
Zagreb, December 3\textsuperscript{rd} – December 5\textsuperscript{th}, 2018.

This course has been scientifically endorsed by \textbf{EULAR}
Naslovna fotografija je vlasništvo arhive Hrvatske turističke zajednice (HTZ). Autor: Davor Rostuhar
Scientific Director  
Prof. Annamaria Iagnocco

Executive director of the Course  
Assist. Prof. Porin Perić, MD, PHD

Faculty  
The speakers will come from major European musculo-skeletal ultrasound research centers and are rheumatologists mostly involved in previous EULAR courses. The contacted faculty is:

Peter Balint Hungary, Nemanja Damjanov Serbia, Hilde Berner-Hammer Norway, Annamaria Iagnocco Italy, Christian Dejaco Austria, Zunaid Karim UK, Francesco Porta Italy, Porin Perić Croatia, Goran Radunović Serbia, Wolfgang Schmidt Germany

Instructors  
Mislav Cerovec Croatia, Darija Granec Croatia, Tatjana Kehler Croatia, Kristina Kovač Croatia, Nadica Laktasić-Žerjavić Croatia, Miroslav Mayer Croatia, Mihaela Micu Romania, Tomislav Nemčić Croatia, Francesco Porta Italy, Porin Perić Croatia, Goran Radunović Serbia, Violeta Vlad Romania, Christian Dejaco Austria, Zunaid Karim UK

Course opening  
Monday, December 3rd 2018. - 12:00 h

Course closing  
Wednesday, December 5th 2018. - 15:00 h

Participants  
The number of participants is limited to 30.

Official language  
English

Congress Venue: Hotel Sheraton, Kneza Borne 2, 10000 Zagreb, Croatia, www.hotel-sheratonzagreb.com/hr

Reservations: phone: +385 1 48 111 55, Fax: +385 1 48 189 14, e-mail: zagreb@atlantis-travel.hr, www.atlantis-travel.hr

Scientific Organizer: Prof. Annamaria Iagnocco

Executive director of the Course: Porin Perić, MD, PHD  
Assistent Professor - Department of Rheumatology, Clinical Hospital Center, Zagreb, Kišpatićeva 12, 10000 Zagreb, Croatia e-mail: porin.peric@gmail.com

Organizing Secretariat: Croatian Society for Rheumatology  
Šubićeva 9, 10000 Zagreb, Croatia  
Phone: +385 1 2388-171, Fax: +385 1 2388-289  
e-mail: porin.peric@gmail.com  
www.reumatologija.org
Musculoskeletal sonography course for rheumatologists, Zagreb 2018 is intended to be a combination of lectures and practical sessions. The course is consisted of theoretical talks and supervised hands-on scanning of healthy persons and/or patients with musculoskeletal disorders.

**Sponsorship:** Esaote, Olympus, Philips, MSD, GE, Abbvie, MSD, Pfizer. Esaote, Olympus, Phillips and GE will provide ultrasound equipment free of charge.

Sponsors will not have any influence on the course programme, scientific and other content, or speakers in any way.

The Course is in a process of CME accreditation at the Croatian Ministry of Health.

Registration is intended to be opened for all EULAR member countries.

Formal evaluation of the course will be performed by all attendees at the end of the Course.

Registration fee: **1000 EUR** per person (three days course). Food and accommodation are included in the price.

The number of participants will be 30 people.
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, enthesitis 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 in rheumatology
• Use of the colour and power Doppler settings colour and power Doppler artefacts
• Ultrasound presentation of synovitis, effusion, erosions, tendinopathies, tenosynovitis, enthesitis and degenerative lesions
• Use of colour and power Doppler to detect synovial and entheseal inflammation
• Assessment and quantification of structural joint damage (bone, tendons, ligaments)
• Role of ultrasound in diagnosis and monitoring of metabolic
• Role of ultrasound in assessment of skin
• Role of ultrasound in monitoring patients with inflammatory joint diseases
• Sonographic-guided periarticular and articular injections

INTERMEDIATE COURSE PATHOLOGIES
• Joint synovitis, synovial hypertrophy, tenosynovitis
• Tendon calcification, enthesopathy, tendinosis, paratenonitis
• Tendon subluxation/luxation Intrasubstance tendon lesions, tendon impingement
• Complete tendon tear, partial tendon tear
• Bone erosions, osteophytes
• Ganglia and cysts
• Articular cartilage lesions, peri- and intra-articular microcrystal deposit
• Ligament, muscle, cartilage, fibrocartilage and synovial calcification
WORKSHOP

• 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

EULAR Competency Assessment system for the MSUS intermediate courses, which consists of the following requirements:

• Participants should have attended the EULAR introductory US online course, a EULAR basic MSUS course or a EULAR scientifically-endorsed basic MSUS course.
• Prior to acceptance to the course, applicants should send to the Faculty members a total of 6 normal examinations of each joint region in one Power Point file (i.e. shoulder, elbow, wrist & hand, hip, knee, ankle & foot), according to the EULAR Guidelines for Musculoskeletal Ultrasound in Rheumatology (Ref. Backhaus M, et al. Ann Rheum Dis 2001).
• Images should be presented in a power point file. Important: Each slide should include: - One imaged structure each in longitudinal and transverse plane - A legend with the anatomic area, imaged structure and scanning planes - Parameters of the ultrasound machine - Identity of the person scanned should be removed.
• The Faculty members need to provide assessment and feedback. Applicants might need to be asked to repeat the ultrasound examinations and submit the images again for assessment by the Faculty.
• Upon approval of the assessment, the applicant needs to be asked to register for the course.
• The organization and procedures for the above process should be provided by the convenor/organiser of the MSUS intermediate course
• Participants should be asked to bring a total of 60 normal ultrasound examinations (each in a power point presentation) on a USB stick to the course. The Faculty reserves the right to randomly request and audit the full set of ultrasound examinations from each participant.

Scientific organizers of this intermediate MSUS course have previously organized 3 Basic-level MSUS courses scientifically endorsed by EULAR in the previous 5 years (2013, 2014, 2017)
2nd MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS  INTERMEDIATE LEVEL  Zagreb, December 3rd - December 5th 2018.

SCIENTIFIC PROGRAMME

Monday, December 3rd 2018.

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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<tbody>
<tr>
<td>12:00 -14:00</td>
<td>Registration</td>
</tr>
<tr>
<td>12:00 -13:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 -14:15</td>
<td>Welcome A. Iagnocco, B. Anić, P. Perić</td>
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<tr>
<td>14:15 -14:40</td>
<td>Entering test of knowledge</td>
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</tbody>
</table>

Chairpersons: A. Iagnocco, Ch. Dejaco

14:40 -15:20  Sonographic pattern of the musculoskeletal tissues and technical characteristics and setting of ultrasound equipments for rheumatology (A. Iagnocco)

15:20 - 16:00  Color Doppler and Power Doppler (i.e. basis, optimizing setting and applications) (Ch. Dejaco)

16:00 -16:20  Coffee break


17:40 - 18:40  Colour and Power Doppler artifacts (N. Damjanov)
<table>
<thead>
<tr>
<th>TIME</th>
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<tbody>
<tr>
<td>09:00 - 10:20</td>
<td><strong>Workshop:</strong> 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.</td>
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<tr>
<td>10:20-10:30</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td><strong>Chairpersons:</strong></td>
<td>A. Iagnocco, P. Balint</td>
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<tr>
<td>10:30-11:00</td>
<td>Basic US lesions: synovitis, bony cortex and cartilage. Definition, detection and quantification. (H. Berner-Hammer)</td>
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<tr>
<td>11:00-11:30</td>
<td>Basic US lesions: tendinopathies, tenosynovitis. (A. Iagnocco)</td>
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<tr>
<td>11:30-12:00</td>
<td>Basic US lesions: enthesitis, enthesopathy. (P. Balint)</td>
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<tr>
<td>12:00 - 13:00</td>
<td><strong>Workshop:</strong> Supervised hands-on scanning of patients with inflammatory and degenerative joint and periarticular soft tissues disorders. How to detect and quantify musculoskeletal lesions</td>
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<tr>
<td>13:00 - 14:00</td>
<td><strong>Lunch</strong></td>
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<tr>
<td><strong>Chairpersons:</strong></td>
<td>P. Perić, F. Porta</td>
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<tr>
<td>14:30 - 14:50</td>
<td>Basic US lesions: cartilage and bone lesions in osteoarthritis. (F. Porta)</td>
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<td>14:50 - 15:15</td>
<td>Standardized scanning of the inflammatory and degenerative shoulder. (P. Perić)</td>
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<td>15:15 - 15:40</td>
<td>Standardized scanning of the inflammatory and degenerative elbow (Ch. Dejaco)</td>
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<tr>
<td>15:40 - 16:00</td>
<td>Standardized scanning of the inflammatory and degenerative hip. (W. Schmidt)</td>
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<tr>
<td>16:00 - 16:20</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>16:20 - 18:20</td>
<td><strong>Workshop:</strong> Supervised hands-on scanning of patients with inflammatory and degenerative shoulder, elbow, hip</td>
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<td>TIME</td>
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<tr>
<td>Chairpersons: P. Perić, G. Radunović</td>
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<tr>
<td>09:00 - 09:25</td>
<td>Standardized scanning of the inflammatory and degenerative hand and wrist. <em>(H. Berner-Hammer)</em></td>
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<tr>
<td>09:25 - 09:50</td>
<td>Standardized scanning of the inflammatory and degenerative ankle and foot. <em>(G. Radunović)</em></td>
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<td>09:50 - 10:15</td>
<td>Role of US in the diagnosis of crystal arthropathy. <em>(Z. Karim)</em></td>
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<tr>
<td>10:15 - 10:40</td>
<td>Standardized scanning of the inflammatory and degenerative knee. <em>(W. Schmidt)</em></td>
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<tr>
<td>10:40 - 11:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11:00 - 11:40</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative hand, and wrist</td>
</tr>
<tr>
<td>11:40 - 12:30</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative knee, ankle and foot</td>
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<tr>
<td>12:30 - 13:15</td>
<td>Basic skills in sonographic-guided arthrocentesis. <em>(N. Damjanov)</em></td>
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<tr>
<td>13:15 - 14:30</td>
<td>Workshop: Basic skills in sonographic-guided arthrocentesis</td>
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<tr>
<td>14:30 - 15:00</td>
<td>Exit test of knowledge and closing remarks</td>
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<tr>
<td>15:00 - 16:00</td>
<td>Lunch and certificate issuing</td>
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Registration fees:
This 3-day course fee will be 1000 EUR per participant (lodging and food is included in the course price).
It is recommended to make reservation of accommodation directly to Atlantis Travel agency:
Email: zagreb@atlantis-travel.hr
Phone: +385 1 48 111 55
Fax: +385 1 48 189 14
Registration deadline: July 30th 2018.

Registration fee includes:

- Admission to all conference sessions
- Conference KIT
- Conference session materials
- Certificate of attendance and CME certificate
- Coffee breaks and lunches, as specified in the program

Registration instructions:
To register for the Course you must fill in the form and send it, together with the payment of the registration fee to the Organizational Secretariat.

No registrations will be made without payment of the registration fee.

The Organizational Secretariat will inform the participant that he or she has been registered for the Course.
Methods of payment:
The registration fee may be paid by bank transfer. Kuna and foreign currency account of Atlantis Travel.

The copy of bank transfer must be sent together with the registration form to the Organizational Secretariat. No registration will be made without payment.

Cancellations:
The Secretariat must be informed in writing of any cancellations. Eighty percent of the sum paid will be refunded for cancellations made before July 30th, 2018. No money will be refunded for cancellations made after that date.
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- INTERMEDIATE LEVEL -

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For more information, please visit the web sites:
www.reumatologija.org I www.eular.org I
www.atlantis-travel.hr