# 14th EULAR Course on Capillaroscopy and Microcirculation in Rheumatic Diseases

## Barcelona, Spain

### Saturday, 7 June 2025 – Monday, 9 June 2025



**EULAR | Education**
Seestrasse 240 | 8802 Kilchberg | Switzerland
T: +41 44 716 30 30
education@eular.org | esor.eular.org

# ORGANISATION & COMMITTEE

## Scientific Organisers

**Maurizio Cutolo, MD (Italy)**
Department of Experimental Rheumatology and Academic Division of Clinical Rheumatology Department of Internal Medicine and Specialties - University of Genova, IRCCS San Martino Polyclinic Genova, Italy.

**Vanessa Smith, MD, PhD (Belgium)**
Department of Rheumatology, Ghent University Hospital, Ghent, Belgium; Department of Internal Medicine, Ghent University, Ghent, Belgium; Unit for Molecular Immunology and Inflammation, VIB Inflammation Research Center (IRC), Ghent, Belgium.

## Faculty

- Cutolo Maurizio (Italy)
- Denton Christopher (United Kingdom)
- Distler Oliver (Switzerland)
- Foeldvari Ivan (Germany)
- Frech Tracy (United States)
- Gotelli Emanuele (Italy)
- Herrick Ariane (United Kingdom)
- Hysa Elvis (Italy)
- Ingegnoli Francesca (Italy)
- Lambova Sevdalina (Bulgaria)
- Michalska-Jakubus Małgorzata (Poland)
- Mihai Carina (Romania)
- Murray Andrea (United Kingdom)
- Müller-Ladner Ulf (Germany)
- Pain Clair (United Kingdom)
- Pauling John (United Kingdom)
- Riccieri Valeria (Italy)
- Schonenberg Dieneke (Netherlands)
- Smith Vanessa (Belgium)
- Sulli Alberto (Italy)

## Organising Secretariat

EULAR Office
Seestrasse 240
CH-8802 Kilchberg (Zurich)
Switzerland
T: +41 44 716 30 43 / F: +41 44 716 30 39
W: www.eular.org / esor.eular.org
E: education@eular.org

## EULAR Committee

EULAR Education Committee, Live Courses & Meetings Sub-Committee

# COURSE DESCRIPTION

The early (very early) diagnosis of Connective Tissue Diseases has been one of the most important achievements in Rheumatology and advanced imaging technology has helped more and more to reach this crucial result.

The aim of the 14th intensive and interactive EULAR Course on Capillaroscopy (CAP) and Microcirculation in RMDs is to provide all participants with the most advanced update on the powerful of the safe and non-invasive nailfold videocapillaroscopy (NVC) technique in the field of rheumatic diseases for the microvascular evaluation. In particular NVC it is the most sensitive tool to allow the early (very early) diagnosis of the scleroderma spectrum disorders, offering predictability and prognostic value, as well a role as a tool for the therapeutic follow up.

The ACR/EULAR stated in the 2013 guidelines for classification criteria of systemic sclerosis (SSc): "Capillaroscopy is now widely used and considering the value of magnified nailfold visualization in the diagnosis and management of SSc, these new criteria may encourage acquisition of this skill by physicians caring for SSc patients".
After 10 years, microvascular further NVC patterns observed even in other connective tissue diseases than SSc will be described and discussed, such as in psoriasis, psoriatic arthritis, antiphospholipid syndrome, MCTD/UCTD, systemic lupus erythematosus, Sjogren syndrome and dermatomyositis. In addition, an enormous progression has been done in the last few years on the emerging field of nailfold capillaroscopy in children affected by rheumatic diseases and several lectures will present those achievements. Pediatric NVC is now an expanding diagnostic clinical tool introduced during the last years as dedicated courses at the PReS Congresses.

The EULAR course is structured for incremental learning, training, and testing the learning needs of the participants. The EULAR course on NVC, with exactly 22 years of experience (first on 2003/2004), has been successfully tested for both beginners and already trained operators in microcirculation investigations, by over 1.230 total participants from almost 69 different countries.

Interestingly, in the last 5 years, more than 700 publications on nailfold CAP have become available on PubMed where a total of 2.000 papers have been reported since 1947, with an accelerated trend in the last 10 years.

Participants to the EULAR CAP Course will be fully involved in interactive both theoretical and practical sessions (Learning and Testing sessions, including televoting at the beginning and at the end of the lecture), engaging a large number of rheumatic patients with different pathologies.

Updated clinical sessions concerning the diagnostic/prognostic value of NVC in diseases such as systemic sclerosis and the effects of targeted therapies on microcirculation and immune-inflammatory reaction will represent a stimulating gym based on large clinical cases discussion. Links between the CAP patterns and serum biomarkers, such as specific autoantibodies (including functional) will also be updated.



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In particular, reading and scoring (manual and the brand-new automated systems using the AI) of the video capillaroscopic images of living patients, will be discussed, including the predictive value to identify possible clinical complications (i.e. digital ulcers, interstitial lung diseases or pulmonary arterial hypertension, etc.).

Further sessions will include recent international studies (CAP study) about new predictive models or index based on capillaroscopic analysis.

Regarding the Microcirculation in RMDs, new sessions on practical evaluation of the peripheral blood flow by power laser doppler and LASCA imaging have been introduced. Skin ultrasound (US) evaluation at least in SSc is becoming the most reliable tool to evaluate and quantify the skin damage.
Therefore, practical sessions on skin US evaluation in scleroderma will be also available and will be combined with the severity of the video capillaroscopic images (patterns) in the same living patients. In fact, several monitors will show live on TV screens the practical sessions with patients.

Interactive sessions with evaluation of the learning status are organized at the end of each session. Important links between CAP, Laser blood flow analysis and clinical results of therapies will be presented and discussed. Today the microcirculatory status in patients can be fully evaluated at the level of morphology and blood flow.

At the end of this top Course, unique in the world, which is supported by a tutorial team formed by some of the best international experts on the matter (from 10 different EU countries including USA), the participants will be able to use the capillaroscopy for their day-to-day diagnosis, staging and follow-up of patients in particular affected by scleroderma spectrum disorders.

A collection of selected slides related to all the lectures will be released to all participants after the course in the participants' account of the EULAR School of Rheumatology website, and after filling in the course overall evaluation form.

A prestigious EULAR certification of attendance signed by the Scientific Organisers will be released.

## Learning objectives

- Updating on the power of the safe and non-invasive nailfold video capillaroscopy (NVC) technique and other advanced functional tools to evaluate microcirculation in the field of rheumatic diseases using with live patients.

- In particular, the microcirculation evaluation is essential for the (very early/early) diagnosis of the scleroderma spectrum disorders and several other connective tissue diseases in presence of the Raynaud's phenomenon.

- The predictability and prognostic value of NVC for the real life therapeutic follow up in systemic sclerosis will be matter of practical meetings.



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# GENERAL INFORMATION

## Course venue

Gran Via I Fira de Barcelona
Av. Joan Carles I, 64 08908
L'Hospitalet de Llobregat, Barcelona, Spain
Website

## Course dates

Saturday, 7 June 2025 – Monday, 9 June 2025.

## Official language

English

## Maximum participants

80

## Certification

After the course, all participants who have successfully completed the course will receive a certificate of attendance on their EULAR School user account. 100% course attendance is required.

# Course fee

**1000 €** (VAT included), package includes:

**Saturday, 7 June 2025**

- Full access to the course.
- Coffee breaks.

**Sunday, 8 June 2025**

- Full access to the course.
- Coffee breaks.
- Lunch.

**Monday, 9 June 2025**

- Full access to the course.
- Coffee break.
- Lunch.

Additionally, a collection of selected slides from all lectures, along with an abstract for each lecture, will be made available at the conclusion of the course, along with Wi-Fi access.

Note: accommodation is not included in the course fee.



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# REGISTRATION

## Application requirements / Target audience

- Application requirements: No prerequisites.
- Target audience: Medical professions: MD - Rheumatology, Allergology and Clinical Immunology, Dermatology and Venereology, Cardiology and Angiology, Internal Medicine, Geriatrics, Pediatrics.

## Registration process

**Online:** https://esor.eular.org/course/view.php?id=508

Please login to your EULAR School of Rheumatology account to register.

**Registration deadline:** Wednesday, 30 April 2025.
Early registration is advisable. Number of participants is limited. A waiting list will be made available.

## Bursary

EULAR grants **5 bursaries** in the amount of **EUR 1000 each**.

The amount of the bursary will be deducted from the course fee.

Please apply with your motivation letter, CV and (if any) publication list within the registration system.

**Bursary application deadline:** Friday, 28 February 2025.

**Notification:** mid-March 2025.



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# Detailed Programme

## Day 1 – Saturday, 7 June 2025

| Time | Type of session & Title | Speakers |
|---|---|---|
| **12:00 – 12:50** | REGISTRATION | |
| | **Chairs:** A. Herrick, M. Cutolo and V. Smith | |
| **12:50 – 13:00** | **EULAR Live and Online Courses on Nail fold Capillaroscopy (NVC) and Microcirculation Status of the Art** | M. Cutolo |
| **13:00 – 13:30** | **BASIC LEARNING** – *30min (25min lecture + 5min discussion)*<br><br>Immunological profile and morphology of microvascular damage as assessed by nailfold capillaroscopy. | S. Lambova |
| **13:30 – 14:00** | **BASIC LEARNING** – *30min (25min lecture + 5min discussion)*<br><br>Microvascular vs macrovascular involvement in the scleroderma lungs and heart: a progressive process. | C. Denton |
| **14:00 – 14:30** | **BASIC LEARNING** – *30min (25min lecture + 5min discussion)*<br><br>The fast-track algorithm: fast and reliable distinction of scleroderma patterns. | V. Smith |
| **14:30 – 15:00** | **BASIC LEARNING** – *30min (25min lecture + 5min discussion)*<br><br>EULAR consensus on standardised description of capillaroscopy in health status and/or in presence of Raynaud-s phenomenon. | V. Smith |
| **15:00 – 15:30** | COFFEE BREAK – *30min* | |
| **15:30 – 16:00** | **BASIC LEARNING** – *30min (25min lecture + 5min discussion)*<br><br>How to recognise the “very early” versus “early” NVC pattern of microvascular damage in presence of Raynaud’s phenomenon. | M. Cutolo |
| **16:00 – 16:30** | **LEARNING AND TESTING** – *30min (25min + 5min Televoting)*<br>*(Tele-examination with slido electronic voter after)*<br><br>Role of microcirculation in optimizing the assessment and novel mechanistic insights into digital ulcers in systemic sclerosis. | J. Pauling |



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| **16:30 – 17:00** | **INTERACTIVE SESSION** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Interactive session between audience, chairs and speaker: standardized evaluation of nail fold capillaroscopy and application of the fast-track algorithm: testing cases. | V. Smith |
| **17:00 – 17:30** | COFFEE BREAK – *30min* | |
| **17:30 – 19:00** | **WORKSHOP** - *90 minutes (moving to the breakout rooms)*<br><br>*Example of NVC analysis on a living case then interactive First.*<br><br>Practical session enabling the participants for their active analysis by nailfold video capillaroscopy of living patients (tutor assisted). Rotating small groups of participants with tutors t will the reality and analyse by theirself patients with CTDs**.** | **Tutors:**<br>A. Herrick<br>A. Murray<br>A. Sulli<br>C. Mihai<br>E. Gotelli<br>E. Hysa<br>F. Ingegnoli<br>J. Pauling<br>M. Cutolo<br>M. Michalska-Jakubus<br>S. Lambova<br>T. Frech<br>V. Riccieri<br>V. Smith |



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## Day 2 – Sunday, 8 June 2025

| Time | Type of session & Title | Speakers |
|---|---|---|
| | **Chairs:** A. Herrick, A. Sulli and G. Riemekasten | |
| **08:30 – 09:00** | **BASIC LECTURE** – *30min (25min lecture + 5min discussion)*<br><br>Methods to assess morphological and functional status of the microvasculature and microcirculation in connective tissue diseases. | A. Herrick |
| **09:00 – 09:30** | **LEARNING AND TESTING** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Capillary loss reflects disease activity and prognosis in patients with systemic sclerosis and othet CTDs: evidence-based review. | C. Mihai |
| **09:30 – 10:00** | **LEARNING AND TESTING** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Skin versus nailfold capillaroscopic images in psoriasis, including non-specific abnormalities in psoriatic arthritis vs rheumatoid arthritis. | V. Riccieri |
| **10:00 – 10:30** | COFFEE BREAK - *30min* | |
| | **Chairs:** M. Cutolo, T. Frech and V. Smith | |
| **10:30 – 10:55** | **LEARNING AND TESTING** – *25min (20 min + 5 min Televoting)*<br>*(Televoter before and after)*<br><br>Nail fold capillaroscopic patterns observable in the scleroderma spectrum disorders, including overlap syndromes and myositis.<br>– Presentation of clinical cases | M. Michalska-Jakubus |
| **10:55 – 11:20** | **LEARNING AND TESTING** – *25min (20min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Nailfold capillaroscopic patterns observable in non-scleroderma spectrum disorders, including systemic lupus erythematosus and antiphospholipid syndrome.<br>– Presentation of Clinical cases | F. Ingegnoli |



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| **11:20 – 11:50** | **LECTURE – UNMEET CLINICAL CONDITIONS** – *30 min (25min lecture + 5min discussion)*<br><br>Detection of cerebrovascular alterations versus NVC patterns in SSc patients. | M. Cutolo |
| **11:50 – 12:20** | **LEARNING AND TESTING** – *30min (20min + 5min Televoting)*<br><br>*(Televoter before and after)*<br><br>Clinical advantages and achievements from combination of different non-invasive diagnostic tools to optimise the evaluation of the morphological and functional status of the microcirculation in autoimmune rheumatic connective diseases. | A. Herrick |
| **12:20 – 12:45** | **LECTURE - PRACTICAL ISSUE** – *25min (20min lecture + 5min discussion)*<br><br>Development of a measuring app for systemic sclerosis-related digital ulceration: results of the follow up of treated patients. | A. Murray |
| **12:45 – 13:45** | LUNCH - *60min* | |
| **13:45 – 14:05** | **BASIC LECTURE** – *20min (15min lecture + 5min discussion)*<br><br>Nailfold microvascular screening with dermatoscope vs video capillaroscope: easy to use but limits for the scoring and follow-up of the capillary lesions. | T. Frech |
| **14:05 – 15:00** | **LIVE DEMONSTRATION - MULTIANALYSIS OF LIVING CASES** – *55min*<br><br>*Live PATIENT's multiple imaging analysis.*<br><br>Practical session combining nailfold video capillaroscopy versus laser speckle contrast analysis (LASCA) and versus skin US analysis in the same patient. | E. Gotelli<br>E. Hysa<br>M. Cutolo<br>V. Smith |
| **15:00 – 16:00** | **INTERACTIVE CASE DISCUSSION** – *60min*<br><br>*Interactive session teacher - participants*<br><br>The diagnostic role of nailfold video capillaroscopy in clinical case resolution: case presentation and participants opinions. | F. Ignegnoli<br>E. Gotelli<br>E. Hysa<br>V. Riccieri |



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| **16:00 – 16:30** | COFFEE BREAK – *30min* | |
| **16:30 – 18:30** | **WORKSHOP** - *120min (moving to the breakout rooms)*<br><br>Practical session enabling the participants for their active analysis by nailfold video capillaroscopy of living patients (tutor assisted). Rotating small groups of participants with tutors will the reality and analyse by theirself patiens with CTDs. | **Tutors:**<br>A. Herrick<br>A. Murray<br>A. Sulli<br>C. Mihai<br>E. Gotelli<br>E. Hysa<br>F. Ingegnoli<br>M. Cutolo<br>M. Michalska-Jakubus<br>J. Pauling<br>S. Lambova<br>T. Frech<br>V. Riccieri<br>V. Smith |



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## Day 3 – Monday, 9 June 2025

| Time | Type of session & Title | Speakers |
|---|---|---|
| **Chairs:** C. Pain, F. Ingegnoli and V. Smith | | |
| **08:30 – 09:00** | **BASIC LECTURE** – *30min (25min lecture + 5min discussion)*<br><br>Most suggested/efficient combination therapies including the altered vascular function, for scleroderma and scleroderma spectrum disorders. | O. Distler |
| **09:00 – 09:30** | **LEARNING ANF TESTING** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>NVC inclusion in the EULAR and ACR guidelines for the classification of systemic sclerosis: how is improved in the clinical practise. | U. Müller-Ladner |
| **09:30 – 10:00** | **LEARNING AND TESTING** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Raynaud's in children: the support of NVC for the early diagnosis and follow-up of associated CTDs. | I. Foeldvari |
| **10:00 – 10:30** | **LEARNING AND TESTING** – *30min (25min + 5min Televoting)*<br>*(Televoter before and after)*<br><br>Nailfold capillaroscopy in children vs adults with rheumatic diseases out of SLE: similarities and differences. | F. Ingegnoli |
| **10:30 – 11:00** | COFFEE BREAK – *30min* | |
| **11:00 – 11:25** | **INTERACTIVE SESSION** – *25min (20min lecture + 5min discussion)*<br><br>The growing PReS involvement in nail fold capillaroscopy teaching and research. Presentation of clinical cases of children with SLE from the daily practice in a pediatric unit and open discussion. | C. Pain |



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| **11:25 – 11:45** | **INTERACTIVE SESSION** – *20min*<br><br>*Interactive session teacher – participants*<br><br>Library of clinical cases (including NVC analysis and follow up) of children affected by SLE and dermatomyositis: presentation and live discussion with the audients. | D. Schonenberg<br>V. Smith |
| **11:45 – 12:10** | **LECTURE - PRACTICAL ISSUE** – *25min (20min lecture + 5min discussion)*<br><br>A report on how is managed the evaluation of the microvascular status in USA: statistics and achievements in the last 10 years. | T. Frech |
| **12:10 – 12:30** | **LECTURE - PRACTICAL ISSUE** – *20min (15min lecture + 5min discussion)*<br><br>Essential and optimized models for NVC reports in the daily practical clinics. | A. Sulli |
| **12:30 – 13:30** | LUNCH – *60min* | |
| **13:30 – 13:55** | **LECTURE** – *25min (20min lecture + 5min discussion)*<br><br>Guidelines to avoid the most common mistakes and pitfalls in reading and describing the nailfold capillaroscopic images for reports. | V. Riccieri |
| **13:55 – 14:40** | **INTERACTIVE SESSION** – *45min*<br><br>*Teachers and delegates play together.*<br><br>*Volunteered delegates will conduct a live NCV analysis in front of all. Their participation will be recognised and rewarded.*<br><br>*A faculty will evaluate each delegates performance for the final awards.* | A. Herrick<br>A. Sulli<br>E. Gotelli<br>E. Hysa<br>M. Cutolo<br>V. Smith |
| **14:40 – 15:10** | Update on the EULAR Study Group on Microcirculation in Rheumatic Diseases activities. Conclusions and perspectives | M. Cutolo<br>V. Smith |

*Any changes to the scientific programme or to the list of speakers are possible until the date of course. Further updates will be published on the EULAR School of Rheumatology homepage.*



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